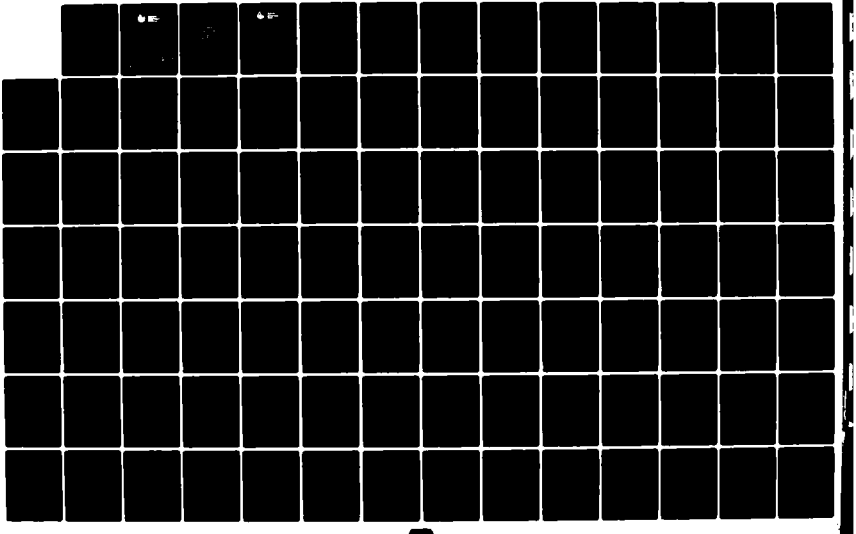
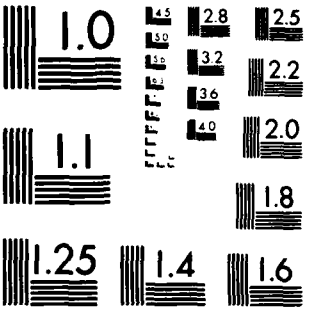
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National Waterways Study

FINAL REPORT

EVALUATION OF THE PRESENT NAVIGATION SYSTEM
APPENDIX A

PREPARED FOR THE

U.S. ARMY CORPS OF ENGINEERS
INSTITUTE FOR WATER RESOURCES
WATER RESOURCES SUPPORT CENTER
KINGMAN BUILDING
FORT BELVOIR, VIRGINIA

UNDER CONTRACT NUMBER

DACW 72-79-C-0003

MARCH 1982

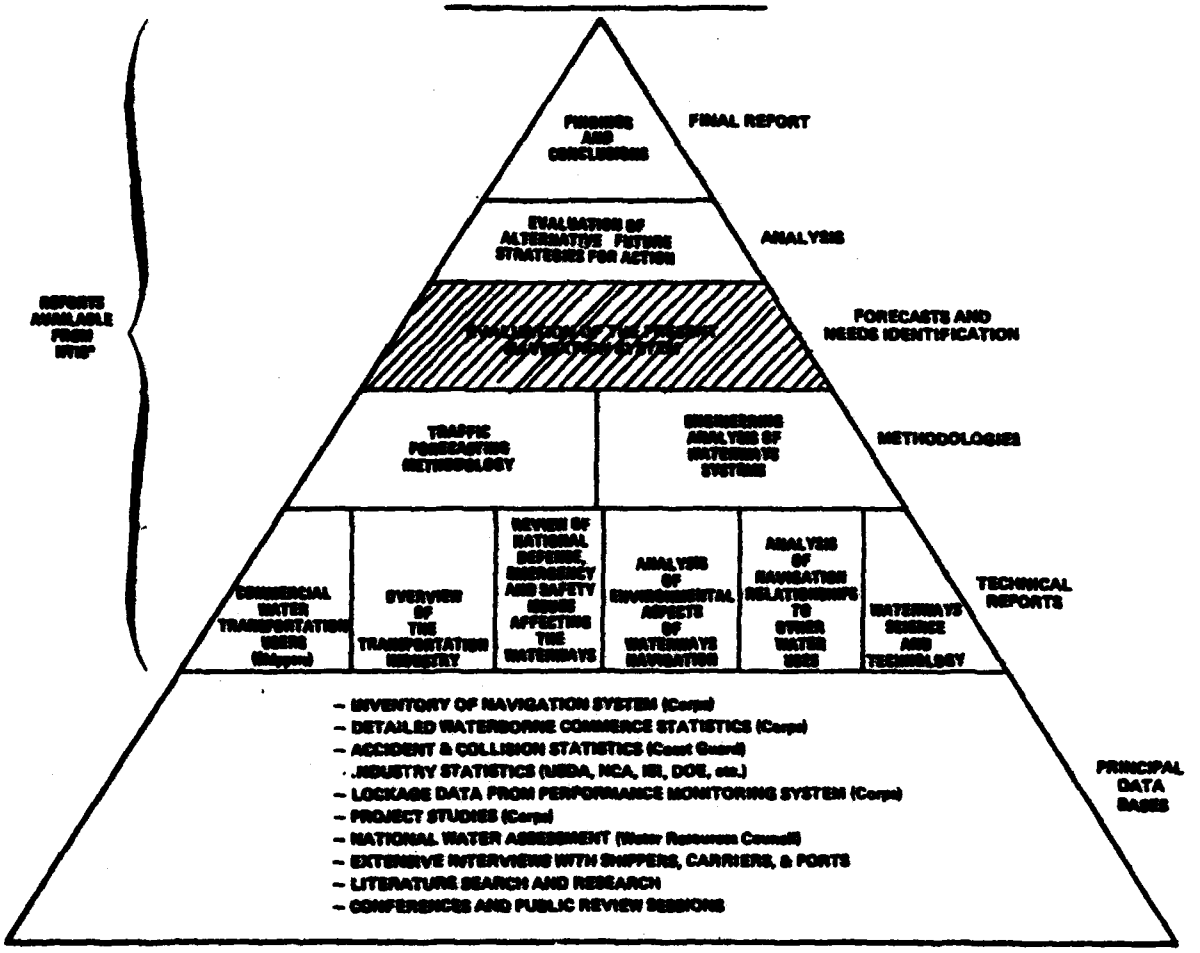
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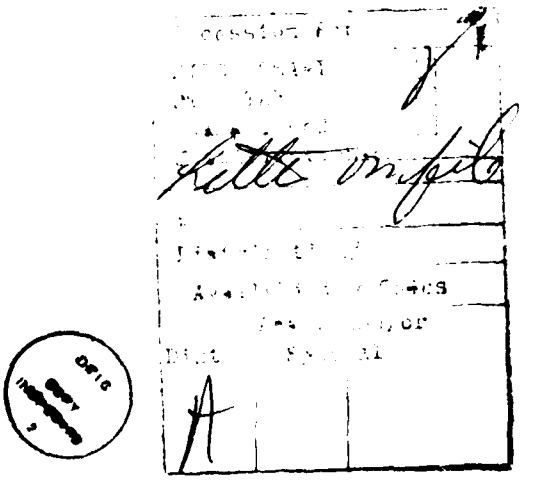


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National Waterways Study

FINAL REPORT

EVALUATION OF THE PRESENT NAVIGATION SYSTEM
APPENDIX A



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EVALUATION OF THE PRESENT
NAVIGATION SYSTEM

APPENDIX A

NWS Forecasts of Unconstrained Waterborne Commodity Flows by Reporting Regions and Commodity Groups

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This is deliverable under Contract DACW 72-79-C-0003. It represents the output to satisfy the requirements for the deliverable in the Statement of Work. This report constitutes the single requirement of this Project Element, completed by A. T. Kearney, Inc. and its primary subcontractors, Data Resources, Inc. and Louis Berger and Associates, Inc. The primary technical work on this appendix was the responsibility of Data Resources, Inc. This document supercedes all deliverable working papers. This report is the sole official deliverable available for use under this Project Element.

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I - INTRODUCTION

This appendix describes the waterborne commodity flow projections through the year 2003 developed for the National Waterways Study (NWS). In all, four alternative scenarios (Baseline, High Use, Low Use, Bad Energy) and three sensitivities (High Coal Export, Defense, and Miscellaneous sensitivities) forecast United States waterborne movements for 14 commodity groups and 22 reporting regions (see Appendix A). The forecasts include the following traffic class detail: inland (internal), coastal, Great Lakes, and import/export. Projections are in total tons by commodity, with ton-miles by commodity available for internal movements only.

The commodity flow projections have been developed from a consistent set of United States macroeconomic and industry-specific models developed by Data Resources, Inc. (DRI). In general, the alternative projections reflect both economic and institutional changes that may occur over the next 25 years. The attempt has been to incorporate a wide range of possible future events to allow planners to assess a number of contingencies associated with future waterborne traffic growth.

The forecasts presented in this report differ from those developed for the Element B final report. Both changing economic conditions as well as reviewer comments between the completion of the initial NWS forecasts (April 1980) and the finalization of these forecasts in the report Traffic Forecasting Methodology and Unconstrained Flow Projection (December 1980) lead to some modifications in the waterborne commodity flow projections.

There are four NWS scenarios; Baseline, High Use, Low Use, and Bad Energy. These scenarios were based on the United States macroeconomic forecasts; TRENDLONG2003A, LARGERGOVT2003A and BADENERGY2003A reported in the Element B report. In addition, three sensitivity analyses; Defense, High Coal Export, and Miscellaneous were developed to examine the impacts of alternative futures (such as an overseas war) not covered in the scenarios.

The Baseline scenario in the present report, an extrapolation of historical waterborne traffic trends, contains updated coal and petroleum waterborne commodity flow forecasts. The updated energy forecasts take into account the large oil price hike in 1979 that occurred after the initial Element B forecasts were prepared for coal and petroleum. In addition, corn yields were adjusted down 5% to 121 bushels per acre, slightly lower than under the original Baseline scenario. The TRENDLONG macroeconomic forecast is the underlying projection of the United States economy for this scenario.

The High Use forecast, designed to examine the impacts of higher waterborne traffic flows on the waterway system, uses the TRENDLONG2003 projections as the primary macroeconomic forecasts. The forecast has an update energy projection, in line with the Baseline scenario. The major changes are in the coal projections, with total coal exports at 156 million tons by 2003, compared to 107 million under Baseline. In addition, 11 synfuel plants on water consuming 61 million tons of coal are built, compared to 10 plants using 50 million tons of coal under the Baseline. In total, 2,360 million tons of coal are domestically consumed in the United States by 2003 under the High Use scenario, compared to 1,794 million tons under the Baseline scenario. Lake Erie coal loadings by 2003 are assumed to be 2 million tons higher than the Baseline, due to relaxed environmental restrictions on eastern coal use. Also, phosphate exports are held constant after 1985, compared to a decrease after 1985 under the Baseline scenario.

The Low Use scenario, constructed to evaluate the possibility of lower (than the Baseline) traffic flows on United States waterways, uses the LARGERGOVT macroeconomic scenario as the forecast of the United States economy. In grains, corn yields are reduced to 110 bushels per acre by 2003 and Great Lakes grain export shares fall relative to the Baseline. Phosphate exports decrease after 1985 and steel imports increase to 26% of domestic consumption by 2003, compared to 15% in the Baseline. Crude oil imports decline to 240 million tons in 2003, compared to 290 million tons under the Baseline. Coal exports are 107 million tons by 2003, identical to the Baseline, while domestic coal consumption is 1.625 million - 169 million tons less than the Baseline forecast in 2003. Synfuel

plants number six by 2003, consuming 30 million tons of coal compared to 50 million tons by 10 plants under the Baseline. Finally, increased eastern coal use in the Great Lakes region due to lower environmental restrictions raised Lake Erie loadings to 24 million tons by 2003.

The Bad Energy scenario is based on BADENERGY2003A . The current Bad Energy forecasts have revised coal and petroleum projections, in line with the revisions made to the Baseline forecasts. In addition, 15 synfuel plants on water consuming 80 million tons of coal by 2003 are included in this scenario. Seven coal slurry pipelines, of which one - the ETSI line - will divert 4.5 million tons of coal from the waterway by 2003, are included in the forecast.

Table III-1 in Section III details all primary assumptions for these scenarios. The sensitivity analyses are described in Section VI.

To account for additional contingencies associated with the NWS waterborne commodity flow projections, three sensitivity analyses were performed. The first, Defense, analyzed the impact on waterborne traffic of increased defense-oriented flows from a limited war. The conflict was arbitrarily assumed to start in 1985 and last to 1990, be conventional in nature (not nuclear), and not to occur on United States soil. Major commodities affected include grain, petroleum, coal, and steel, while the Great Lakes, Illinois Waterway, Ohio River and East Coast waterborne flows were most altered under the scenario.

The High Coal Export scenario considers the impact on internal and port traffic of increased United States coal exports. Coal exports are assumed to rise in line with the National Coal Association high coal export scenario to 290 million tons in 2003, compared to 155 million tons under the NWS High Use forecast. The Atlantic and Gulf ports, along with internal flows on the Ohio and Tennessee Rivers, are most affected by the higher coal exports.

The Miscellaneous sensitivity incorporated a number of specific adjustments to waterborne segment forecasts to correct for either base year tonnage undercounting or to reflect alternative futures concerning traffic flows. The Ohio, Monongahela, Lower Mississippi, Arkansas, Gulf Intra-Coastal Waterway East and Lower Columbia-Snake Waterway/ Willamette Rivers were directly affected by these changes.

A complete description of the analysis and methodologies underlying the waterborne commodity flows can be found in the NWS Element B report: Traffic Forecasting Methodology and Unconstrained Flow Projections.

II - SCENARIO AND SENSITIVITY DEVELOPMENT

Both NWS scenarios and sensitivity analyses are important components of the evaluation phase of the study.

During the initial phases of the National Waterways Study, a number of alternative waterborne traffic forecasts were developed. These scenarios, Baseline, High Water Transportation Use, Low Water Transportation Use, and Bad Energy, reflected a range of possible futures for the United States and world economies as well as United States waterborne transportation.

The scenario approach to analyzing future waterborne traffic was developed to give planners the widest possible range of alternative futures to choose from in determining waterway system requirements. The scenarios were chosen, however, to represent likely or feasible ranges of possible outcomes and do not include radical departures from continuation of most historical trends - both in the economy and in the transportation system.

Each scenario represents an alternative view of the future. The decisionmaker's universe can be divided between past versus future, acts versus events, and certainty versus uncertainty. Decisionmaking deals with affecting factors within control (acts in the future), but it requires an understanding of factors outside control (events of the future). Scenarios represent the events in the future, for the purposes of this study, which are outside the control of the strategies being formulated. A scenario is, thus, a drawing together of assumptions about many events in the economy, society, or government that will affect the future demands for water transportation.

The sensitivity analyses were designed to handle changes in the basic NWS waterborne forecasts to reflect unforeseen events or other problems that could invalidate certain aspects of the scenarios during later (post-scenario development) stages of the NWS evaluation process. A number of possible sensitivity analyses were considered for inclusion in the National Waterways Study:

the impact of transportation deregulation, changes in United States environmental policies, higher coal exports, among others.

Each sensitivity reflects impacts on specific commodities (coal under High Coal Exports) or segments (Ohio River under Miscellaneous) of shifts in economic conditions or data problems that appeared after the scenario development under NWS was complete. The Defense sensitivity is an exception, reflecting one potential war situation during the forecast period, and its impact on waterborne traffic patterns. Thus, sensitivities are modified scenarios, with specific commodity or segment alterations in the forecast period to reflect events of sufficient importance (and their impact on waterborne traffic projections) that may affect final conclusions and strategies for waterway planning.

The scenarios are described in detail in Sections III, IV and V of this appendix. The sensitivity forecasts are described in Sections VI and VII.

III - SCENARIO DESCRIPTIONS

The NWS scenarios are collections of assumptions about related factors in the economy, society, and government that, taken together, will impact the future needs for waterborne transportation in the United States. Appendix C contains the waterborne commodity flow projections - total, all commodities by reporting region - that correspond to each of the NWS scenarios.

Scenarios have at least three purposes. One of the purposes of scenarios is to summarize the type and magnitude of events that are likely to influence the future use of the waterways. Factors that cannot be expected to affect water transportation use are properly excluded from scenarios. Those factors under the control of decisionmakers, such as shifts in Corps of Engineers policy, are also excluded from scenarios.

Another purpose of scenarios is to provide some idea of the range of possible future outcomes regarding water transportation use. Since many events that may occur in the forecast period are not known with certainty, an analysis of future water transportation use must include a number of possible future courses of these events.

Finally, scenarios group consistent and probable sets of events in order to simultaneously evaluate their impact on waterway transportation use.

Thus, scenarios as used in the NWS are an important tool for strategic planning. They are designed to simplify the planning process. They do this by articulating a set of logical and consistent projections for the future transportation use of the waterways.

The four NWS scenarios have been defined in a way to reflect the broad range of factors that might be expected

to influence the future use of the national waterways. The NWS scenarios reflect:

1. A range of industry growth and transportation use.

2. A range of energy price increases and fuel supplies.

3. Broad options for government investment in the economy.

Consideration of these represents part of the analysis that went into the development of the initial concepts for the four NWS scenarios. For example, the need to reflect a range of industry growth suggests that there should be a scenario with a "high demand" water transportation use and another scenario with a "low demand" water transportation use.

The four NWS scenarios are:

- Baseline
- High Water Transportation Use
- Low Water Transportation Use
- Bad Energy

The Baseline scenario is a set of events or factors that represents a continuation of present conditions and long established trends. The High Use scenario is a set of events or factors that results in higher levels of use of all transportation modes including water. The Low Use scenario is the mirror image of the High Use scenario. The Bad Energy scenario is a set of factors or events that results in relatively high energy prices and tight supplies of foreign fuels.

These four NWS scenarios were developed in a series of stages. The first step involved identifying those factors that affect water transportation use. These are:

- Macroeconomic factors
- Industry factors (including energy policy)
- Transportation policy
  - Regulatory
  - Federal expenditure/cost recovery
- Environmental policy

Macroeconomic conditions refer to broad fiscal and monetary policies that result in differing levels of industrial and public activity in the United States economy.

Industry factors refer to one or more key factors that can be expected to influence the level of activity of each of the seven primary waterway user industries. These industries have been identified as: agriculture; fertilizer; steel; petroleum; coal; chemicals; and forest products.

Transportation policy factors refer to regulatory changes affecting rail, water, and truck transportation as well as changes in the imposition of waterway user fees. Since the imposition of waterway user fees is a policy option to Congress, it is evaluated as a separate study, currently underway in the United States Departments of Transportation and Commerce.

Environmental policy factors refer to changes in environmental statutes and regulations as they affect the choice of actions that can be taken to maintain or improve the waterways for commercial navigation and the costs of these actions. Since these changes have such pervasive impacts on waterway capability and cut across most scenarios, it was determined that the analysis of changes in environmental policy will be undertaken as a separate sensitivity analysis. The kind of answers that will be provided include the amount of increase in the costs of

maintaining and improving the waterway system under a strict set of environmental regulations. The only exception to how environmental policy was handled in the study was in the case of potential shifts to eastern coal due to relaxed sulfur requirements at eastern utilities that would reduce waterborne traffic, reflecting a shift to truck for final delivery.

Once the significant factors affecting water transportation use were identified, it was necessary to determine the explicit conditions that might exist under each general category of scenario assumption. For example, under the "macroeconomic" assumptions, three macroeconomic forecasts (TRENDLONG2003, LARGERGOVT2003, and BADENERGY2003) were developed. These forecasts, in turn, were formulated by specifying different values for a number of fiscal and monetary parameters in the Macro Model of the United States Economy. Similarly, different assumptions were also developed for each specific United States industry.

The third step in developing NWS scenarios involved assigning values or choices to each major category of assumptions under all four NWS scenarios. The description of each NWS scenario along with its major assumptions is now presented.

Table III-1 presents the principle assumptions for each of the four NWS scenarios. A number of other assumptions were made in the development of the baseline scenario, however, the assumptions noted in Table III-1 are those that have been explicitly modified in the development of the other three scenarios.

BASELINE SCENARIO

In general, the baseline scenario incorporates factors as they are now or as they have changed according to well established trends in the past.

The baseline scenario is based on macroeconomic projection entitled "TRENDLONG2003". Its principle assumptions include:

1. A fertility rate that approaches 2.1 children per woman (a level that is consistent with zero population growth).

2. A small reduction in the mortality rate for all age groups.

3. Economic recovery in 1981 and 1982 from a 1980 recession.

4. Corporate and personal income tax cuts in 1981 of $10 billion.

5. A public sector that grows no faster than the rate of growth in GNP.

A number of industry assumptions are made. The principle assumption regarding agriculture is that rising export demand will bring additional farmland for corn and soybeans into cultivation and encourage efforts to increase yields. Corn yields will increase to 121 bushels per acre by the year 2003 (this is approximately 12 bushels more than the 1979 estimate). In addition, grain exports were assumed to rise from less than 7% via the West Coast in 1977, to 14% in 1980, and remain at that level, reflecting existing shifts in United States export grain markets to the Far East.

The principle assumptions regarding the steel industry are that growth in world steel demand reduces excess foreign steel capacity and that the United States is required to increase its own domestic steel capacity by enactment of tax and depreciation changes favorable to the domestic steel industry. As a result, imports as a percent of total consumption decrease after 1990 from 17% to 15% by 2003.

Table III-1

THE NATIONAL WATERWAYS STUDY

PRINCIPLE ASSUMPTIONS FOR NWS SCENARIOS

PRINCIPAL ASSUMPTIONS	BASELINE	HIGH USE[1]	LOW USE	BAD ENERGY	DEFENSE	HIGH COAL EXPORTS
1. MACROECONOMIC	TRENDLONG	TRENDLONG	LARGER GOVERNMENT	BAD ENERGY	WARTIME ECONOMY[2]	TRENDLONG
2. CORN YIELDS BY 2003 (BUSHELS PER ACRE)	121	121	110	121	121	121
3. WEST COAST SHARE OF FARM PRODUCTS EXPORTS	14%	14%	14%[3]	14%	OVERALL DECLINE DURING CONFLICT	14%
4. PHOSPHATE EXPORTS	DECREASE AFTER 1985	CONSTANT AFTER 1985	DECREASE AFTER 1985	DECREASE AFTER 1985	CONSTANT AFTER 1985	CONSTANT AFTER 1985
5. STEEL IMPORTS (PERCENT OF TOTAL CONSUMPTION	DECREASE AFTER 1990 from 17% to 15%	DECREASE AFTER 1990 from 17% to 15%	INCREASE TO 26% BY 2003	DECREASE AFTER 1990 FROM 17% TO 15%	DECLINE SHARPLY DURING CONFLICT	DECREASE AFTER 1990 FROM 17% TO 15%
6. CRUDE OIL PRICES (AVERAGE ANNUAL PRICE INCREASE)	3.8%	3.8%	3.8%	4.8%	3.8%	3.8%
7. CRUDE OIL IMPORTS BY 2003 (MILLIONS OF TONS)	290	290	240	200	DECLINE OF 100 MILLION TONS PER YEAR DURING CONFLICT	290
8. COAL EXPORTS BY 2003[4] (MILLIONS OF TONS)	107	156	107	156	156	290 5.
9. GULF COAST SHARE OF TOTAL COAL EXPORTS IN 2003[4] (PERCENT)	19%	23%	11%	23%	23%	35%
10. DOMESTIC COAL CONSUMPTION BY 2003 (MILLIONS OF TONS)	1,794	2,360	1,625	1,728	2,360	2,160
11. SYNFUEL PLANTS ON WATER (COAL CONSUMPTION IN MILLIONS OF TONS BY 2003)	10 (50)[6]	11 (61)	6 (30)[6]	15 (81)	11 (61)	11 (61)
12. COAL SLURRY PIPELINES	NONE	NONE	NONE	7[7]	NONE	NONE
13. EASTERN COAL USE (DOMESTIC LAKE ERIE LOADINGS OF COAL BY 2003 IN MILLIONS OF TONS)	PRESENT TECHNOLOGY AND REGULATIONS (20)	PRESENT TECHNOLOGY AND REGULATIONS (22)	INCREASED USE IN GREAT LAKES AREA (24)	PRESENT TECHNOLOGY AND REGULATIONS (20)	PRESENT TECHNOLOGY AND REGULATIONS (22)	PRESENT TECHNOLOGY AND REGULATIONS (22)

NOTES:
(1) The Miscellaneous Sensitivities forcasts incorporates all the assumptions of the High Use Scenario. All the adjustments to the Miscellaneous Sensitivity forecasts are adjustments to account for database errors or to introduce alternative regional forecasts.
(2) Based on Federal Emergency Management Agency forecast.
(3) Great Lakes share drops 10%.
(4) Overseas and Canadian destinations.
(5) Based on National Coal Association forecast as modified by DRI.
(6) An additional demonstration plant (not included in these numbers) on the Monongahela is operated from 1983 to 1990 and consumes 3,000,000 to 6,000,000 tons of coal each year. However, after 1990, it is discontinued.
(7) One of these seven pipelines (ETSI) will divert 4.5 million tons of coal from the waterways by 2003.

SOURCE: Appendix A

The principle energy assumptions are that the real price of foreign crude oil will increase at an average annual rate of 3.8% and that domestic oil and gas prices will be gradually decontrolled. Partly as a result of these price increases, crude oil imports fall from the 1977 levels of 405 million tons to 290 million tons by 2003. Domestic coal consumption increases from 617 million tons in 1977 to just under 1,800 million tons by 2003. Coal exports increase from 54 million tons in 1977 to 107 million tons by 2003. Finally, it is assumed that ten synfuel plants are built at waterside locations and these plants consume 50 million tons of coal by the year 2003.

As part of the Baseline scenario, it is also assumed that partial deregulation of the rail industry takes place. Although the principle impacts of rail deregulation are expected to affect the competition between truck and rail carriers, it is assumed that a stronger rail industry permits rail carriers to increase their share of existing chemical traffic that is water competitive. As a result, the rate of growth in waterborne chemical traffic is 5% lower than it would otherwise be.

HIGH USE SCENARIO

The primary change in the High Use scenario from the Baseline scenario is an increase in demand for coal. Domestic coal demand increases due to the termination of construction plans for new nuclear power plants after 1987. Total domestic coal consumption increases to 2,360 million tons by 2003 - this is a 32% increase over the baseline scenario.

Coal exports are also higher under this scenario. Exports reach 156 million tons of coal by the year 2003 - 101 million tons of this total are steam coal exports.

Finally, phosphate exports from Florida increase to 1985 and remain constant throughout the study period, in contrast to the Baseline scenario, which projects a decline after 1985.

LOW USE SCENARIO

The Low Use scenario assumes that government spending as a percent of GNP, increases from 32% in 1981 to 36% in 2003. This higher growth in the public sector reduced industrial growth and, as a result, domestic coal consumption at 1,625 million tons is off 9% by the year 2003 from the Baseline scenario.

Crude oil imports are also significantly below those of the Baseline scenario. An estimated 240 million tons of crude oil are imported in 2003 (this represents a 17% decline from the Baseline scenario).

The lower industrial growth of this scenario is complemented by a reduction in the number of synfuel plants on water (only six plants are built on water) and a lower share of coal exports for the Gulf Coast ports (the share of the Gulf Coast ports increases from 9% in 1977 to 11% in 2003, but remains well below the projected share of 19% in 2003 under the Baseline scenario). Finally, it is assumed that changes are made in the regulations affecting the burning of eastern coal and, as a result, utilities in such states as Michigan burn more eastern coal at the expense of Western coal. Some of this eastern coal is shipped by rail, but an additional 4 million tons (relative to the Baseline scenario) are shipped from Lake Erie ports by 2003.

The Low Use scenario makes two other assumpti ns that differ from the Baseline. First, the growth in corn yields increases from 109 bushels in 1979 to only 110 bushels in 2003. As a result, corn exports are 3.65 billion bushels by 2003, a 16% decline from the Baseline scenario. As a result of the lower grain exports, the share for Great Lakes ports declines by 10%. Second, there is a substantial increase in steel imports as the domestic steel industry fails to add new capacity. The import share of total consumption increases to 26% by 2003 - the Baseline assumes that the import share will be 15% by 2003. The increase in steel imports results in higher shipments of iron and steel products at ports and selected inland segments, but a decrease in iron ore shipments on the Great Lakes.

BAD ENERGY SCENARIO

The Bad Energy scenario assumes that oil prices will rise faster and that foreign crude oil supplies will be tighter than under the Baseline scenario. Foreign oil imports decline to 200 million tons by 2003, a level that is 31% below the Baseline scenario.

United States coal exports are also assumed to be higher than under the Baseline. Approximately 156 million tons of coal are exported by 2003, with an estimated 101 million tons of steam coal. Fourteen synfuel plants on water are assumed to be built - four more than under the Baseline scenario.

Although the higher crude oil prices encourage the consumption of coal, the higher overall energy prices reduce consumption of all energy products including coal. As a result, domestic consumption of coal is projected to be 1,728 million tons by 2003, 4% below the Baseline scenario.

This scenario also assumes that seven coal-slurry pipelines are built. The ETSI pipeline is the only pipeline expected to reduce waterborne coal flows. An estimated 4.5 million tons of coal will be diverted from water to pipe in 2003. Of this total, 2.5 million tons would have originated on the Lower Upper Mississippi and another 2 million tons would have originated on the Upper Mississippi for shipment to New Orleans and utilities in the northern part of the state of Mississippi.

IV - SCENARIO COMMODITY ANALYSIS

Five key commodity groups - coal, petroleum, chemicals, grain, iron and steel are responsible for the major differences in waterborne commodity flows by scenario. The following Section analyzes how the scenarios differ on a commodity basis.

COAL

Coal is one of the primary commodities underlying waterborne traffic growth in the forecast period. Domestic coal tonnage under the baseline scenario is expected to grow by 3.4% per year from 1977 to 2003, with its share of total traffic increasing from 11% in 1977 to 19% by 2003.

(a) Baseline - Key Assumptions

Total steam coal exports in this scenario will grow to about 53 million tons in 2003. Total (overseas and Canada) coal exports will increase from 56 million tons in 1977 to 111 million in 2003, displaying an average annual compound growth rate of 2.7%.

The historical trends in part shares for export coal will continue through 2003. In 1977, 86% of total overseas (other than Canada) coal exports moved through ports on the East Coast while 13% were exported through the Gulf. In 1969 these shares were 99.4% for the East Coast and 0.4% for the Gulf ports. By 2003, the shares are expected to shift significantly due to the new development and expansion of facilities on the Gulf compared to the East Coast, facilitating exports of Midwestern and Western coal. In 2003, 50% of total overseas exports will move through the East Coast ports while the other 50% will move through the Gulf.

Total demand for bituminous coal, all domestic uses, will increase from 617.2 million tons in 1977 to 1,794.0 million tons in 2003, an average annual compound growth rate of 4.2%. This growth can largely be attributed to new demand within the synthetic fuel industry as well as significant conversions from oil-fired boilers to coal by utilities, predominantly in the New England and Middle Atlantic regions. A total of ten synthetic fuel plants are assumed to locate along the Missisippi River and the Gulf of Mexico by 2003 under the Baseline scenario, each consuming 5 million tons of coal by that year. Specifically, three synfuel plants are assumed to locate on the Middle Mississippi (analysis segment 3) while five plants are assumed to locate in the Baton Rouge-New Orleans area (analysis segment 7) and two plants will be located on the Texas Gulf Coast (analysis segment 29). These locations were chosen for their proximity to the chemical industry which is assumed to use a significant amount of synthetic fuel as feedstock. In addition, a demonstration project is assumed to locate on the Monongahela River from 1983 to 1990. The project does not go into full production in this scenario but does require annual coal deliveries of 3.0 million tons between 1983 and 1987 from the Upper Ohio River. Conversions are assumed to take place primarily in the mid-1980s with specific plants converted according to the Department of Energy's "Phase 1: List of Power Plants for Statutory Prohibition." These conversions primarily affect East Coast flows.

Other assumptions include no coal slurry pipelines throughout the forecast period, only partial railroad deregulation with little waterway impact, cost recovery as legislated in P.L. 95-502 (calling for fuel taxes) and present technology and regulations regarding Eastern coal use. The Burlington Northern (BN) railroad is also assumed to gain some Western traffic moving to the Gulf as a result of its merger with the St. Louis-San Francisco (FRISCO) railroad. Coal shipments on the Mississippi River will be reduced due to this merger, as will waterborne receipts on the Gulf Coast West.

(b) Baseline - Results

Total domestic shipments will increase from 156.3 million tons in 1977 to 403.1 million tons in 2003 under the Baseline scenario. This is an average annual growth

rate of 3.7%. Segments which will experience the most growth are those which will have synfuel plants locating on them or which have utilities which will convert from oil to coal. Therefore, the Baton Rouge to Gulf reporting segment, the Gulf Coast West reporting segment and the Middle Atlantic Coast reporting segment will all experience significant tonnage growth over the 26-year period.

As discussed above, total (overseas and Canada) exports will increase from 54 million tons in 1977 to 107 million tons in 2003. Exports to Canada via the Great Lakes accounted for 31% of total exports in 1977 and are expected to increase their share to 36% by 2003. The major development in exports under this scenario, however, is the shift in port shares. This shift to increased use of Gulf ports will result in exports through those ports increasing from 5.1 million tons in 1977 to 20.6 million tons in 2003, an average annual compound growth rate of 5.5%.

Total domestic traffic will increase most rapidly for those segments which had small tonnage in 1977 (e.g., the Arkansas River and the Gulf Coast West). Major river segments such as the Ohio River, the Tennessee River, and the Mississippi River will experience more conservative growth rates (except where synfuel plants locate). Domestic traffic on the Great Lakes will also experience rather slow growth rates of 1.8% per year from 1977 to 1990 and 2.1% from 1990 to 2003. The same basic trends are obvious in domestic ton-miles for the major segments.

(c) High Use - Key Assumptions

Coal is expected to become the primary fuel for electric utility boilers under this scenario due to the initiation of a nuclear moratorium. In addition, coal exports will increase under this scenario as foreign countries increase their use of steam coal. The TRENDLONG2003A scenario was again the macroeconomic scenario used to forecast industry factors as well as waterborne demand projections.

The major assumption for this scenario is that a nuclear moratorium will occur. Therefore, all nuclear plants with construction less than 40% complete by mid-1979 are not allowed to come on-line. The capacity will be replaced as required by coal-fired generating plants. These coal-fired plants cannot come on-line, however, until 1987 due to an eight year lead time in their planning and construction. Oil facilities are assumed to fill the gap from 1979 to 1987. Therefore, total coal demand will increase from 617.2 million tons in 1977 to 2,359.8 million tons in 2003, averaging an annual compound growth rate of 5.3%. This compares with an average annual compound growth rate of 4.2% under the Baseline scenario. Tonnage by 2003 will be 31.5% higher under this High Use scenario (565.8 million tons).

The second major change from the Baseline scenario is an increase in coal exports. Total exports will increase from 54 million tons in 1977 to 156 million tons in 2003, compared to 107 million tons in 2003 under the Baseline scenario. The share of steam coal exports is expected to increase to 65% in 2003. The port shares, however, will remain almost the same for the two scenarios with the Gulf ports gaining a slight share by 2003, exporting 23% of all exports under this scenario as opposed to 19% under the Baseline scenario.

The number and location of synthetic fuel plants will increase by one over the Baseline case as the plant on the Monongahela River will go into full production during the early 1990s. This plant will be consuming 11.0 million tons by 2003. The assumption that there will not be any coal slurry pipelines will remain the same as in the Baseline case. In addition, the Baseline assumptions for railroad deregulation (partial), waterway cost recovery legislation (P.L. 95-502), and Eastern coal use (present technology and regulations) are included in this scenario.

(d) High Use - Results

Total waterborne domestic traffic shipments/receipts will increase from 156 million tons in 1977 to 484 million tons in 2003, 81 million more tons than in the Baseline scenario. The average annual compound growth rate for this traffic is 4.4%. Upper Mississippi shipments, Lower

Mississippi receipts, Baton Rouge to Gulf receipts, Gulf Coast West shipments and receipts, and Middle Atlantic Coast shipments and receipts will all average compound annual growth rates above 10% from 1977 to 1990, again largely due to the demand created by synfuel plants and converting utilities. The annual growth rates will fall to the 4%-9% range from 1990 to 2003.

Total coal exports will be 46% higher under this scenario than the Baseline. This is reflected in all of the port growth rates and especially the Gulf ports which are gaining market share at the same time that exports are experiencing average annual compound growth rates of 4.2%, almost tripling in 26 years. Imports will also increase at significant rates due to the overall increased demand for coal.

Total domestic tonnage and ton-miles also reflect the significant increase in coal flows brought about by a nuclear moratorium. Although some segments experience greater growth than others (regions which would have relied on nuclear plants if possible), 11 out of the 13 segments will have average annual growth rates above 4% from 1977 to 1990 and 8 out of 13 segments will have average annual growth rates in total traffic above 4.5% from 1990 to 2003, extremely strong growth rates.

(e) Low Use - Key Assumptions

This scenario is the antithesis of the High Use scenario in that coal use is expected to grow at a slower rate than forecast under the High Use scenario, thereby resulting in a lower demand for water transportation. Fewer synthetic fuel plants are expected to come on line and the Gulf of Mexico port shares for exports will be diminished under this scenario. The LARGERGOVT2003A macroeconomic scenario is the basis for the industry forecasts for the Low Use scenario. The basic assumption in LARGERGOVT2003A is that government participation increases over the baseline scenario, implying lower overall growth rates for the economy.

The Gulf of Mexico coal export facilities are assumed to be the marginal handlers of coal, gaining share when demand is high but losing share when demand is low. This is true because a good deal of the coal moving through the East Coast ports is under long-term contract and will continue to move under either a High Demand or Low Demand scenario. Coal moving through Gulf ports, however, will be new demand and, therefore, will be more prevalent when total demand is high. In order to account for this under the Low Demand scenario, coal exports are held at the 1977 levels for the Gulf Coast West (18,000 tons) while the Baton Rouge share is decreased from 20% of overseas exports in the Baseline scenario to 15% in this scenario. Therefore, total Gulf port share will be 11% of total exports (29% of overseas exports) compared to 19% under the Baseline scenario and 23% under the High Demand scenario.

The number of synthetic fuel plants locating on the waterways will be reduced from ten to six, translating into a decline of 20 million tons by 2003. The reductions will take place in the Gulf, based on the assumption that these plants will be the the marginal ones. All three plants on the Middle Mississippi segment are assumed to remain on line under this scenario, accounting for 15 million tons of coal terminations in 2003. The number of synfuel plants on the Baton-Rouge/New Orleans segment are assumed to drop from five to two under this Low Demand scenario while the number of plants locating on the Texas Gulf Coast segment will terminate on the Lower Mississippi for synfuels and 5 million tons for the plant on the Gulf Coast West by 2003 under this scenario as compared to 25 million and 10 million tons, respectively, under the baseline scenario. The demonstration plant on the Monongahela River will continue through 1990 as in the Baseline case.

Eastern coal use is assumed to increase under this scenario. This assumption is incorporated into the model by shifting the coal loading point for Great Lakes terminations from Lake Superior to Lake Erie. Therefore, 30% of Lake Superior coal terminations originate on Lake Erie under this scenario compared with 11% under the Baseline scenario (in conjunction with this, Lake Superior originations decline from 87% to 68%). Lake Erie originations will account for 75% of coal terminations on Lake Huron. The remaining 25% of tonnage will originate on Lake

Superior. The exact opposite is the case under the Baseline scenario with 25% originating on Lake Erie and 75% originating on Lake Superior. The share of originations for termination on Lake Michigan did not change from the Baseline (41% originating on Lake Erie and 11% originating on Lake Superior). In addition, some tonnage is taken off the Ohio River to reflect a lower demand for water transportation as a result of this increase in eastern coal use that may be more likely to be delivered by truck or rail than by water.

The remaining factors were assumed to be the same as in the Baseline scenario. Therefore, coal is expected to maintain its historical share of fuel sources for new plants and no coal slurry pipelines are assumed to come on line. In addition, partial railroad deregulations will take place, steam coal exports will account for approximately 50% of total exports and waterway cost recovery will remain as legislated in P.L. 95-502.

(f) Low Use - Results

Waterborne domestic tonnage is at the lowest level in this scenarios. Total shipments/receipts will reach 365 million tons in 2003, 38 million less than the Baseline (-9.4%) and 108 million tons less than the High Use (-23%). The average annual compound growth rate for shipments/receipts under this scenario will be 3.3%. Growth rates for shipments on the Upper Mississippi will decline more than a percentage point from 1977 to 1980 compared to the Baseline growth rates. Baton Rouge to Gulf reporting segment tonnage will also experience slower growth rates while most of the coal delivered to the Gulf Coast West for the one remaining synfuel plant will come by rail. Ohio River growth rates will also slow slightly due to the increased Eastern usage which is assumed to move by rail.

Total exports will be the same as in the Baseline scenario but the Gulf ports will lose some of their share of total exports. Total exports through the Gulf ports will only total 12.7 million tons in 2003, compared to 20.6 million tons under the Baseline scenario. This translates into an 11.8% share of total exports compared to 19% share under the Baseline.

The Gulf Coast East segment will be the only segment to have average annual growth rates greater than 7% from 1977 to 1990. Ton-miles will ony reach 117 billion compared to 140 billion under the Baseline.

(g) Bad Energy - Key Assumptions

The energy situation is expected to be significantly worse under this scenario with crude oil prices increasing an average of 4.8% per year as opposed to 3.8% per year under all of the other scenarios. The increase in oil prices is the driving force in the macroeconomic scenario BADENERGY2003A, used for this scenario. In addition, exports are expected to be higher in total with steam coal increasing its share of total exports and more synthetic fuel plants will locate in the Gulf area. Coal slurry pipelines will also become a factor under this scenario.

Total exports will increase from 54 million tons in 1977 to 156 million tons in 2003 with steam coal accounting for 65% of this tonnage. The Gulf port share of total exports will be 23%, four percentage points higher than under the Baseline scenario. Domestic coal demand, however, will be lower under this scenario than under Baseline, due largely to conservation efforts as a result of the higher energy prices. Total coal demand will increase from 617.2 million tons in 1977 to 1,728.2 million tons in 2003, an average annual compound growth rate of 4.0%. In addition, 14 synthetic fuel plants are assumed to locate on the waterways, four more than under the Baseline scenario (20 million tons more). Three synfuel plants consuming 15 million tons by 2003 will locate on the Middle Mississippi segment while seven plants will locate on the Baton Rouge/New Orleans segments, using 35 million tons of coal by 2003, and four plants will be found on the Texas Gulf Coast West segment, consuming 20 million tons of coal. In addition, the Monongahela River plant is assumed to go into full production after 1990, thereby bringing the total of water-served synthetic fuel plants to 15.

A total of seven coal slurry pipelines are assumed to be built under this scenario. Only one, however, is expected to impact waterway tonnage with all the others primarily impacting rail traffic. The one pipeline is the

Energy Transportation Systems, Inc. (ETSI), which will move coal from Wyoming to Mississippi (1,400 miles) at a rate of 35 million tons per year. The pipeline is expected to start operation in 1990 drawing 2.25 million tons off of the Mississippi River during first year. Three waterway flows will be negatively impacted by the pipelines. These flows include: originations on the Upper Mississippi with terminations on the Lower Mississippi, originations on the Lower Upper Mississippi with terminations on the Baton Rouge to Gulf segment, and originations on the Lower Upper Mississippi with terminations on the Baton Rouge to Gulf segment. By 2003, the pipelines will carry 4.5 million tons of coal which normally would have moved on the river. The individual tonnage impacts on the three flows will be discussed in the Results section.

Eastern coal use under this scenario will follow present technology and regulations while partial railroad deregulation and cost recovery according to P.L. 95-502 will be implemented. Only the BN-FRISCO merger will take place under this scenario.

(h) Bad Energy - Results

Tonnage will be slightly lower during the 1980s due to increased conservation efforts as mentioned before. By the 1990s, however, waterborne traffic will reach tonnage levels above those under the Baseline scenario. By 2003, domestic shipments/receipts will total 408 million tons, 5.0 million tons more (1.2% more than under the Baseline scenario). Major segments to experience increases in receipts are the Baton Rouge to Gulf segment and the Gulf Coast West segment, due to the four additional synfuel plants. By 2003, receipts on the Baton Rouge to Gulf segment will total 40 million tons, 11 million tons more than under the Baseline. Over 35 million tons of this will go to the seven synfuel plants located on this segment. Receipts on the Gulf Coast West will total 10.5 million tons by 2003, twice as much as under the Baseline scenario. This tonnage will go to two of the four synfuel plants located on this segment. The remaining two plants are assumed to be served by the BN/FRISCO railroad system. Receipts will be diminished on the Lower Mississippi analysis segment 4, 1.5 million tons by 2000 due to coal slurry impacts, while receipts on the Baton Rouge to Gulf segment (analysis seg- ments 7 and 8) will be reduced 3.0 million tons by 2003.

Middle Mississippi (analysis segment 3) shipments will decline 2.5 million tons by 2003 as a result of the ETSI pipelines, while the Upper Mississippi (analysis segment 2) will ship 2.0 million tons less by 2003. The pipelines will first start affecting these flows in 1990 with tonnage impacts generally half of the 2003 tonnages.

Total exports and port shares will be the same as under the High Demand scenario. Total exports will reach 156 tons by 2003 and the Gulf ports will handle 23% of that tonnage.

Again, there are no surprises with traffic and ton-miles following the patterns exhibited by domestic shipments/receipts. Therefore, the Baton Rouge to Gulf and Gulf Coast West segments experience large growth rates as well as the Arkansas River, a feeder into the Lower Mississippi and the Gulf Coast West. In addition, Tennessee River ton-miles will grow at a fairly rapid pace due to the completion of the Tennessee-Tombigbee Waterway.

It should be noted that, although West Coast coal traffic for export is minimal at present, the potential does exist for substantial increases over the next twenty years. As of June 1981, no long-term contracts with foreign coal buyers who could use West Coast ports have been signed, nor have any port expansions to ship coal traffic from the West Coast been approved. Under the High Export Coal sensitivity discussed in the following sections, higher levels of coal export traffic via the West Coast have been assumed to project the possible impact on total port exports of such increases.

PETROLEUM

Total domestic waterborne movements of petroleum and coal products are essentially flat at approximately 365 million tons throughout the forecast period, compared to a steady increase in flows during the 1969 to 1977 period. Declining petroleum imports, due to higher oil prices as well as domestic conservation are the primary reasons behind the levelling-off of waterborne petroleum flows.

(a) Baseline -
Key Assumptions

The forecast for U.S energy consumption over the next 25 years is characterized by substantially slower growth for petroleum fuels due to high price and supply availability problems. In general, the petroleum share of total energy consumed falls from 37% in the Autumn 1979 forecast to 33% in the Spring 1980 analysis[1]. Total energy use fell by approximately 11% in the Spring 1980 forecast (relative to the Autumn 1979 forecast), while petroleum consumption decreased 21% by the year 2003.

Although energy savings in 1979 and 1980 have been quite dramatic, the reductions have been aided by a slow-growth economy and a mild winter in 1979. Obviously, a good portion of the savings thus far have accrued from one-time benefits. Thermostats can be significantly lowered in the future only by those households that were well-heated enough to have avoided doing so in the past. Conversely, a large percentage of energy savings can be accomplished with the passage of time. The bulk of today's housing stock, passenger car fleet and industrial capital stock was designed and constructed in a low-priced energy era The oil price shocks of 1973 and 1979, and the yet-to-come domestic oil, the natural gas price decontrol of the 1980s, will provide a tremendous incentive to upgrade the energy efficiency of existing capital stocks in all sectors

Energy pricing will play a crucial role in determining fuel consumption patterns over the next 25 years.

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1 The original (Autumn 1978) NWS waterborne petroleum forecast was done prior to the energy price increases in 1979 that resulted in a dramatic shift downward in United States petroleum fuel use. In order to better reflect the future outlook for oil demand and waterway petroleum traffic based on new price/quality relationships, a new energy forecast (Spring 1980) was prepared for the final evaluation stages of NWS.

New contract prices for coal are expected to show real growth comparable with OPEC all through 1990 but gradually decline to less than half the OPEC rate as the average OPEC oil price accelerates in the 1990s. New contract coal starts from an oil-equivalent price of $9.11/barrel in 1980, or 26% of delivered foreign crude. By the year 2000, the oil equivalent price of coal in 1980 dollars is $14.62/barrel, or 21% of delivered foreign crude. This slowly widening long-term gap should provide ample incentives to foster the strong projected shift to coal and more than cover the high capital and operating costs associated with the stringent environmental regulations governing its use.

Real electricity price growth for the 1980 to 1990 period, at roughly 2.5% annually in real terms, is approximately 80% of the real OPEC growth rate. The relatively high coal price growth rate during this period, plus domestic oil and gas decontrol are contributing factors. During the 1990s, slower growth in coal prices, combined with the absence of a decontrol growth component for oil and gas, lead to electricity price growth of roughly 0.5% annually in real terms.

The present forecast of total domestic crude oil production is unchanged from the earlier forecasts for 1990 but about 6% lower for the year 2000. Most of this decline reflects increasing pessimism about the prospects for "new" oil. Similarly, lower 48-state natural gas production is almost unchanged from our prior forecast through 1985 but follows a 2% to 5% lower path thereafter, again based on lower findings rates. The more pessimistic drilling outlook occurs despite slightly higher real wellhead netbacks (after excise tax) in the 1990 to 2000 period. Despite the lower domestic oil supply, total petroleum imports are down to the 5.5 mmbd to 6.0 mmbd range for 1990, to 2000 as compared with 6.5 mmbd to 7.0 mmbd in the earlier forecasts as a result of lower petroleum demands.

The required long-term supply of coal is down slightly in response to slightly lower economic and electricity growth rates. The level of nuclear power is expected to be down slightly by the end of the forecast period for the same reasons.

Table IV-1 shows the expected growth for certain key energy ratios. As in prior forecasts, the ratio of energy to real GNP growth is expected to average about 55% for the 20-year period, showing a gradual upward shift in later years as the opportunities for energy efficiency gains become less dramatic, and energy intensive production of alternative energy sources gains momentum.

The industrial sector is expected to demonstrate continued reductions of both fossil fuel and electricity consumption per unit of industrial output throughout the forecast period. The rate of efficiency gain diminishes gradually over time. The rate of electricity use per unit of industrial output is expected to show a far weaker rate of decrease than the corresponding fossil fuels ratio. Some substitution of electricity for oil and gas is expected as slower electricity price growth increases electricity's competitive position. A similar fossil fuel to electricity shift is evident in the relative rates of growth on a per-housing-unit basis.

(b) Baseline - Results

The current Baseline scenario reflects an approximately 20% reduction in waterborne petroleum domestic traffic by the year 2003, relative to the original (Autumn 1979) NWS petroleum forecast presented in the earlier Element B report, "Traffic Forecasting Methodology and Demand Projections."

For crude petroleum domestic waterborne movements, shifts in coastwise traffic constitute the major changes over the next 25 years. Alaskan North Slope oil shipments jump to over 80 million tons by 1980, relative to 15 million tons in 1977, and remain near that level through the year 2003. In a complementary fashion, California Coast oil receipts jump from 22 million tons in 1977 to over 57 million tons by 1980. The remainder of the Alaskan crude oil originations terminate either along the Washington/Oregon Coast (receipts up from 4.8 million tons in 1977 to 17 million tons by 1980) or are transshipped via the Panama Canal to Gulf Coast destinations. Although crude petroleum imports decline in Gulf Coast ports, infusions of Alaskan crude oil keep total receipts and shipments fairly constant.

For crude petroleum imports, total waterborne flows decline about 1.3% per year over the next 25 years from 405 million tons to 290 million tons by 2003. Major fall-offs in domestic Caribbean flows, Middle Atlantic Coast and Gulf Coast ports result from the overall decline in U.S. dependence on foreign crude oil supplies.

Domestic waterborne petroleum and coal product flows experience a steady decline of 1.3% per year from 1977 to 2003. Traffic losses are fairly evenly spread across all segments as industrial, utility, and commercial users substitute away from petroleum fuels. Gulf Coast West shipments fall from over 81 million tons in 1977 to 61 million tons by 2003, for a decline of 1.1% per year on average for the period. Middle Atlantic Coast shipments decline at a rate of 1.7% per year from 112 million tons in 1977 to 71 million in 2003, reflecting the substitution of coal for oil-fired utilities along the eastern seaboard.

Imports of petroleum and coal products are also expected to steadily decline over the forecast period, falling from near 94 million tons in 1977 to just over 35 million tons by 2003, for a compound annual rate of -3.9% per year. Middle Atlantic Coast imports fall most dramatically, declining from near 47 million tons in 1977 to 17 million tons in the year 2003. Similar declines are experienced among the North and South Atlantic Coast ports in petroleum product imports. In keeping with present trends, all exports of petroleum products were assumed to fall to zero levels during the forecast period.

(c) Low Use - Key Assumptions

The Low Use scenario reduced petroleum movements on the waterways, relative to the new Baseline, by approximately the same percentages as in the Autumn 1979 Baseline - Low Use scenario relationship. Table IV-2 summarizes the difference by year between the petroleum waterborne flows in the current Baseline and Low Use scenarios.

The number 99.6% implies that total waterborne domestic flows under the Low Use scenario are 99.6% of the

Table IV-1

Expected Growth for Key Energy Ratios
(percent)

	1980-1990	1990-2000
GNP growth	3.2	2.2
Total energy growth	1.5	1.5
Ratio of energy/GNP growth	0.47	0.68
Growth rate in Btu's per $1972 GNP	-1.6	-0.7
Per capita energy use	0.6	0.8
Nonelectric energy per unit industrial output	-3.2	-2.7
Electric energy per unit industrial output	-1.2	-0.6
Nonelectric energy per housing unit	-0.8	-0.2
Electric energy per housing unit	1.7	1.2

Table IV-2

Difference Between NWS Baseline and Low Use Scenarios - Petroleum
(percent)

Year	Domestic Traffic	Foreign Trade
1980	99.6	00.4
1985	97.7	97.1
1990	96.0	95.1
1995	94.4	93.9
2000	93.2	91.9
2003	92.8	90.8

Baseline flows. Thus, in the year 2003, domestic petroleum traffic by water is 93% below Baseline in the Low Use scenario and 91% below in the foreign trade sector.

(d) Results

For domestic waterborne crude oil flows, the Low Use scenario has total shipments at 129 million tons by 2003, compared to 133 million tons under the Baseline scenario. The lower petroleum use is primarily due to slower economic growth over the forecast period under the Low Use scenario. The Low Use alternative assumes that the majority of Alaskan crude oil flows to Gulf Coast ports, relative to the Baseline, with the lower petroleum fuel needs resulting in no new West Coast to Midwest pipeline construction activity. Imports of crude oil fall at 2.0% per year in the forecast period, declining from 405 million tons to 240 million tons by 2003.

Domestic petroleum product traffic declines to 241 million tons by the year 2003 under the Low Use scenario, compared to 260 million tons under the Baseline case. The coastal receipts and shipments, especially for the East Coast ports experience the most substantial traffic declines over the forecast period. Gulf Coast segments, especially Baton Rouge to the Gulf also have sharper declines in total shipments than under the Baseline scenario, with receipts falling less dramatically.

Domestic waterborne imports of petroleum and coal products fall by 4.2% per year (1977 to 2003) under the Low Use scenario, relative to a 3.8% decline under the Baseline scenario. East Coast ports are most affected by the decline, with Gulf Coast ports experiencing substantial declines as well.

(e) High Use - Key Assumptions and Results

For purposes of current NWS scenario definitions, the Higher Use forecasts for petroleum movements by water are the same as in the Baseline. High Use forecasts were developed only for coal and phosphate rock.

(f) Bad Energy - Key Assumptions

The Bad Energy scenario also incorporates the Spring 1980 Baseline forecasts for waterborne petroleum traffic. The Spring 1980 forecasts include the higher energy prices in 1979 that occurred after the original DRI Autumn 1978 waterborne petroleum traffic forecast. The Bad Energy scenario reflects the updated energy prices and lower petroleum demand inherent in current energy forecasting. The Spring 1980 Bad Energy forecast was developed by examining the relation between the Autumn 1978 Baseline and Bad Energy forecasts by energy commodity and region. The calculated growth rate differences were then applied to the Spring 1980 Baseline forecast to develop the Spring 1980 Bad Energy projections. Table IV-3 contains the differences in total waterborne traffic levels between the Spring 1980 Baseline and Bad Energy scenarios.

(g) Results

Traffic reductions are most substantial for Gulf Coast and Mississippi River petroleum movements under the Bad Energy scenario. Some modal shifts to pipeline occur as reduced petroleum demands result in price competition between barge and pipelines for traffic, especially for the Gulf to Midwest oil flows. Lower peakload demand for barge movements of oil along the Gulf Coast are the result of more direct importation of oil products at East Coast ports.

For crude oil domestic waterborne flows, the Bad Energy scenario has total traffic at 137 million tons by 2003, relative to 133 million tons under the Baseline forecast.

As in the case of the Low Use scenario, most Alaskan crude is assumed to be transshiped via the Panama Canal to Gulf Coast ports, although the Northern Tier pipeline is built in the 1980s.

Under the Bad Energy scenario, crude oil imports are forecast to fall to 198 million tons, compared to 290 million under the Baseline scenario. Supply problems,

high prices, and domestic conservation all account for the dramatic reduction in imports. Gulf Coast West crude oil imports are most affected, falling from 119 million tons in 1977 to 53 million by the year 2003. Similarly, the Baton Rouge to Gulf segment falls from 79 million tons to 35 million tons by 2003.

For domestic waterborne petroleum and coal products activity, the Bad Energy scenario has total flows at 231 million tons by the year 2003, compared to 260 million tons under the Baseline scenario. East Coast and Gulf ports experience the majority of the declines relative to the baseline forecast. For petroleum product imports, the Bad Energy scenario has 31 million tons, relative to 36 million tons by 2003 in the Baseline forecast.

CHEMICALS

Given the substantial dependence of the chemical industry on petroleum, both as a fuel and a feedstock, any revisions in the outlook for petroleum modifies chemical forecasts as well. In addition, the completion of the BN/Frisco railroad merger in the early 1980s is expected to result in more rail/barge competition for chemicals traffic. Thus, the original Autumn 1979 NWS chemical waterborne traffic forecasts have been replaced by a new set of Spring 1980 forecasts that reflect both higher energy prices and increased rail competition over the forecast period.

Four new waterborne chemicals traffic forecasts were developed that reflected more aggressive railroad marketing in chemical transportation that results in a reduction of barge tonnage of about 13% by the year 2003 under the Baseline. Alternative scenarios were produced by first examining the differences between the earlier (Autumn 1978) Bad Energy, Low Use, and High Use scenarios and the earlier Baseline for regional forecasts of chemical supply and demands. Next, using the current Baseline scenario for waterborne chemical traffic, the differences from Baseline for the previous scenarios for regional chemical supply and demand were produced relative to the current Baseline. Finally, using the current regional chemical forecasts, new waterborne traffic forecasts were developed by scenario. The Spring 1980 Baseline regional supply and

demand forecasts for alternative scenarios were reduced in accordance with the difference between the Autumn 1978 Baseline and other scenarios.

(a) Baseline - Key Assumptions

The current (Spring 1980) Baseline scenario for chemicals traffic assumes that partial deregulation of railroads results in loss of waterborne market share. Rail contract rates, improved single-line service out of the better improved safety records, and competitive pricing of services are all assumed to result in a lowering of the rate of growth of barge chemical traffic by one-quarter of one percent per year from 1977 to the year 2003. The impact is an approximate increase of 5% in the share of chemical shipments moved by railroads by the end of the forecast period.

(b) Baseline - Results

Under the Baseline scenario, total domestic waterborne chemical traffic increases from 46 million tons to 44 million tons by 2003, for a compound growth rate of 2.8% per year. Major increases in shipments occur from the Gulf Coast West (up 18 million tons by 2003 over 1977), Baton Rouge to Gulf (up 13 million tons through 2003), and the Ohio River (up 4 million tons to 2003). Gulf Coast West receipts grow 10 million tons to the year 2003, Ohio River receipts grow by 9 million tons, and Middle Atlantic receipts increase from 5 to over 10 million tons by 2003.

Foreign trade chemical traffic to the year 2003 reflect the increase of United States petroleum prices to world market levels. Imports of chemicals rise from near 11 million tons in 1977 to over 18 million tons by 2003, compared to a 5 million increase in total chemical exports over the same period. The majority of terminations for chemical imports are along the West and East Coasts during the forecast period.

In sum, impacts on waterborne chemical traffic are most significant on the Gulf Intercoastal Waterway, Lower

Table IV-3

Difference Between NWS Baseline and Bad Energy Scenarios/Petroleum (%)

Year	Domestic Traffic	Foreign Trade
1980	99.9	00.3
1985	97.8	97.8
1990	94.9	95.3
1995	92.3	92.1
2000	89.9	88.6
2003	89.0	87.6

Table IV-4

Difference Between NWS Baseline and Low Use Scenarios/Chemicals (%)

Year	Domestic Traffic	Foreign Trade
1980	99.2	03.2
1985	99.4	01.4
1990	97.9	01.0
1995	95.7	00.6
2000	95.1	99.6
2003	94.4	99.2

Mississippi River, Ohio River, and the Warrior River System. In particular, Southern and Western rail carriers are assumed to be most successful in capturing chemical traffic from barge, primarily on Gulf to Midwest to Gulf to East North Central flows.

(c) Low Use - Key Assumptions

As mentioned above, the Low Use scenario is based on the Spring 1980 Baseline, modified to reflect lower demands as forecast under the Autumn Low Use scenario. Table IV-4 contains the percent difference between the Baseline and Low Use chemical traffic scenario.

(d) Low Use - Results

Under the Low Use scenario, total domestic waterborne chemical traffic rises only 87 million tons by 2003, relative to 94 million tons under the Baseline scenario. Shipments from the Gulf Coast West, Baton Rouge to Gulf, and Ohio River chemical facilities grow at a slower rate under the low use forecast relative to the Baseline. Similarly, receipts at Middle Atlantic ports, Ohio River, Tennessee River, and Baton Rouge to Gulf plants increase less rapidly under this scenario.

For foreign trade activity, export traffic increases slightly under the Low Use scenario due to producers seeking foreign markets when domestic chemical demand falls off. Under the Low Use alternatives, total waterborne chemical exports are 1 million tons above Baseline levels by the year 2003. Similarly, lower economic activity in the United States results in lower chemical imports.

(e) High Use - Key Assumptions and Results

The High Use scenario for chemicals is the same as the Baseline scenario. Only coal and phosphate rock traffic were increased under the NWS High Use scenario.

(f) Bad Energy - Key Assumptions

The Bad Energy scenario for chemicals results in lower export traffic because higher U.S. oil prices raise chemical prices, reducing foreign demands. Thus, while both domestic and foreign waterborne chemical traffic decline under the Bad Energy scenario, exports are affected more sharply due to the loss of world markets. Table IV-5 presents the differences between the Bad Energy and Baseline scenarios for waterborne chemical flows. Domestic waterborne shipments of chemicals are not substantially affected under the Bad Energy scenario, with total tons at 93 million, compared to 94 million in the Baseline scenario by the year 2003.

(g) Bad Energy - Results

Higher United States oil prices under the Bad Energy scenario result in lower chemical imports, as relative United States/world prices favor United States producers over foreign ones in the United States market. Imports fall off along the East and West Coasts at a slightly higher rate than for Gulf Coast chemical imports.

GRAIN

(a) Baseline Scenario

The Baseline TRENDLONG2003A macroeconomic scenario predicts balanced growth in the United States over the next quarter century. The inflation rate is projected to decline while the role of the federal government in the economy continues at its present level with federal spending remaining a relatively constant share of the gross national product.

This scenario assumes that export demand for grain will continue to show strong growth, averaging 4% per year from 1977 to 1990 and 3% per year from 1990 to 2003. During this time domestic grain consumption remains relatively constant. Because of restrictions on cropland, the acres planted in grains grows relatively slowly, from an average 254 million acres from 1974-1978 to 275 million acres for 1999-2003. The production increases necessary

Table IV-5

Difference Between NWS Baseline and Bad Energy Scenarios/Chemicals (%)

Year	Domestic Traffic	Foreign Trade
1980	00.1	98.9
1985	99.6	94.1
1990	00.2	93.9
1995	98.7	94.2
2000	98.1	94.6
2003	99.2	95.0

to meet export demand come from increased yields and from a shift in crop mix favoring the production of corn and soybeans.

Table IV-6 presents a summary of the Baseline agriculture industry forecasts. For all three major grains, both production and the percent exported grow. Corn production increases 1.6% per year from 1977 to 1990 and 1.5% per year from 1990 to 2003, with the percent of the crop harvested in the five Corn Belt states rising from 54.0% in 1977 to 63.8% in 2003. From 1977 to 2003 exports grow 2,750 million bushels, accounting for 88.4% of the growth in production, and by 2003, 45.7% of the crop will be exported.

Wheat production rises more slowly, 1.4% per year from 1977 to 1990 and .7% from 1990 to 2003. Production is less concentrated regionally than corn but is becoming increasingly concentrated: the six Plains states that produced 51.2% of the 1977 crop will produce 62.6% in 2003. From 1977 to 2003, export growth will actually exceed production growth by 123 million bushels, and by 2003, 63.7% of the crop will be exported.

From 1977 to 1990 soybean production increases the fastest of the three major grains, 2.3% per year, but from 1990 to 2003 the growth rate drops to 1.4% per year. Corn Belt production rises 1.5% per year to 1990 and then declines slightly as that region concentrates on corn production. The Southeast emerges as a major soybean producing area; its growth in production accounts for 37.5% of United States growth and its share of the United States crop rises from 12.5% in 1977 to 22.0% in 2003. During this period, total United States soybean production rises 1,077 million bushels while exports increase by 945 million bushels; by 2003 exports account for 54.3% of the crop.

Cultivating additional cropland causes some of the increases in production, but most results from increased yields. Corn acreage harvested rises from 70.9 million in 1977 to 77.7 million in 2003, wheat acreage from 66.5 to 72.2 million, and soybean acreage from 57.6 to 77.9 million. Meanwhile, the average corn yield rises from 91 to

121 bushels per acres, the wheat yield from 31 to 42 bushels per acres, and the soybean yield from 31 to 38 bushels per acre. The projected 32.8 million acre increase in corn, wheat, and soybean harvests will come from increased utilization of marginal and set-aside lands, from land diverted from other crops, and from increased double-cropping. Increased yields are expected to come mainly from improved varieties and increased fertilization, including wider use of micronutrients.

The agriculture industry model assumes that new hybrids and improvements in farming techniques will continue to increase yields and that the average climate in major grain-producing regions will not change for the worse. The assumption that average yields will increase is based on substantial improvements in yields over the past decade, particularly for corn and soybeans, but it carries risks. Unexpectedly poor weather can dramatically reduce yields, and if expected progress in developing higher-yield varieties fails to materialize, less grain will be produced.

In the Baseline forecast, barge shipments of farm products are concentrated on six rivers: the Upper Mississippi, Lower Upper Mississippi, Illinois, Ohio, and Columbia/Snake. Between 1977 and 1990, average yearly growth on these rivers ranges from 4.3% on the Upper Mississippi to 2.0% on the Illinois; between 1990 and 2003, growth ranges from 3.3% on the Illinois to 1.6% on the Columbia/Snake. Corn, wheat, and soybean shipments account for almost all growth. Although "other farm products" shipments grow from 2.2% to 3.6% per year, tonnage of these products remains relatively small. "Other farm products" shipments on the lower Mississippi, the major inland shipper of these products, constitute only 5.9% of that segment's total farm products shipments in 2003.

Major growth in receipts is limited to three regions: Baton Rouge to Gulf, the Mobile River and tributaries, and the Columbia/Snake. Almost all receipts at Baton Rouge to Gulf are corn, wheat, and soybeans and grow steadily at 3.2% per year. Mobile River and tributaries receipts are mainly soybean receipts at Mobile; total receipts grow 6.1% per year from 1977 to 1997 and 2.8% per year from 1990 to 2003. Columbia/Snake receipts are almost entirely wheat

Table IV-6

Agricultural Industry Forecasts - Scenario: Baseline
(Million Bushels)*

	1977	1980	1985	1990	1995	2000	2003	% Compound Annual Growth 1977 to 1990	% Compound Annual Growth 1990 to 2003
Corn									
United States Production	6,425	6,804	7,456	7,895	8,671	9,084	9,535	1.5	1.5
Corn Belt	3,471	3,809	4,343	4,826	5,323	5,700	6,080	2.6	1.8
Lakes States	1,088	1,092	1,159	1,214	1,473	1,605	1,697	0.8	2.6
Exports	1,604	2,352	2,826	2,698	3,489	4,135	4,354	4.1	3.7
% Exported	25.0	34.6	37.9	34.2	40.2	45.5	45.7	2.4	2.3
Wheat									
United States Production	2,036	2,199	2,346	2,439	2,518	2,605	2,683	1.4	0.7
Northern Plains	750	919	1,084	1,202	1,314	1,361	1,393	3.7	1.1
Southern Plains	293	271	290	310	319	303	286	0.4	-0.6
Exports	938	1,302	1,396	1,398	1,405	1,462	1,708	3.1	1.5
% Exported	46.0	59.2	59.5	57.3	55.8	56.1	63.7	1.7	0.8
Soybeans									
United States Production	1,762	2,039	2,205	2,369	2,837	2,972	2,839	2.3	1.4
Corn Belt	1,001	1,124	1,174	1,215	1,340	1,290	1,196	1.5	-0.1
Southeast	221	293	353	414	524	605	625	4.5	3.2
Exports	595	833	952	1,075	1,306	1,459	1,540	4.7	2.8
% Exported	33.8	40.9	43.2	45.4	46.0	49.1	54.3	2.3	1.4
Barley									
United States Production	424	361	375	333	345	372	387	-1.8	1.2
Grain Sorghum									
United States Production	793	828	810	931	922	936	884	1.2	-0.4
Oats									
United States Production	751	520	634	629	500	455	443	-1.4	-2.7
Total United States Production	12,192	12,751	13,829	14,597	15,793	16,424	16,770	1.4	1.1

Corn Belt — Illinois, Indiana, Iowa, Missouri, Ohio
Lakes States — Michigan, Minnesota, Wisconsin
Northern Plains — Kansas, Nebraska, North Dakota, South Dakota
Southern Plains — Oklahoma, Texas
Southeast — Alabama, Delaware, Florida, Georgia, Kentucky, Maryland, North Carolina, Tennessee, Virginia, South Carolina

NOTE: * 1000 bushels of corn equals 28 short tons.
1000 bushels of wheat, soybeans, barley, sorghum, and oats equals 30 short-tons.

receipts in the Portland-Longview regions; total receipts grow 4.2% per year from 1977 to 1990 and 1.6% from 1990 to 2003.

The farm products demand projections reflect two major market shifts. First, the development of unit train service from Nebraska and western Iowa to Washington and California export regions has caused dramatic growth in corn exports from the Pacific Coast. This, in turn, has caused changes in Pacific Coast wheat exporting patterns. Tacoma has emerged as a major corn-exporting region and wheat that used to flow through Tacoma is being diverted to other Northwest ports. Second, the Southeast is expected to become a major soybean producing region as the Corn Belt concentrates increasingly on producing corn. As a result, shipments on the Warrior River System are projected to grow 7.5% per year from 1977 to 1990 as Mobile develops into a major soybean exporting center, and growth on the Warrior from 1990 to 2003 will be exceeded or matched by only two rivers, the Illinois and the Ohio.

These two shifts are expected to have relatively small modal impacts. Whether moving to the Pacific or the Gulf Coast, corn from Nebraska and western Iowa is shipped predominantly by rail because of high barge costs on the Missouri. The modal impact of increased soybean production and exports in the Southeast is less straightforward because historical trends are not good indicators of the impacts of a major production shift, but the information available suggests that barge and rail will share equally in traffic growth in this region.

Virtually all the growth in domestic farm products traffic is a result of growth in the export market for corn, wheat, and soybeans. Shipments of corn, wheat, and soybeans to domestic markets are projected to remain constant, and shipments of "other farm products" account for relatively little tonnage. The largest growth in domestic movements occurs on the Upper Mississippi which ships an additional 18.2 million tons of farm products in 2003, followed by the Illinois which ships an additional 14.3 million tons. Since most river traffic is bound for the Baton Rouge to Gulf region, the segment loadings increase downstream. Projected ton-miles also reflect this traffic pattern. Growth is greatest on the Lower

Mississippi, where ton-miles of farm products increase from 25.6 billion in 1977 to 57.5 billion in 2003, because most shipment from upstream segments pass through the Lower Mississippi on their way to the Baton Rouge to Gulf area. Domestic coastwise and lakewise traffic and domestic ton-miles on the Great Lakes show little growth because most activity on the coasts and lakes is in foreign trade.

In foreign trade projections, all major growth is in exports. Shipments from the Baton Rouge-Gulf region increase by 53.1 million tons, and that region continues to handle the largest share of exports. The Washington/Oregon Coast, California Coast, and Warrior System show exceptionally strong growth from 1977 to 1990 as a result of the market shifts mentioned previously. The Illinois Waterway (Chicago region) and other Great Lakes also show strong growth but much of this growth occurs between 1977 and 1980 and reflects an unusually poor base year. Middle Atlantic Coast exports grow fairly steadily from 3.1% to 3.4% per year in the forecast period; but after strong growth from 1977 to 1980, exports from the Gulf Coast West and Columbia/Snake grow slowly as a result of slow growth in the world wheat market.

(b) Low Use Scenario

Corn production grows more slowly than in the Baseline scenario, resulting in decreases in exports, domestic consumption, and the demand for grain transportation.

The Low Use scenario assumes that the expected progress in developing new hybrids and in improving farming techniques does not occur. As a result, corn yields reach only 110 bushels per acre, compared to the Baseline projection of 121 bushels per acre and the 1979 average yield of 109 bushels per acre.

In addition, Great Lakes port shares of grain export traffic are reduced by 10%, with that share of export traffic being allocated proportionately to the remaining coastal ports. This share shift was because the Great Lakes tend to be a peak load grain export region, increasing market share in good years and losing market share in weak export years.

Approximately 90% of incremental corn production is exported under the Baseline scenario. As a result, that percentage of corn production shortfall from the Baseline is lost to exports leading to a decline in corn exports of 16.1% relative to the Baseline in 2003, even though production is down less than 10%.

As noted above, the Great Lakes suffer a 10% decline in grain export market share under the Low Use scenario, with that amount of export traffic assigned to other ports in proportion to their existing grain traffic. In addition, modal shares for grain moving into the alternate coastal areas are held constant, with barge traffic to the Gulf and Pacific Northwest thus augmented slightly as the result of the port shift.

Under the Low Use forecasts, corn production amounts to 8.6 billion bushels (307 million tons), down from 9.3 billion (332 million tons) under the baseline, while exports amount to 3.7 billion bushels (132 million tons) down from 4.4 billion bushels (157 million tons). Exports of all farm products amount to 167.8 million tons in 1990 and 236.0 million tons in 2003, down from 172.9 million tons and 255.5 million tons respectively in the baseline scenario. The percentage declines for all farm products are smaller (-7.6%) than those discussed earlier for corn because wheat, soybeans, and other farm products are unaffected by the Low Use scenario.

Domestic waterborne traffic is also expected to suffer under this scenario relative to the Baseline, although the decline is smaller (-7.1% by 2003) because of small gains in traffic due to a coastal share shift toward barge-served Gulf and Pacific ports.

(c) High Use

The grain High Use forecast is identical to the Baseline.

(d) Bad Energy

The Bad Energy waterborne forecast for grain affects United States exchange rates and improves the competitiveness of United States grain exports, resulting in higher flows of grain on the Mississippi River and major tributaries for export. Port shares for export are the same as in the Baseline scenario.

Under the Bad Energy scenario, Farm Products domestic traffic is 7% higher than in the Baseline scenario by the year 2003. Increases are most noticeable on the Upper Mississippi River (up 13% over Baseline in 2003) and the Ohio River (up 11%), with the Lower Mississippi over 20% above Baseline levels in 2003. Total farm product exports under the Bad Energy scenario are 272 million tons by 2003, 7% above Baseline levels and indicating that all the increased farm product movements on the waterways under the Bad Energy scenario are for export.

IRON AND STEEL

The underlying assumptions for the steel industry are the same for all scenarios except Low Use, although levels of industry and transportation activity vary between scenarios due to different paths for the economy as a whole and subsequent regional steel demands.

A key assumption behind the NWS steel industry projections is that domestic steel producers will be able to retain historic market shares of United States steel mill product consumption (85%), up from the depressed levels of 1978 (82%). While the domestic market share increased to 84.5% in 1979, the real test will come when demand heats up later in the 1980s. An increased import share would mean less United States raw steel production and lower raw material consumption. This assumption is based on the expectation that excess capacity of foreign producers will be reduced by growth in demand overseas and that funds for United States capacity expansion will be available from sources other than increased product prices, which would encourage imports. Changes in tax laws governing depreciation are one important possibility. An alternative steel

industry projection for cases in which import market shares are not restrained by these factors has also been developed for inclusion in the Low Use scenario.

A second key factor in the steel industry projections relates to an estimate that direct reduced (DR) iron will fill the gap between scrap supply and demand at a price of $110 per ton, the current estimated cost of DR iron. In this case, scrap inputs to the United States steel industry are higher than described above, and iron ore demand correspondingly lower.

Under the Low Use case, domestic steel capability is held at 165 million tons for three years beginning in 1985. Domestic steel price was increased relative to import prices by the amount needed to pull in enough additional imports to fill the demand-capacity gap. According to the econometric demand elasticities, this resulted in a domestic steel price increase averaging 10.5% per year over the 1986-1990 period, above the 6% average price pulled the same period in the baseline case. The relative domestic price increase pulled the import share up to 23% or 34 million tons by 1990, above the Baseline's 17% and 22 million tons, and to 267% or 48 million tons by 2003, above the Baseline's 15% and 28 million tons.

The size of the shortage-induced price increase used to draw in imports for the 1985-1990 capacity shortfall period are too large to continue on a sustained basis in a trend economy forecast. Thus, to extend the smaller domestic capacity expansion takes place at a faster pace than judged most likely in the Baseline case. This would allow a continued increase in the import share without pushing prices to cycle-inducing levels.

The direct result of limited capacity and higher imports is lower shipment and raw steel production. By 1990 in-shipments are 114 million tons in the smaller capacity growth case, 8 million below the Baseline case, and by 2003 shipments are 142 million tons, 19 million below the Baseline case.

Raw steel production is similarly pushed below the Baseline projection levels, totaling 154 million in 1990 (12 million below Baseline) and 182 million in 2003 (24 million below Baseline). Capacity and capability are consequently lower by similar amounts.

Nearly all the reduction in raw steel production below the Baseline case occurs in the electric furnace-category. This is reasonable, as electric furnaces constituted the means of capacity expansion in the Baseline case. Consequently, the major materials differences are lower direct-reduced iron use in electric furnaces and lower iron ore use for direct-reduced iron. Consumption of other materials is lower by smaller amounts.

In the Baseline forecast, steel consumption is expected to follow the broad profile of the economy over the forecast period. In the 1977 to 1980 period, average annual steel consumption growth of only .7% per year reflects the economic recession of 1980. Steel consumption grows at a compound annual rate of 2.6% per year from 1980 to 1990 as business fixed investment moves forward and motor vehicle sales rise. In subsequent years through 2003, the steel consumption growth rate is projected at approximately 2.0% per year, as the economy grows at a 2.5% rate, close to its potential path. The total increase in steel consumption from 1977 to 2003 is projected to be 77.2 million short tons, or 71%.

Steel imports are forecast to decline from a record 21.1 million tons in 1978 to the 16 million ton range in 1979-1980, then rise gradually to 28.1 million tons by 2003. The import share of apparent consumption, however, is projected to decline from 18.1% in 1978 to 15.1% by 2003. Within this long-term net decline in import share, there is a temporary rise during the strong demand period of the mid-1980s.

Steel shipments are forecast to increase from 91.1 million tons in 1977 to 160.9 million in 2003, an increase of 76.6%, slightly greater than the forecast increase in steel consumption.

Consumption under the Bad Energy alternative is 2.7% (5 million tons) lower than Baseline in 2003 - due to its impact on business fixed investment and thus in potential GNP. Steel imports under Bad Energy are higher than under Baseline in spite of the decline in consumption, because higher domestic inflation pushes the import market share to 16.9%.

In the Low Use case, steel consumption is equal to Baseline levels, but imports are substantially higher as described earlier. Domestic steel shipments fall short of the Baseline by 8 million tons in 1990 and 19 million tons in 2003.

Alternative scenarios also have significant impacts on raw materials requirements. Thus, while iron ore consumption amounts to 199 million tons in 2003 under the Baseline scenario, this requirement is reduced to 190.7 million tons in the Bad Energy case and 163 million tons for the Low Use alternative. Similarly, scrap consumption is down to 127 million tons under the Bad Energy and 128 million tons under Low Use compared to 134 million tons under the Baseline.

The Bad Energy scenario has the expected detrimental impact on waterborne steel industry traffic, but the low use case has some suprising results because of the key role of water transportation with respect to steel imports. In particular, because most steel imports enter the United States by vessel, waterborne primary metals imports are 22% higher in 1990 and 40% higher in 2003 than under the Baseline. Because substantial imports move by barge out of the Lower Mississippi River ports, domestic waterborne steel shipments actually increase by 4.6% in

1990 and 8% in 2003 relative to the Baseline scenario, even the barge shipments from domestic plants are reduced.

These gains are far outweighted by losses in metallic ore traffic due to reduced production. Thus, domestic waterborne metallic ore traffic amounts to 137.4 million tons in 2003 under baseline, but only 131.2 under Bad Energy and 112.6 million tons under Low Use. Further, although the metallic ore traffic losses predominate on the Great Lakes, the domestic traffic gains accrue to inland waterway carriers.

V - TOTAL TRAFFIC FORECASTS BY SCENARIO

Compared to a 6% annual average compound growth rate for the 1969 to 1977 period, domestic waterborne commodity traffic is expected to increase by 1.2% per year under the Baseline scenario to year 2003. Total United States export growth slows in the forecast period, averaging 2.5% per year to year 2003, compared to 4.2% per year from 1969 to 1977. United States imports, led by falling crude oil imports, decline by .3% per year to 2003, relative to an 8.6% per year increase from 1969 to 1977.

Since regional forecasts include all traffic that originates, terminates, moves internally, and passes through each segment, the segment totals exceed the commodity totals. Any double-counting of traffic has been eliminated in national totals. The Great Lakes/St. Lawrence Seaway traffic does not include Canadian to Canadian, Canadian to overseas, and overseas to Canadian flows.

Table V-1 summarizes the total waterborne commodity flow forecasts for the four NWS scenarios. Overall, a range of 15% in total tons separates the High and Low scenarios by the year 2003. Coal, grain, chemicals, and metallic ores are the principal growth commodities over the forecast period.

Table V-2 indicates that the fastest growing commodities on the waterways average between 2.3% and 3.4% per year through 2003, relative to a 1.2% annual rate for total traffic in the Baseline scenario. The result is rather dramatic increases in the share of total waterborne traffic in these four commodity groups. They grow from 29% of total traffic to 48% by the year 2003.

Under the Baseline scenario, overall traffic growth average 1.2% per year for total waterborne flows per year. Tables V-3 and V-7 summarize the Baseline forecasts by commodity and region.

For the High Use scenario, coal grows at a 4.5% per year relative to a 3.4% rate in the Baseline scenario. In addition, phosphate rock export growth pushes nonmetallic minerals waterborne traffic growth to 1.2% per year through 2003, relative to a .9% increase in the Baseline. Tables V-4 and V-8 contain the forecast results by commodity and region.

The Low Use forecast has farm products waterborne traffic growing at 3.1% per year to 2003, versus a 3.4% rate in the Baseline. In addition, a lower share (11%) of exports for Gulf Coast coal ports is used, compared to the Baseline. The impact is an overall growth rate of .8% per year, relative to a 1.2% rate under the Baseline. Tables V-5 and V-9 summarize the Low Demand commodity flow forecasts for waterborne traffic.

Finally, the Bad Energy scenario has slightly higher coal consumption than in the Baseline, as well as increased grain exports to pay for higher imported oil prices. However, lower economic growth rates depress remaining commodity traffic via water, resulting in a 1.1% per year growth rate to 2003 for total waterborne flows, compared to a 1.2% rate in the Baseline. Tables V-6 and V-10 contain the Bad Energy waterborne flows forecasts by commodity and region.

Table V-1

NWS Forecast Summary
Total Waterborne Commodity Flow Projections
(Millions of Tons)

	1977	1980	1990	2003	% Growth
Baseline	1,915	2,079	2,238	2,586	1.2
High Use	1,915	2,094	2,297	2,727	1.4
Low Use	1,915	2,063	2,152	2,380	0.9
Bad Energy	1,915	2,095	2,278	2,514	1.1

Table V-2

NWS Forecast Summary
Waterborne Commodity Flow Projections (Baseline)
(Millions of Tons)

	1977	1980	1990	2003	% Growth
Farm Products	158	212	251	366	3.4
Metallic Ores	116	140	176	244	3.1
Coal	212	239	358	514	3.5
Chemicals	78	92	108	139	2.3
% of Total	29.0	33.0	40.0	48.0	

Table V-3

Projected Use by Reporting Commodity Baseline
(million tons)

Commodity	1977	1980	1985	1990	1995	2000	2003
Farm Products	158.1	212.4	244.4	251.2	298.9	340.0	366.2
Metallic Ores	115.3	139.6	155.1	175.9	199.3	225.7	244.3
Coal and Lignite	211.8	238.8	303.3	358.3	425.1	482.0	513.7
Crude Petroleum	488.7	534.5	536.5	479.1	477.4	424.8	423.6
Nonmetallic Minerals	159.0	168.1	180.4	183.5	187.8	198.0	197.3
Food and Kindred Products	44.3	49.5	57.1	67.2	74.1	84.7	92.4
Lumber and Wood Products	52.6	55.4	56.5	54.5	53.4	54.5	54.2
Pulp and Paper Products	11.8	12.2	13.7	14.3	15.0	15.8	16.3
Chemicals and Allied Products	77.8	91.5	102.6	107.7	118.2	131.8	139.2
Petroleum and Coal Products	469.5	440.5	384.8	366.2	342.0	306.4	299.2
Stone, Clay and Glass	16.2	20.9	23.1	25.8	27.9	30.9	32.8
Primary Metal Products	34.3	33.9	43.5	48.2	52.0	56.1	58.4
Waste and Scrap	21.8	23.8	26.6	27.2	27.7	28.6	29.2
Other Commodities, nec.	53.8	57.7	67.5	78.7	91.1	107.1	118.8
Total	1,914.9	2,078.5	2,195.1	2,237.6	2,390.2	2,486.4	2,585.6

Table V-4

Projected Use by Reporting Commodity High Use
(million tons)

Commodity	1977	1980	1985	1990	1995	2000	2003
Farm Products	158.1	212.4	244.4	251.2	298.9	340.0	366.2
Metallic Ores	115.3	139.6	155.1	175.9	199.3	225.7	244.3
Coal and Lignite	211.8	254.1	315.0	413.8	495.2	608.7	642.8
Crude Petroleum	488.7	534.5	536.5	479.1	477.4	424.8	423.6
Nonmetallic Minerals	159.0	168.1	180.5	187.1	194.8	208.4	209.8
Food and Kindred Products	44.3	49.5	57.1	67.2	74.1	84.7	92.4
Lumber and Wood Products	52.6	55.4	56.5	54.5	53.4	54.5	54.2
Pulp and Paper Products	11.8	12.2	13.7	14.3	15.0	15.8	16.3
Chemicals and Allied Products	77.8	91.5	102.6	107.7	118.2	131.8	139.2
Petroleum and Coal Products	469.5	440.0	384.8	366.2	342.0	306.4	299.2
Stone, Clay and Glass	16.2	20.9	23.1	25.8	27.9	30.9	32.8
Primary Metal Products	34.3	33.9	43.5	48.2	52.0	56.1	58.4
Waste and Scrap	21.8	23.8	26.6	27.2	27.7	28.6	29.2
Other Commodities, nec.	53.8	57.7	67.5	78.7	91.1	107.1	118.8
Total	1,914.9	2,093.8	2,206.8	2,296.7	2,467.2	2,623.4	2,727.2

Table V-5

Projected Use by Reporting Commodity Low Use
(million tons)

Commodity	1977	1980	1985	1990	1995	2000	2003
Farm Products	158.1	212.9	245.0	244.6	283.1	316.0	339.3
Metallic Ores	115.3	138.7	154.1	157.3	172.7	189.4	203.5
Coal and Lignite	211.8	232.1	294.9	351.6	401.0	448.8	475.9
Crude Petroleum	488.7	527.3	514.5	448.3	429.1	373.7	369.3
Nonmetallic Minerals	159.0	167.3	179.0	176.2	177.1	189.1	187.8
Food and Kindred Products	44.3	50.0	57.0	65.1	71.2	72.7	79.4
Lumber and Wood Products	52.6	55.4	56.5	54.5	53.4	54.5	54.2
Pulp and Paper Products	11.8	12.2	13.7	14.3	15.0	15.8	16.3
Chemicals and Allied Products	77.8	92.4	102.8	106.7	115.4	127.4	133.6
Petroleum and Coal Products	469.5	438.8	375.7	351.4	322.8	285.6	277.5
Stone, Clay and Glass	16.2	19.8	21.4	22.2	22.9	25.5	27.1
Primary Metal Products	34.3	33.9	43.5	55.5	62.5	70.6	75.0
Waste and Scrap	21.8	23.8	26.6	27.1	27.6	28.5	29.1
Other Commodities, nec.	53.8	57.7	67.3	77.2	86.6	100.7	111.9
Total	1,914.9	2,062.6	2,152.0	2,152.0	2,240.5	2,298.4	2,379.8

Table V-6

Projected Use by Reporting Commodity Bad Energy
(million tons)

Commodity	1977	1980	1985	1990	1995	2000	2003
Farm Products	158.1	218.3	280.8	314.7	326.7	317.8	389.5
Metallic Ores	115.3	139.6	153.1	170.9	191.3	216.3	234.7
Coal and Lignite	211.8	251.5	312.5	396.7	475.7	548.6	578.3
Crude Petroleum	488.7	534.8	524.3	449.2	419.1	350.9	335.6
Nonmetallic Minerals	159.0	167.3	180.8	182.7	185.0	192.2	194.4
Food and Kindred Products	44.3	50.0	56.2	64.4	69.7	74.3	73.5
Lumber and Wood Products	52.6	55.4	56.5	54.5	53.4	54.5	54.2
Pulp and Paper Products	11.8	12.2	13.7	14.3	15.0	15.8	16.3
Chemicals and Allied Products	77.8	91.1	99.7	105.3	114.7	127.8	136.2
Petroleum and Coal Products	469.5	439.9	376.5	348.1	315.9	275.7	266.5
Stone, Clay and Glass	16.2	19.8	21.5	23.4	24.7	27.1	28.8
Primary Metal Products	34.3	33.9	43.5	48.6	52.9	57.5	60.2
Waste and Scrap	21.8	23.8	26.5	27.0	27.6	28.4	28.9
Other Commodities, nec.	53.8	57.7	67.2	78.0	90.1	105.8	117.3
Total	1,914.9	2,095.4	2,212.9	2,277.5	2,362.0	2,392.8	2,514.3

Table V-7

Projected Use by Reporting Segment - Baseline
(million tons)

Region	1977	1980	1985	1990	1995	2000	2003
Upper Mississippi	30.9	39.5	44.7	48.9	56.9	63.5	66.0
Lower Upper Mississippi	77.5	90.0	101.9	113.3	134.2	153.5	162.0
Lower Mississippi River	123.6	138.2	155.5	157.5	185.2	210.3	222.3
Baton Rouge to Gulf	344.3	393.1	422.1	422.6	472.2	511.7	534.9
Illinois Waterway	60.5	67.6	75.2	78.7	89.4	98.9	103.5
Missouri River	6.7	7.3	7.4	7.3	7.4	7.7	7.8
Ohio River	172.5	179.5	212.2	229.1	262.6	292.5	307.5
Tennessee River	26.5	26.9	27.3	40.9	52.1	61.5	66.9
Arkansas River	9.4	9.7	10.0	11.3	12.8	14.0	14.4
Gulf Coast West	341.3	378.7	364.2	353.5	367.6	369.2	385.7
Gulf Coast East	108.7	113.1	125.7	134.7	143.6	151.5	152.1
Mobile River and Tributaries	43.7	47.5	53.5	80.5	95.6	109.8	119.0
South Atlantic Coast	69.8	69.4	67.9	67.5	67.5	67.7	69.6
Middle Atlantic Coast	436.8	439.4	425.1	420.6	430.8	427.7	438.0
North Atlantic Coast	87.4	82.4	78.8	78.2	75.6	69.2	68.9
Great Lakes	189.9	244.9	271.1	294.4	327.5	362.4	385.7
Washington-Oregon Coast	68.4	77.5	115.1	116.0	122.8	120.4	121.2
Columbia/Snake	43.5	51.9	52.8	52.9	53.4	55.0	58.6
California Coast	138.3	135.3	137.7	138.1	140.4	140.7	143.6
Alaska	28.8	95.7	99.3	94.3	91.5	87.1	86.2
Hawaii and Pacific Territories	15.3	15.8	16.7	17.7	18.9	20.4	21.5
United States Caribbean	89.8	92.2	86.0	84.1	82.1	74.0	74.5
Double Count Correction	598.5	716.1	755.1	805.0	899.9	982.6	1,024.0
Total United States	1,914.9	2,078.5	2,195.1	2,237.6	2,390.2	2,486.4	2,585.6

Table V-8

Projected Use by Reporting Segment - High Use
(million tons)

Region	1977	1980	1985	1990	1995	2000	2003
Upper Mississippi	30.9	39.5	44.6	49.7	57.4	66.0	68.7
Lower Upper Mississippi	77.5	90.1	101.8	115.1	135.7	158.5	167.3
Lower Mississippi River	123.6	138.4	155.2	160.2	188.7	218.5	231.0
Baton Rouge to Gulf	344.3	394.7	423.2	427.8	479.6	525.0	548.7
Illinois Waterway	60.5	67.8	75.2	79.6	90.2	101.3	106.4
Missouri River	6.7	7.3	7.4	7.3	7.4	7.7	7.8
Ohio River	172.5	180.4	212.7	248.5	282.4	331.1	345.2
Tennessee River	26.5	27.1	27.9	44.3	58.1	74.1	79.5
Arkansas River	9.4	9.7	9.9	11.5	13.0	14.6	15.0
Gulf Coast West	341.3	379.5	365.0	355.1	370.1	372.7	389.0
Gulf Coast East	108.7	113.1	125.8	139.7	152.1	165.9	168.2
Mobile River and Tributaries	43.7	49.0	54.3	86.9	105.0	127.1	137.4
South Atlantic Coast	69.8	69.4	67.9	68.0	68.4	69.0	71.1
Middle Atlantic Coast	436.8	444.1	428.5	431.2	466.3	457.7	469.2
North Atlantic Coast	87.4	82.4	78.8	78.2	75.6	69.2	68.9
Great Lakes	189.9	250.0	275.7	307.0	344.3	386.4	411.1
Washington-Oregon Coast	68.4	77.5	115.1	116.0	122.8	120.4	121.2
Columbia/Snake	43.5	51.9	52.8	52.9	53.4	55.0	58.6
California Coast	138.3	135.3	137.7	138.1	140.4	140.7	143.6
Alaska	28.8	95.7	99.3	94.3	91.5	87.1	86.2
Hawaii and Pacific Territories	15.3	15.8	16.7	17.7	18.9	20.4	21.5
United States Caribbean	89.8	92.2	86.0	84.1	82.1	74.0	74.5
Double Count Correction	598.5	717.1	755.0	816.6	916.0	1,019.0	1,062.6
Total United States	1,914.9	2,093.8	2,206.8	2,296.7	2,467.2	2,623.4	2,727.2

Table V-9

Projected Use by Reporting Segment - Low Use
(million tons)

Region	1977	1980	1985	1990	1995	2000	2003
Upper Mississippi	30.9	39.6	44.3	47.3	53.0	57.1	58.8
Lower Upper Mississippi	77.5	90.5	101.7	110.4	126.8	140.7	147.7
Lower Mississippi River	123.6	138.9	154.2	148.3	166.3	181.3	190.7
Baton Rouge to Gulf	344.3	401.6	425.0	412.2	447.2	472.1	492.1
Illinois Waterway	60.5	67.3	74.4	76.6	84.7	92.0	95.6
Missouri River	6.7	7.3	7.4	7.2	7.3	7.4	7.4
Ohio River	172.5	177.4	207.1	221.9	245.8	268.8	280.3
Tennessee River	23.9	24.2	24.9	38.6	49.4	57.2	61.7
Arkansas River	9.4	9.7	9.7	9.8	10.3	10.7	10.8
Gulf Coast West	341.3	391.0	370.5	351.5	359.5	360.4	376.9
Gulf Coast East	108.7	113.2	123.3	130.9	136.0	142.4	141.3
Mobile River and Tributaries	43.7	47.2	52.6	77.9	89.2	101.0	108.9
South Atlantic Coast	69.8	68.9	66.6	65.2	64.0	63.6	65.1
Middle Atlantic Coast	436.8	434.4	417.5	405.4	405.8	400.5	409.8
North Atlantic Coast	87.4	81.9	77.1	75.5	71.6	65.0	64.6
Great Lakes	189.9	240.0	267.5	276.5	298.9	326.1	345.2
Washington-Oregon Coast	68.4	74.3	110.9	110.3	114.5	109.9	109.4
Columbia/Snake	43.5	51.8	52.5	52.5	52.8	54.4	57.9
California Coast	138.3	126.0	124.7	123.1	119.9	115.3	115.0
Alaska	28.8	95.9	99.6	94.5	91.6	87.3	86.4
Hawaii and Pacific Territories	15.3	15.8	16.6	17.5	18.5	19.8	20.9
United States Caribbean	89.8	80.2	69.4	67.9	59.2	50.1	49.4
Double Count Correction	595.9	714.5	745.6	768.8	831.9	884.8	916.2
Total United States	1,914.9	2,062.6	2,152.0	2,152.0	2,240.5	2,298.4	2,379.8

Table V-10

Projected Use by Reporting Segment - Bad Energy
(million tons)

Region	1977	1980	1985	1990	1995	2000	2003
Upper Mississippi	30.9	40.1	48.1	55.2	58.2	60.1	67.9
Lower Upper Mississippi	77.5	91.5	109.2	125.8	135.5	143.7	163.3
Lower Mississippi River	123.6	140.5	163.8	177.0	196.3	207.0	235.9
Baton Rouge to Gulf	344.3	405.5	446.6	461.0	484.3	486.7	543.8
Illinois Waterway	60.5	68.3	78.9	86.7	91.5	96.6	108.4
Missouri River	6.7	7.3	7.4	7.4	7.3	7.1	7.0
Ohio River	172.5	179.6	210.3	245.2	279.6	308.1	324.5
Tennessee River	26.5	26.9	27.3	41.5	53.6	62.3	67.3
Arkansas River	9.4	9.7	10.0	12.2	14.4	15.5	16.5
Gulf Coast West	341.3	389.3	374.9	361.5	361.7	354.7	362.2
Gulf Coast East	108.7	113.1	125.2	131.9	135.7	138.3	140.5
Mobile River and Tributaries	43.7	49.3	54.2	82.2	96.8	108.9	120.4
South Atlantic Coast	69.8	68.9	65.4	64.0	62.7	62.1	63.8
Middle Atlantic Coast	436.8	440.7	422.3	415.7	418.0	413.4	427.5
North Atlantic Coast	87.4	82.1	77.1	74.9	70.8	63.6	63.0
Great Lakes	189.9	248.2	275.3	301.7	333.7	369.2	392.7
Washington-Oregon Coast	68.4	74.5	112.3	113.7	116.7	112.1	113.0
Columbia/Snake	43.5	51.8	56.1	58.9	57.5	56.3	54.6
California Coast	138.3	125.8	124.9	122.7	118.7	113.6	113.3
Alaska	28.8	95.9	99.6	104.7	101.4	96.5	95.4
Hawaii and Pacific Territories	15.3	15.8	16.6	17.5	18.7	20.0	21.1
United States Caribbean	89.8	92.4	84.3	79.8	76.4	67.9	68.0
Double Count Correction	598.5	721.9	776.9	863.7	927.4	971.0	1,055.8
Total United States	1,914.9	2,095.4	2,212.9	2,277.5	2,362.0	2,392.8	2,514.3

VI - SENSITIVITY DESCRIPTIONS

Section VI describes the three sensitivity analyses performed on the waterborne commodity flow projections for NWS. The impacts of increased defense-oriented flows due to mobilization for an overseas war (Defense), larger coal exports to foreign countries (High Coal Exports), and a number of specific waterborne flow adjustments suggested by the Corps of Engineers field offices (Miscellaneous) are examined. The following sections describe each sensitivity in detail, with forecast results presented in the next Section. Table III-I summarizes the principal forecast assumptions.

DEFENSE

One of the sensitivities to be analyzed for the National Waterways Study centers around the uses of the waterways system during a military contingency of significant proportions. Like any of the scenarios to be used in this study, there are wide ranges of assumptions that can equally reasonably be considered legitimate. Standard scenarios, for various purposes, have been constructed by a number of federal agencies, including the Department of Defense, the National Security Council, the Federal Emergency Management Agency (FEMA), and others. These very often differ significantly as a function of the particular issues being addressed. No scenario has been identified which was specifically tailored for the purpose of addressing questions relating to the waterways system. The data employed in the scenario discussed below was generated by FEMA using a variety of models (including in-house models and DRI models of earlier vintages) for use across a spectrum of analytic purposes which focus on industrial capability and similar economic bases for the national security establishment. Tables VI-1 and VI-2 summarize Defense sensitivity waterborne flow forecasts by commodity and region.

Table VI-1

Projected Use by Reporting Commodity Defense
(million tons)

Commodity	1977	1980	1985	1990	1995	2000	2003
Farm Products	158.1	212.4	244.4	216.5	298.9	340.0	366.2
Metallic Ores	115.3	139.6	155.1	289.5	199.3	225.7	244.3
Coal and Lignite	211.8	254.1	315.0	409.5	495.2	608.7	642.8
Crude Petroleum	488.7	534.5	536.5	515.4	477.4	424.8	423.6
Non-metallic Minerals	159.0	168.1	180.4	153.2	194.8	208.4	209.8
Food and Kindred Products	44.3	49.5	57.1	48.2	74.1	84.7	92.4
Lumber and Wood Products	52.6	55.4	56.5	50.4	53.4	54.5	54.2
Pulp and Paper Products	11.8	12.2	13.7	14.5	15.0	15.8	16.3
Chemicals and Allied Products	77.8	91.5	102.6	129.7	118.2	131.8	139.2
Petroleum and Coal Products	469.5	440.0	384.8	473.3	342.0	306.4	299.2
Stone, Clay and Glass	16.2	20.9	23.1	23.3	27.9	30.9	32.8
Primary Metal Products	34.3	33.9	43.5	46.5	52.0	56.1	58.4
Waste and Scrap	21.8	23.8	26.6	38.3	27.7	28.6	29.2
Other Commodities, nec.	53.8	57.7	67.5	91.3	91.1	107.1	118.8
Total	1,914.9	2,093.8	2,206.8	2,499.6	2,467.2	2,623.4	2,727.2

Table VI-2

Projected Use by Reporting Segment - Defense
(million tons)

Region	1977	1980	1985	1990	1995	2000	2003
Upper Mississippi	30.9	39.5	44.6	49.5	57.4	66.0	68.7
Lower Upper Mississippi	77.5	90.2	101.8	114.6	135.7	158.5	167.3
Lower Mississippi River	123.6	138.4	155.2	163.7	188.7	218.5	231.0
Baton Rouge to Gulf	344.3	394.7	423.1	421.9	479.6	525.0	548.7
Illinois Waterway	60.5	67.8	75.2	98.8	90.2	101.3	106.4
Missouri River	6.7	7.3	7.4	7.3	7.4	7.7	7.8
Ohio River	172.5	180.4	212.7	277.1	282.4	331.1	345.2
Tennessee River	26.5	27.1	27.9	46.8	58.1	74.1	79.5
Arkansas River	9.4	9.7	9.9	12.7	13.0	14.6	15.0
Gulf Coast West	341.3	379.5	365.0	380.4	370.1	372.7	389.0
Gulf Coast East	108.7	113.1	125.8	146.1	152.1	165.9	168.2
Mobile River and Tributaries	43.7	49.0	54.3	86.2	105.0	127.1	137.4
South Atlantic Coast	69.8	69.4	67.9	77.0	68.4	69.0	71.1
Middle Atlantic Coast	436.8	444.1	428.5	463.8	446.3	457.7	469.2
North Atlantic Coast	87.4	82.4	78.8	87.0	75.6	69.2	68.9
Great Lakes	189.9	250.0	275.7	426.9	344.3	386.4	411.1
Washington-Oregon Coast	68.4	77.5	115.1	129.8	122.8	120.4	121.2
Columbia/Snake	43.5	51.9	52.8	51.8	53.4	55.0	58.6
California Coast	138.3	135.3	137.7	174.1	140.4	140.7	143.6
Alaska	28.8	95.7	99.3	145.9	91.5	87.1	86.2
Hawaii and Pacific Territories	15.3	15.8	16.7	17.7	18.9	20.4	21.5
United States Caribbean	89.8	92.2	86.0	86.4	82.1	74.0	74.5
Double Count Correction	598.5	717.1	755.0	965.9	916.0	1,019.0	1,062.6
Total United States	1,914.9	2,093.8	2,206.8	2,499.6	2,467.2	2,623.4	2,727.2

A number of important general assumptions underlie the construction of the model. These assumptions include the following:

1. The conflict is conventional in nature, and not one involving the use of nuclear weapons.

2. The conflict does not take place on United States soil, and no losses of United States industrial and/or domestic transportation resources are assumed to take place.

3. The conflict extends over a three-year period, following a period during which mobilization takes place.

4. The conflict is global in nature, with military activity taking place along two fronts as well as at sea.

5. The size of the United States armed forces increases significantly during the conflict, rising to 15 million men by the third year.

6. Nontrivial levels of shipping losses occur during the conflict, with declines in the percentages of shipping lost over the length of the conflict as the result of Naval successes in establishing sea control.

7. Political reliability indices are employed to determine the extent to which supplies from foreign nations will be continued or curtailed during the conflict.

8. Resource substitution, where feasible and available, is assumed to take place during the conflict, with the extent of substitutability increasing over the period of the conflict.

9. A civilian austerity program is assumed to be imposed during the conflict, with priority given to defense-related requirements. Levels of personal consumption expenditures are pegged to a 1976 base, which is maintained in real terms to the extent possible.

10. Significant shifts in investment occur during the conflict during both the transition and wartime periods, reducing residential and structural investment and increasing equipment and machinery investment.

11. Production levels increase from normal levels to capacity over the period of the conflict.

12. Imports are decreased and export levels are increased during the conflict as a consequence of the requirements to maintain supplies of critical materials and meet the requirements of allies abroad. The levels of imports and exports take into account expected shipping losses to allow net receipts of the quantities necessitated by the conflict.

Each of these assumptions has reasonable variants, as noted above, and should not be viewed as the only possible outcome. However, the assumptions together - and the data derived based upon them - have the advantage of representing a consistent projection across the various sectors of the national economy.

The data supplied by FEMA for use in the NWS defense forecast includes the following:

1. Total Production Requirements of 115 sectors of the economy with detailed stratification in the industrial sectors and less detail in the various consumer goods sectors.

2. Final Demand for Exports for these same 115 sectors of the economy.

3. Final Demand for Imports for these same sectors of the economy.

The National Defense sensitivity analysis assumes that a war begins with mobilization in 1985 and lasts through 1990. The High Use waterborne traffic forecast is used as the underlying projection of waterway flows, modified to reflect wartime status in the economy.

The first step involved summing across the 115 FEMA sectors provided for production, imports and exports for the five war years (Baseline and war scenarios) to NWS reporting commodities. Tables E-I and E-II in Appendix E detail the mapping from Federal Emergency Management Agency economic activity sectors to NWS reporting commodities.

Next, a year-to-year growth index (with base war year = 1.00) by reporting commodity group for production, imports, and exports was constructed. The indices were applied to the NWS High Use scenario by reporting commodity and analysis segment from 1985 to 1990, producing a new forecast with different results for the two years. NWS reporting commodities were used because FEMA commodity classes would not map into the finer NWS classes.

The most appropriate index was applied to each traffic class (domestic, import, export) by commodity. Aside from the following exceptions, the production index was applied to internal, coastwise, and local traffic, the export index to exports, and the import index to imports:

1. Farm Products: internal driven by export index; imports by imports index; exports by export index.

2. Food and Kindred Products: same as Farm Products (The rationale is that inland barge, farm, and food products traffic is 95% for export.)

3. Waste and Scrap: internal driven by primary metals index; imports by import index; exports by export index.

In this manner, DRI matched the waterborne traffic class by commodity with the correct index for determining impacts of a war economy on the NWS forecasts.

HIGH COAL EXPORT

For the High Coal Export sensitivity analysis, only waterborne coal traffic was altered. All other assumptions in the sensitivity are the same as in the High

Use Scenario (see Sections III and IV for a complete discussion of the High Use Scenario for coal). Tables VI-3 and VI-4 summarize the High Coal Export waterborne forecasts by commodity and region.

The high coal export forecast is based on a 1980 study done by the National Coal Association (NCA), Long-Term Coal Forecasts. Three forecasts were developed in that study: a most likely, representing current best judgment about the factors influencing coal demand and supply; a low forecast including factors less favorable to increased coal use; and a high forecast assuming favorable factors influencing coal use. DRI chose the high forecast exports as developed by the NCA for use in the High Coal Export scenario. Table VI-5 compares the High Coal Export forecast with the DRI High Demand Coal export projections.

The NCA high coal forecast assumes that the United States is able to aggressively capture market share from other coal exporters (Poland, in particular) in Europe. The forecast also assumes that European coal demand will be substantial by 1990 (over 170 million tons), compared to 84 million tons in 1979. The NCA forecast extended only through 1990. DRI used coal export growth rates of 5.6% (compound annual rate) from 1990 to 2003, derived from the Spring 1981 DRI Coal Service coal export forecasts to extend NCA high coal forecast through 2003. The DRI growth rate compared favorably with the NCA 1985 to 1990 high coal export growth rate of 5% per year, when assumptions of faster growth in United States coal use after 1990 are considered in particular, an end to United States and foreign port congestion, new coal plants on-stream overseas, and problems by other suppliers in meeting coal demands all are likely events in the post-1990 period that will favor United States coal exports. Thus, the forecast was a blend of short-term NCA assumptions and a longer term DRI outlook for United States penetration in world coal markets.

Since higher coal exports imply growth in domestic waterborne traffic as well as through ports, the scenario considered effects on both internal and foreign trade.

Table VI-3

Waterborne Commodity Flow Projections - High Coal Exports
(million of tons)

Commodity	1977	1980	1985	1990	1995	2000	2003
Farm Products	158.1	212.4	244.4	251.2	298.9	340.0	366.2
Metallic Ores	115.3	139.6	155.1	175.9	199.3	225.7	244.3
Coal	211.8	264.4	352.8	472.6	585.0	756.0	805.2
Crude Petroleum	488.7	534.5	536.5	479.1	477.4	424.8	423.6
Nonmetallic Minerals	159.0	168.1	180.5	187.1	194.8	208.4	209.8
Food and Kindred Products	44.3	49.5	57.1	67.2	74.1	84.7	92.4
Lumber and Wood Products	52.6	55.4	56.5	54.5	53.4	54.5	54.2
Pulp, Paper, and Allied Products	11.8	12.2	13.7	14.3	15.0	15.8	16.3
Chemicals	77.8	91.5	102.6	107.7	118.2	131.8	139.2
Petroleum and Coal Products	469.5	440.0	384.8	366.2	342.0	306.4	299.2
Stone, Clay, Glass and Concrete Products	16.2	20.9	23.1	25.8	27.9	30.9	32.8
Primary Metal Products	34.3	33.9	43.5	48.2	52.0	56.1	58.4
Waste and Scrap	21.8	23.8	26.6	27.2	27.7	28.6	29.2
Other Commodities	53.8	57.7	67.5	78.7	91.1	107.1	118.8
Total	1,914.9	2,104.0	2,244.7	2,355.5	2,557.0	2,770.8	2,889.6

Table VI-4

Projected Use by Reporting Segment - High Coal Export
(million tons)

Region	1977	1980	1985	1990	1995	2000	2003
Upper Mississippi	30.9	39.5	46.6	49.7	57.4	66.0	68.7
Lower Upper Mississippi	77.5	90.2	101.9	115.5	136.7	160.4	169.6
Lower Mississippi River	123.6	138.6	155.9	163.0	195.7	231.9	246.6
Baton Rouge to Gulf	344.3	394.8	427.2	441.2	502.1	563.3	591.4
Illinois Waterway	60.5	67.8	75.2	79.6	90.2	101.3	106.4
Missouri River	6.7	7.3	7.4	7.3	7.4	7.7	7.8
Ohio River	172.5	180.5	213.3	251.0	288.8	343.4	359.6
Tennessee River	26.5	27.1	28.0	44.5	61.1	79.8	86.4
Arkansas River	9.4	9.7	10.0	11.7	13.4	15.3	15.8
Gulf Coast West	341.3	379.3	367.4	360.5	378.5	386.4	404.1
Gulf Coast East	108.7	113.1	125.9	139.8	152.3	166.2	168.5
Mobile River and Tributaries	43.7	49.4	60.5	101.1	126.5	162.9	177.6
South Atlantic Coast	69.8	69.4	67.9	68.0	68.4	69.0	71.1
Middle Atlantic Coast	436.8	454.0	453.5	452.5	471.6	499.3	514.7
North Atlantic Coast	87.4	82.4	78.8	78.2	75.6	69.2	68.9
Great Lakes	189.9	250.0	275.7	307.0	344.3	386.4	411.1
Washington-Oregon Coast	68.4	77.5	115.1	116.9	130.0	131.4	132.9
Columbia/Snake	43.5	51.9	52.8	52.9	53.4	55.0	58.6
California Coast	138.3	135.3	138.2	142.2	146.5	149.8	153.4
Alaska	28.8	95.7	99.3	94.3	91.5	87.1	86.2
Hawaii and Pacific Territories	15.3	15.8	16.7	17.7	18.9	20.4	21.5
United States Caribbean	89.8	92.2	86.0	84.1	82.1	74.0	74.5
Double Count Correction	598.5	717.5	756.7	823.3	935.2	1,055.7	1,105.6
Total United States	1,914.9	2,104.0	2,244.7	2,355.5	2,557.0	2,770.8	2,889.6

Table VI-5

Coal Export Forecasts
(Millions of Tons)

	DRI High Use Scenario*	High Export Sensitivity**
1980	75	85
1985	89	125
1990	107	160
1995	127	205
2000	151	275
2003	155	290

NOTE: * Based on Spring 1980 DRI Coal Service Export Coal Forecast.

** Based on National Coal Association, Long-Term Coal Forecasts, "High Export" scenario (1980).

Using the High Use scenario forecasts as a base (including High Use export coal port shares), the NCA high coal export forecasts were substituted for the existing High Use export forecasts. The DRI-NWS coal waterborne traffic models were then rerun, generating new levels of port and internal traffic inland waterway coal traffic destined for export at the Gulf increased in-line with expanded coal exports via the Gulf, affecting coal flows on the Ohio, Tennessee and Mississippi Rivers.

The High Export sensitivity numbers are based on a combined assessment of both studies cited above.

MISCELLANEOUS

A number of specific adjustments were made to waterways segment traffic forecasts to either correct for possible base year traffic undercounting or to reflect alternative waterborne projections. The adjustments will be described by river segment. Tables VI-6 and VI-7 contain the Miscellaneous Sensitivity waterborne forecasts by commodity and region.

The basic methodology used in each adjustment under the Miscellaneous Sensitivity was to increase the designated river segment originated traffic by the amount indicated by the Corps of Engineers. The Corps has undertaken a number of studies in recent years that have revealed traffic under-reporting (Ohio and Monongahela, due to faulty reporting methods), traffic not directly counted as commercial (Inner Harbor Lock, shrimp boats, etc.), and potential new flows currently not moving on a river (Arkansas and Columbia/Willamette Rivers).

1. Ohio and Monongahela Rivers: Based on data provided by the Corps of Engineers Ohio River Division, the following adjustments were made in the river traffic for the base and forecast years:

> Ohio: Ohio River traffic only was adjusted up by 10% per year from 1977 to 2003 (Baseline forecast). Where this traffic interacted with other NWS analytical segments, these were also affected.

Table VI-6

Projected Use by Reporting Commodity Miscellaneous Sensitivities
(million tons)

Commodity	1977	1980	1985	1990	1995	2000	2003
Farm Products	158.7	213.1	254.4	252.3	300.5	342.1	368.8
Metallic Ores	115.5	139.8	155.5	176.3	200.0	226.6	245.4
Coal and Lignite	223.2	226.2	330.5	434.7	520.6	640.5	677.4
Crude Petroleum	488.7	534.5	536.6	479.1	477.5	424.9	423.7
Nonmetallic Minerals	161.1	170.2	182.7	191.0	200.3	215.4	217.6
Food and Kindred Products	44.4	49.7	57.3	67.5	74.4	85.1	92.9
Lumber and Wood Products	52.6	55.4	56.6	54.5	53.4	54.5	54.2
Pulp and Paper Products	11.8	12.2	13.7	14.3	15.1	15.9	16.4
Chemicals and Allied Products	77.8	92.5	103.9	109.3	120.3	134.6	142.4
Petroleum and Coal Products	472.7	442.3	387.2	368.7	344.7	309.2	302.2
Stone, Clay and Glass	16.4	21.1	23.4	26.1	27.2	31.2	33.2
Primary Metal Products	34.7	34.4	44.1	48.8	52.8	57.1	59.6
Waste and Scrap	21.8	23.9	26.6	27.2	28.8	28.7	29.3
Other Commodities, nec.	60.6	64.4	74.3	85.6	98.2	114.3	126.1
Total	1,941.0	2,119.7	2,237.6	2,335.6	2,335.6	2,680.1	2,789.2

Table VI-7

Projected Use by Reporting Segment - Miscellaneous Sensitivities
(million tons)

Region	1977	1980	1985	1990	1995	2000	2003
Upper Mississippi	31.1	39.7	44.9	50.0	57.8	66.6	69.4
Lower Upper Mississippi	78.5	91.3	103.3	117.0	138.1	161.6	170.7
Lower Mississippi River	128.2	143.1	161.5	167.5	198.9	232.9	248.4
Baton Rouge to Gulf	354.5	405.0	434.8	440.4	494.8	544.0	570.4
Illinois Waterway	60.8	68.1	75.6	80.1	90.8	102.1	107.2
Missouri River	6.8	7.3	7.5	7.4	7.5	7.8	7.9
Ohio River	191.4	200.0	235.8	275.9	313.3	367.3	382.9
Tennessee River	25.5	26.1	27.1	44.4	59.0	75.7	81.4
Arkansas River	9.4	9.6	11.3	14.3	18.0	22.9	26.2
Gulf Coast West	342.2	380.5	366.2	356.6	371.9	374.9	391.5
Gulf Coast East	116.2	120.0	133.0	148.1	161.0	175.4	177.9
Mobile River and Tributaries	43.8	49.0	54.4	88.8	107.9	130.9	141.5
South Atlantic Coast	69.8	69.4	67.9	68.0	68.4	69.0	71.1
Middle Atlantic Coast	436.8	444.1	428.5	431.2	446.3	457.7	469.2
North Atlantic Coast	87.4	82.4	78.8	78.2	75.6	69.2	68.9
Great Lakes	190.0	250.2	275.8	307.2	344.5	386.6	411.3
Washington-Oregon Coast	68.4	77.5	115.1	116.0	122.8	120.4	121.2
Columbia/Snake	43.5	51.9	52.8	54.7	56.5	59.3	63.7
California Coast	138.3	135.3	137.7	138.1	140.4	140.7	143.6
Alaska	28.8	95.7	99.3	94.3	91.5	87.1	86.2
Hawaii and Pacific Territories	15.3	15.8	16.7	17.7	18.9	20.4	21.5
United States Caribbean	89.8	92.2	86.0	84.1	82.1	74.0	74.5
Double Count Correction	615.4	734.5	776.5	844.3	952.2	1,066.4	1,117.3
Total United States	1,941.0	2.119.7	2,237.6	2,335.6	2,513.7	2,680.1	2,789.2

Monongahela: Monongahela traffic was adjusted up by 16% per year from 1977 to 2003 (Baseline forecast). Recent Corps sampling of Ohio and Monongahela River traffic revealed that incorrect reporting occurred for the base period. These adjustments reflect increases in river movements to true traffic levels from 1977 to 2003.

Only traffic levels on the Ohio River and the Monongahela were increased directly, as no under-reporting on the other tributaries was indicated. Since the Ohio originates traffic that terminates on other rivers (Mississippi, etc.), these rivers would be affected in the evaluation of waterway capability by scenario.

2. Inner Harbor Lock: Traffic moving in the Inner Harbor Lock Segment was adjusted upward by 6.4 million tons of other commodities in the base and forecast years (Baseline forecast) to reflect unreported commodity movements, based on data from the Industrial Canal Lock - Mississippi River Gulf Outlet Ship Lock Replacement Study and Economic Evaluation Report.

3. Arkansas River: Based on the information generated in previous studies, an alternative forecast for Arkansas River traffic to 2003 was prepared. The Corps of Engineers-Tulsa District cited a number of analyses indicating that projected Arkansas River tonnage could exceed 26 million tons by the year 2003. Table VI-8 summarizes the alternative baseline forecast as well as estimated tonnage for the Miscellaneous Sensitivity. The other scenarios will be left as present.

Based on information supplied by the Corps of Engineers-Tulsa District on total traffic growth on the Arkansas through the year 2003, a growth rate was calculated that was applied to base year (1977) Arkansas River traffic to obtain the Miscellaneous Sensitivity forecast. Traffic originating on the Arkansas and terminating on the Mississippi and other rivers are also affected by the increased tonnage.

Table VI-8

Arkansas River
Waterborne Tonnage Forecasts - Domestic Traffic
(Millions of Tons)

	1977	1980	1985	1990	1995	2000	2003	% Growth
Baseline (DRI)	9.4	9.7	10.0	11.3	12.8	14.0	14.4	1.7
Miscellaneous Sensitivity (COE)*	9.4	9.6	11.3	14.3	18.0	22.9	26.2	4.0

NOTE: * Supplied by the Corps of Engineers, Tulsa District, in November, 1980 letter to NWS study team.

4. Lower Columbia-Snake Waterway/Willamette River: Corps of Engineers - Portland District Bonneville Lock Feasibility Report identified a new movement of sand and gravel traffic on the Columbia River, likely to begin by 1990, that was not included in the DRI waterborne commodity flow forecasts. The sand and gravel movement via the Columbia basically replaces existing waterborne flows originating on the Willamette River in South Portland. The report found that it is likely that in the near future sand and gravel sources now serving the Portland area will be depleted. After an extensive analysis of distribution options from alternative sources of sand and gravel for the Portland market, the Corps determined that exploitation of Upper Columbia River deposits was one cost-efficient source over the next 50 years.

Only Columbia/Willamette River traffic was affected by the increased sand and gravel movements in the forecast period.

A comparison of available sand and gravel supply in the Portland area indicated that by 1990 all but a few deposits will be depleted in the immediate Portland area. Examination of alternative supply sources for the post-1990 period, including the Upper Willamette River (both river and land deposits), Clark County, Washington, and various locations along the Columbia River. Without project improvements at Bonneville Lock and Dam, extensive use of land quarries would be used to meet Portland area demands in the post-1990 period. With Bonneville lock improvements, the report found that mid-Columbia River sand and gravel sources moved to Portland via barge were a cost-effective alternative source for 90% of the area's aggregate demand. The Columbia River sources proved to be substantially less expensive than alternative landside deposits. Table VI-9 contains the projections of Columbia River waterborne sand and gravel movements from the Report for the years 1990 and beyond, compared to existing DRI forecasts, and additional tonnage for the sensitivity analysis.

Table VI-9

Columbia-Snake-Willamette Rivers
Sand and Gravel Traffic
(Millions of Tons)

Year	COE Tonnage*	NWS Tonnage**	Difference
1990	5.5	3.7	1.8
1995	6.4	3.3	3.1
2000	7.4	3.1	4.3
2003	7.9	2.8	5.1
2010	9.2	-	-

NOTE: * COE, Bonneville Lock Feasibility Study, Portland District, 1980.

** NWS High Use Scenario.

VII - SENSITIVITY ANALYSIS

DEFENSE

Table VII-1 compares the defense and high-demand scenarios by reporting commodity and waterborne traffic class.

Farm product exports fall dramatically as the United States uses grains to feed troops. Metallic ore imports fall, although domestic flows (including Great Lakes) rise by 135 million tons in 1990 to meet armament needs. Petroleum imports fall as supply lines are cut, with coal use substituted for petroleum products in domestic applications. Nonmetallic minerals traffic declines as nonessential United States construction is stopped as part of the war effort. Chemicals traffic increases substantially as does petroleum and coal product flows on the domestic waterway system. Finally, steel-related primary metals and waste and scrap waterborne flows increase in the domestic system.

Table VII-2 and Exhibit X-1 show the impacts by reporting region as well as commodity.

In terms of domestic originations, Table VII-2 indicates that Region 16 (Great Lakes) is most affected by the onset of war. The major reason is iron ore movements from Lake Superior to Lake Erie. Other regions affected include Region 14 (Middle Atlantic Coast) - coal and Region 19 (California Coast), Segment 20 (Alaska) - petroleum movements.

In terms of exports, Region 4 (Baton Rouge to Gulf), Region 10 (Gulf Coast West), Region 14 (Middle Atlantic Coast), and Region 16 (Great Lakes) experience the largest drop in exports during the war.

Total domestic traffic (inbound, outbound, local, and through) by NWS region in 1990 increases 70% for the Great Lakes, 22% for the Ohio River, 10% for the Mississippi River-Baton Rouge to Gulf, 30% for the Gulf Coast West,

11% for the Gulf Coast East, and 31% on the Illinois Waterway under the Defense Sensitivity.

In summary, the Defense Sensitivity has its major impact on Great Lakes, Ohio River, and East Coast waterborne traffic flows. Reduced grain exports hold down traffic increases on the Mississippi River.

Table VII-1

Comparison of Defense and High Use Scenarios
by Commodity, 1990)

	High Use	Defense	Difference
Farm Products			
Domestic	73,232,439	64,053,905	-9,178,534
Import	4,967,702	3,489,522	-1,478,180
Export	172,933,206	148,925,316	-24,007,890
Metallic Ores			
Domestic	98,133,825	233,410,211	135,276,386
Import	72,963,424	51,321,218	-21,642,206
Export	4,730,093	4,734,478	4,386
Coal			
Domestic	303,317,205	314,928,349	11,611,144
Import	3,417,000	2,354,427	-1,062,573
Export	107,347,571	92,419,947	-14,927,623
Crude Petroleum			
Domestic	141,386,125	223,155,350	81,769,225
Import	337,703,700	292,236,397	-45,467,303
Export	0	0	0
Nonmetallic Minerals			
Domestic	130,571,136	105,068,015	-25,503,121
Import	28,424,526	20,686,985	-7,737,541
Export	27,870,302	27,313,610	-556,692
Food and Kindred Products			
Domestic	23,558,360	18,119,248	-5,439,112
Import	19,605,023	11,943,254	-7,661,770
Export	24,018,772	18,145,030	-5,873,742
Lumber and Wood			
Domestic	28,779,624	24,868,662	-3,910,962
Import	7,282,658	5,627,923	-1,654,735
Export	18,441,645	19,889,554	1,447,909

Table VII-1 (continued)

Comparison of Defense and High Use Scenarios
by Commodity, 1990

	High Use	Defense	Difference
Pulp and Paper			
Domestic	5,123,766	6,298,946	1,175,180
Import	2,174,058	1,817,518	-356,539
Export	6,644,820	6,098,434	-546,386
Chemicals			
Domestic	65,577,548	85,985,732	20,408,184
Import	12,510,241	9,344,935	-3,165,305
Export	28,868,292	33,593,164	4,724,873
Petroleum and Coal Products			
Domestic	303,639,300	418,245,616	114,606,317
Import	62,209,512	54,704,479	-7,505,034
Export	0	0	0
Stone, Clay, and Glass			
Domestic	19,364,220	18,116,981	1,247,239
Import	5,150,940	4,094,494	-1,056,446
Export	1,269,086	1,136,584	-132,502
Primary Metals			
Domestic	11,337,361	18,776,221	7,438,860
Import	33,147,379	23,894,536	-9,252,844
Export	2,769,106	2,880,715	111,609
Waste and Scrap			
Domestic	14,276,291	26,093,705	11,817,414
Import	1,195,827	775,111	-420,715
Export	11,681,590	11,415,302	-266,288
Other Commodities			
Domestic	41,326,493	48,154,344	6,827,851
Import	22,737,092	31,939,865	9,202,774
Export	14,512,930	11,074,357	-3,438,572

Table VII-2

Defense Scenario 1990 Impacts by Reporting Segment
(Relative to High Use) All Commodities
(Millions of Tons)

Reporting Segment	Domestic Originations	Domestic Through	Export
1	-.157	0	0
2	-1.044	.559	0
3	5.283	-1.804	0
4	18.683	2.596	-27.122
5	19.476	1.149	-1.436
6	-.024	0	0
7	28.091	4.037	0
8	2.864	-1.171	0
9	1.197	0	0
10	49.756	0	-24.432
11	2.792	4.895	-1.408
12	7.220	.035	-7.775
13	12.799	0	-3.723
14	63.090	0	-30.479
15	15.489	0	-6.768
16	122.618	14.735	-17.509
17	19.413	0	-5.677
18	.712	0	-1.780
19	40.254	0	-4.279
20	51.718	0	-.109
21	.949	0	-.883
22	11.575	0	-9.337

HIGH COAL EXPORT

The High Coal Export sensitivity analysis examines the impacts on waterborne commodity flows of substantial increases in United States coal exports by the year 2003. Table VII-3 compares coal exports by reporting segment under the High Use and High Coal Export alternatives. East Coast ports are assumed to move an additional 45 million tons of coal by 2003, relative to the High Use scenario. In addition, Gulf Coast ports (Mobile, New Orleans) move another 67 million tons of coal under the High Export scenario. Finally, West Coast ports are assumed to increase flows to 21.6 million tons (from zero tons in 1977) under High Coal exports scenario.

Table VII-4 indicates that the Ohio River, Tennessee River, and Mobile River and Tributaries domestic waterborne coal traffic is most affected by the high export growth scenario. Total domestic flows by 2003 jump to 512.1 million tons under High Coal Export, relative to 483.7 million tons under the High Use.

In summary, Atlantic Coast Gulf ports are most impacted during the forecast period by the large increases in export coal under the High Coal Export scenario. Domestic traffic to export along the Ohio and Tennessee/Warrior Rivers under High Coal Exports also experiences substantial growth to 2003.

MISCELLANEOUS SENSITIVITIES

The impacts of the Miscellaneous Sensitivities described in the last chapter are segment-specific in nature. The Ohio, Monongahela, Arkansas, and Lower Columbia-Snake Waterway/Willamette River segments are directly impacted, with increased through traffic on the Mississippi River as a result of the increases in Ohio River originations. Table VII-5 summarizes the major impacts for all commodities by reporting segment.

For the Ohio River, traffic flows (all commodities) were 10% higher in 1977 and all forecast years relative to the Baseline forecast. Since no commodity-specific

Table VII-3

Comparison of Coal Exports by Reporting Segment - High Use versus High Coal Exports
(Millions of Tons)

	High Use		High Coal Export	
	1990	2003	1990	2003
Baton Rouge to Gulf	7.5	13.7	18.1	40.5
Gulf Coast - West	3.4	6.8	8.4	19.6
Mobile River and Tributaries	9.5	15.4	20.4	42.8
Middle Atlantic Coast	47.5	63.0	68.8	108.4
Great Lakes/Seaway	39.2	56.9	39.2	56.9
Washington/Oregon	0.0	0.0	.8	11.8
California Coast	0.0	0.0	4.2	9.8
Others	0.2	0.1	0.1	0.2
Total	107.3	155.9	160.0	290.0

Table VII-4

Comparison of Domestic Coal Shipments by Reporting Segment - High Use versus High Coal Exports
(Millions of Tons)

Reporting Segment	High Use 1990	High Use 2003	High Coal Export 1990	High Coal Export 2003
Upper Mississippi	8.9	14.3	8.9	14.3
Lower Mississippi	16.0	27.5	16.4	29.8
Illinois Waterway	11.6	15.5	11.6	15.5
Ohio River	177.3	262.4	179.8	276.8
Tennessee River	6.6	20.2	6.7	25.2
Mobile River and Tributaries	16.0	27.7	19.2	28.6
Middle Atlantic Coast	25.3	56.7	25.3	56.7
Great Lakes/Seaway	27.9	38.6	27.9	38.6
Total	303.3	483.7	309.1	512.1

Table VII-5

Impact of Miscellaneous Sensitivity on Total Waterborne Traffic by Reporting Region
(Millions of Tons)

Reporting Region	High Use 1990	High Use 2003	Miscellaneous 1990	Miscellaneous 2003
Ohio River	248.5	345.2	275.9	382.9
Arkansas River	11.5	15.0	14.3	26.2
Columbia/Snake	52.9	58.6	54.2	63.7

variation in the adjustment existed, all commodities rose in equal amounts.

The adjustment on the Monongahela reflected a 16% increase in traffic for 1977 and all forecast years relative to the Baseline forecast.

The Gulf Coast East segment traffic under the Miscellaneous Sensitivity was increased by 6.4 million tons for 1977 and each forecast year relative to the Baseline forecast. The increase reflects nonreported traffic (shrimp boats, etc.) that used the Inner Harbor Lock facility.

The Arkansas River traffic under the Miscellaneous Sensitivity rose to 26.2 million tons by 2003, compared to 14.4 million tons under the Baseline forecast. The difference reflects new commodity movements presently not on the Arkansas River System.

Finally, Lower Columbia-Snake Waterway/Willamette River sand and gravel traffic rose by 5 million tons under the Miscellaneous Sensitivity forecast, reflecting a new commodity movement expected after 1990 on the river system.

VIII - CONCLUSIONS

The NWS waterborne commodity flow forecasts are based on a wide range of potential futures for both the United States and world economies through the year 2003. However, no one set of projections can possibly encompass all contingencies that may affect transportation in the next 25 years.

Industrial growth by region, changes in modal choice decision rules, impacts of deregulation in transportation, possible environmental and safety factors, new mode/commodity growth, and changing world conditions are some of the major areas examined in the study. The final growth paths of waterborne traffic represent the most feasible set of alternative assumptions available to the decision-maker about the course of the United States economy and transportation systems through the year 2003.

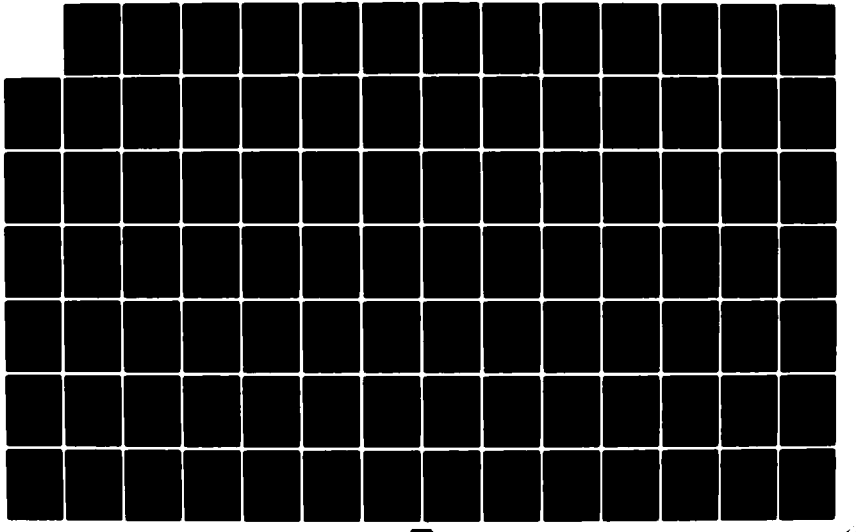
The analysis represents the distillation of many alternative views on the future for waterborne transportation in the United States, including private consultants, Corps of Engineers staff, the public, and competing modes of transportation. Rather than viewing the scenarios as static since the initiation of the study, it is important to understand that forecast inputs were revised throughout NWS, having been finally set in June 1981.

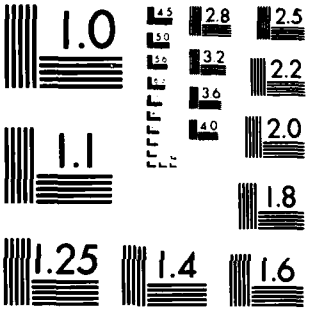
Table VIII-1 summarizes the forecasts across all scenarios and sensitivities for the National Waterways Study. By 2003, potential waterborne commodity flows range from 2.4 billion tons under the Low Use alternative to 2.9 billion tons under the High Coal Export sensitivity, for a variation of over 20% across all futures, or 500 million tons.

Tables VIII-2 to VIII-4 contain NWS forecasts by scenario and sensitivity for the major reporting segments. For the Upper Mississippi River, potential commodity movements by the year 2003 may vary by as much as 10 million tons across alternatives, ranging from 59 million tons

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under the Low Use to over 69 million tons for the Miscellaneous sensitivity forecast. The Baton Rouge to Gulf segment commodity flows are 492 million tons under the Low Use Alternative, jumping to 591 million under High Coal exports, an increase of over 20% across forecasts.

Traffic variation across forecasts for the Illinois River by 2003 is similar to the Upper Mississippi at near 12 million tons (11% of total commodity flows in the Low Use scenario), with the Bad Energy alternative resulting in the highest flow level for the river. The Ohio River is forecast to have potential commodity movements of up to 383 million tons per year by 2003 under the Miscellaneous Sensitivity versus 280 million tons under the Low Use alternatives. The difference of near 37% between forecasts is primarily due to traffic adjustments due to underreporting of flows in the historical period for the Ohio and Monongahela rivers.

Finally, Table VIII-4 summarizes waterborne flows by segment for three major coastal segments; Middle Atlantic, California Coast, and Gulf Coast West. Variations in United States coal exports is the major factor affecting flow levels across forecasts for these segments. For the Middle Atlantic, the High Coal Export sensitivity forecasts 515 million tons of traffic, compared to only 410 million under Low Use, by 2003, an increase of 26%. Similarly, the California coast forecasts are largest under the High Coal Export alternative, exceeding the low use forecast by 38 million tons, or 33% of the Low Use level in 2003. Reduced petroleum imports under the Bad Energy scenario produces the lowest year 2003 forecast (362 million tons) for the Gulf Coast West, while the High Coal Export (404 million tons) has the highest throughput of all forecasts.

Table VIII-1

NWS Forecast Summary
Total Waterborne Commodity Flow Projections
(Millions of Tons)

Scenario/ Sensitivity	1977	1980	1990	2003	% Growth
Baseline	1915	2,079	2,238	2,586	1.2
Hign Use	1915	2,094	2,297	2,727	1.4
Low Use	1915	2,063	2,152	2,380	0.9
Bad Energy	1915	2,095	2,278	2,514	1.1
Defense	1915	2,094	2,500	2,727	1.4
High Coal Export	1915	2,104	2,356	2,890	1.7
Miscellaneous	1915	2,120	2,336	2,789	1.5

Table VIII-2

NWS Forecast Summary
Total Waterborne Flow Projections by Major Region
(Millions of Tons)

Scenario/ Sensitivity	Upper Mississippi		Baton Rouge to Gulf	
	1990	2003	1990	2003
Baseline	48.9	66.0	422.6	534.9
High Use	49.7	68.7	427.8	548.7
Low Use	47.3	58.8	412.2	492.1
Bad Energy	55.2	67.9	461.0	543.8
Defense	49.5	68.7	421.9	548.7
High Coal Export	49.7	68.7	441.2	591.4
Miscellaneous	50.0	69.4	440.4	570.4

Table VIII-3

NWS Forecast Summary
Total Waterborne Flow Projections by Major Region
(Millions of Tons)

Scenario/ Sensitivity	Illinois Waterway		Ohio River	
	1990	2003	1990	2003
Baseline	78.7	103.5	229.1	307.5
High Use	79.6	106.4	248.5	345.2
Low Use	76.6	95.6	221.9	280.3
Bad Energy	86.7	108.4	245.2	324.5
Defense	98.8	106.4	277.1	345.2
High Coal Export	79.6	106.4	251.0	359.6
Miscellaneous	80.1	107.2	275.9	382.9

Table VIII-4

NWS Forecast Summary
Total Waterborne Flow Projection by Major Segment
(Millions of Tons)

Scenario/ Sensitivity	Middle Atlantic		California Coast		Gulf Coast West	
	1990	2003	1990	2003	1990	2003
Baseline	420.6	438.0	138.1	143.6	353.5	385.7
High Use	431.2	469.2	138.1	143.7	355.1	389.0
Low Use	405.4	409.8	123.1	115.0	351.5	376 ?
Bad Energy	415.7	427.5	122.7	113.3	361.5	362.2
Defense	463.8	469.2	174.1	143.6	380.4	389.0
High Coal Export	452.5	514.7	142.2	153.4	360.5	404.1
Miscellaneous	431.2	469.2	138.1	143.6	356.6	391.5

NWS COMMODITY GROUPS/REPORTING AND ANALYSIS

Reporting Number	Analysis Number	Commodity	CCDWC Code
I.		Farm Products	
	1	Corn	0103
	2	Wheat	0107
	3	Soybeans	0111
	4	Other Farm Products	0101, 0102, 0104, 0105, 0106, 0112, 0119, 0121, 0122, 0129, 0131, 0132, 0133, 0134, 0141, 0151, 0161, 0191
II.		Metallic Ores	
	5	Iron Ore and Concentrates	1011
	6	Other Ores (including Bauxite)	1021, 1051, 1061, 1091
III.		Coal	
	7	Coal and Lignite	1121
IV.		Crude Petroleum	
	8	Crude Petroleum	1311
V.		Nonmetallic Minerals	
	9	Sand, Gravel, and Crushed Rock	1442
	10	Limestone	1411
	11	Phosphate Rock and Other Fertilizers	1471, 1479
	12	Sulphur	1492, 1493
	13	Other Nonmetallic Minerals	1412, 1451, 1494, 1499, 1491

Reporting Number	Analysis Number	Commodity	CCDWC Code
VI.		Food and Kindred Products	
	14	Vegetable Oils	2091
	15	Grain Mill Products	2041, 2042, 2049
	16	Other Food Products	2011, 2012, 2014, 2015, 2021, 2022, 2031, 2034, 2039, 2061, 2062, 2081, 2092, 2094, 2095, 2099
VII.		Lumber and Wood Products	
	17	Logs (including Pulpwood)	2411, 2415
	18	Rafted Logs	2412
	19	Lumber and Plywood	2421, 2431
	20	Other Lumber and Wood Products	2413, 2414, 2416, 2491
VIII.		Pulp, Paper and Allied Products	
	21	Pulp	2611
	22	Other Pulp and Paper Products	2621, 2631, 2691
IX.		Chemicals	
	23	Sodium Hydroxide	2810
	24	Crude Tar, Oil and Gas Products	2811
	25	Alcohols	2813
	26	Benzene and Toluene	2817
	27	Sulphuric Acid	2818
	28	Other Chemicals	2816, 2819, 2812, 2821, 2822, 2823, 2831, 2841, 2851, 2861, 2876, 2891, 2891
	29	Nitrogenous Chemical Fertilizers	2871
	30	Potassic Chemical Fertilizers	2872
	31	Phosphatic Chemical Fertilizers	2873
	32	Other Fertilizer Products	2879, 2875

Reporting Number	Analysis Number	Commodity	CCDWC Code
X.		Petroleum and Coal Products	
	33	Gasoline	2911
	34	Jet Fuel and Kerosene	2912, 2913
	35	Distillate	2914
	36	Residual	2915
	37	Other Petroleum and Coal Products, nec	2916, 2917, 2918, 2921, 2951, 2991
XI.		Stone, Clay, Glass, and Concrete Products	
	38	Cement	3241
	39	Other Stone, Clay, Glass Products	3271, 3211, 3251, 3281, 3291
XII.		Primary Metals Products	
	40	Coke	3313
	41	Iron and Steel Primary Forms	3314
	42	Steel Mill Products (shapes, plates, pipe, and tube)	3315, 3316, 3317, 3311, 3312, 3318
	43	Primary Metals	3311, 3312, 3318, 3319, 3321, 3322, 3323, 3324
XIII.		Waste and Scrap	
	44	Metal Scrap	4011, 4012
	45	Other Scrap	4022, 4024, 4029

Reporting Number	Analysis Number	Commodity	CCDWC Code
XIV.		Other Commodities	
	46	Marine Shells	0931
	47	Miscellaneous	
		Forest Products	0841, 0861
		Fish	0911, 0912, 0913
		Ordnance	1911
		Tobacco	2111
		Textiles	2211, 2212, 2311
		Furniture	2511
		Printed Matter	2711
		Rubber Products	3011
		Leather	3111
		Fabricated Metal	3411
		Machinery	3511, 3611
		Transportation Equipment	3711, 3721, 3731, 3791
		Instruments, Optical Goods, etc.	3811
		Miscellaneous Manufactures	3911
		Water	4111
		Commodity, nec	4112
		LCL Freight	4113, 9999
	48	Department of Defense Cargo Water Improvement Materials	4118

NATIONAL WATERWAYS STUDY REPORTING REGIONS

Region Number	Analysis Segment Combinations	Region Name	Description
1	1	Upper Mississippi River	Minneapolis to Mouth of Illinois River
2	2,3	Lower Upper Mississippi River	Mouth of Illinois River to Mouth of Ohio River (Cairo, IL)
3	4,5,6	Lower Mississippi River; Cairo to Baton Rouge	Mouth of Ohio River (Cairo, IL) to Baton Rouge, LA
4	7,8 25,26,27	Lower Mississippi River; Baton Rouge to Gulf	Baton Rouge, LA including port to Mouth of Passes and other channels and rivers
5	9	Illinois Waterway	Chicago, IL (Guard Lock and T.J. O'Brien Lock)
6	10	Missouri River	Sioux City, IA to mouth at Mississippi River
7	11,12,13,14, 15,16,17,18, 19,20,21	Ohio River	Heads of navigation to Mouth
8	22,23	Tennessee River	Above Knoxville, TN Head of navigation to Mouth
9	24	Arkansas River	Catoosa, OK (near Tulsa, OK) Mouth
10	28,29,30,34	Gulf Coast West	New Orleans to Brownsville, TX
11	31,32,33,38	Gulf Coast East	New Orleans to Key West, FL

NATIONAL WATERWAYS STUDY REPORTING REGIONS

Region Number	Analysis Segment Combinations	Region Name	Description
12	35,36,37	Mobile River and Tributaries Waterway	Heads of navigation to Mouth
13	39,40	South Atlantic Coast	Key West to North Carolina-Virginia Border
14	41,42	Middle Atlantic Coast	North Carolina/ Virginia Border to New York/Connecticut Border
15	44	North Atlantic Coast	Hudson River from Waterford, NY to Mouth; New York/ Connecticut Border to Canada Border
16	43,45,46,47, 48	Great Lakes/St. Lawrence Seaway/New York State Waterways	
17	50,53	Washington/Oregon Coast	Puget Sound to California-Oregon Border
18	51,52	Columbia-Snake Waterway/Willamette River	Lewiston, ID to Mouth
19	54,55,56	California Coast	California-Oregon Border to Mexico Border
20	57,58,59	Alaska	
21	60	Hawaii and Pacific Territories	
22	61	Carribean, including Puerto Rico and Virgin Islands	

NATIONAL WATERWAYS STUDY ANALYSIS SEGMENTS (1)

Segment Number	Segment Name	Description	PE Numbers(2)
1	Upper Mississippi River	Minneapolis, MN (including Black, St. Croix, and Minnesota Rivers) to L/D 26 (mile 208.0)	0306-0360
2	Lower Upper Mississippi River (Illinois River to Missouri River)	L/D 26 to L/D 27 (mile 185.3)	0302,0304(3)
3	Middle Mississippi River (Missouri River to Ohio River including Kaskaskia River	L/D 27 to mouth of Ohio River (Cairo) including Kaskaskia River (mile 0.0 to mile 185.3)	0300,0301(4)
4	Lower Middle Mississippi River (Ohio River to White River)	Mouth of Ohio River to mile 544.2 (including Wolf River)	0465-0485
5	Upper Lower Mississippi River (White River to Old River)	Mile 544.2 to Old River (mile 304.0)	0425-0460
6	Lower Mississippi River - Old River to Baton Rouge	Old River (mile 304.0) to mile 255.0	0420
7	Mississippi River - Baton Rouge to New Orleans	Mile 255.0 to mile 106.0	0410,0415

NATIONAL WATERWAYS STUDY ANALYSIS SEGMENTS (1)

Segment Number	Segment Name	Description	PE Numbers(2)
8	Mississippi River - New Orleans to Gulf	Mile 106.0 to Gulf (mile 0.0)	0400,0405
9	Illinois Waterway	Chicago, IL (Guard Lock and T.J. O'Brien Lock) to mouth of Illinois River (includes Cal-Sag and Sanitary Ship Canal)	0500-0540
10	Missouri River	Sioux City, IA to Mouth of Missouri River (including Kansas River)	0100-0110
11	Upper Ohio River	Confluence of Monongahela and Allegheny near Pittsburgh to Gallipolis L & D (including Muskingum River)	0250-2086(5)
12	Middle Ohio River	Gallipolis L & D to Markland L & D (including Big Sandy River (mile 545.8)	0236-0248(6)
13	Lower Ohio River - Three	Markland L & D to L/D 47 (mile 777.7)	0222-0234(7)
14	Lower Ohio River - Two	L/D 47 to Smithland L & D (mile 918.5)	0206-0220(8)
15	Lower Ohio River - One	Smithland L & D to Mississippi River (Cairo) (mile 988.4)	0200-0204(9)

NATIONAL WATERWAYS STUDY ANALYSIS SEGMENTS (1)

Segment Number	Segment Name	Description	PE Numbers(2)
16	Monongahela River	Head of navigation to Mouth	0700-0760
17	Allegheny River	Head of navigation to Mouth	0600-0640
18	Kanawha River	Head of navigation to Mouth	0800-0815
19	Kentucky River	Head of navigation to Mouth	0900-0970
20	Green River and Barren River	Heads of navigation to Mouth (at Ohio River)	1000-1025,1100, 1105
21	Cumberland River	Head of navigation to Mouth at Ohio River, including Barkley Canal	1200-1230
22	Upper Tennessee River and Clinch River (Head of navigation to junction with Tennessee-Tombigbee Waterway)	Head of navigation to Pickwick L & D (mile 206.7)	1310-1375,1400, 1405
23	Lower Tennessee River (from junction with Tennessee-Tombigbee Waterway to Ohio River)	Pickwick L & D to Ohio River	1300,1305

NATIONAL WATERWAYS STUDY ANALYSIS SEGMENTS (1)

Segment Number	Segment Name	Description	PE Numbers(2)
24	Arkansas (including Verdigris, White, and Black Rivers)	Heads of navigation to Mouth at Mississippi River	1500-1585,1700, 1705
25	Ouachita-Black and Red Rivers	Camden, AR to Mouth at Red River, Red River from Daingerfield, TX to the Old River (mile 304.0)	1600-1620,1905
26	Old and Atchafalaya Rivers, Mississippi River to Gulf	Old River, Atchafalaya River, Jct. with Old River to Jct. with Port Allen-Morgan City Rte. (mile 228.5)	1900
27	Baton Rouge - Morgan City, LA Bypass	Port Allen L. (mile 64.1) to Jct. with Atchafalaya River (mile 2.5)	1800,1805
28	GIWW West One (From New Orleans, LA to Calcasieu River)	Harvey Canal, Algiers Canal, GIWW West (mile 98.0) to Calcasieu L. (mile 238.9)	2700-2720,2745
29	GIWW West Two (Calcasieu River to Corpus Christi, TX)	Calcasieu L. to mile 540.9	2725-2735
30	GIWW West Three (Corpus Christi to Brownsville)	Mile 540.9 to end (mile 683.7)	2740

NATIONAL WATERWAYS STUDY ANALYSIS SEGMENTS (1)

Segment Number	Segment Name	Description	PE Numbers(2)
31	GIWW East One (New Orleans to Mobile Bay, including Mississippi River Gulf Outlet and Pearl River)	Pearl River below Bogalusa (mile 55.0), GIWW East to Mobile Bay (mile 133.6)	2000,2600(10)
32	GIWW East Two (Mobile Bay to St. Marks, FL)	Mobile Bay to St. Marks, FL (mile 425.0)	2605-2615
33	Florida Gulf Coast (St. Marks, FL to Key West)	St. Marks, FL to Key West, FL including Okeechobee Waterway	14600-14999
34	Houston Ship Channel	Head of navigation to Mouth of GIWW	2750
35	Black Warrior - Mobile Harbor	Head of navigation to Mobile (including harbor)	2100-2130,2620
36	Alabama-Coosa Rivers	Head of navigation to Mouth (at Mobile River)	2200-2215
37	Tennessee-Tombigbee Waterway	Tennessee River to Black Warrior confluence	None
38	Apalachicola, Chattahoochee, Flint Rivers	Heads of navigation to Mouth	2300,2400,2500-2510

NATIONAL WATERWAYS STUDY ANALYSIS SEGMENTS (1)

Segment Number	Segment Name	Description	PE Numbers(2)
39	Florida/Georgia Coast	Key West, FL (inclusive of port complex) to Savannah River including AIWW and tributaries	13000-13515, 13535-14467 16100-16599
40	Carolinas Coast	Savannah River to North Carolina/ Virginia Border including AIWW and tributaries	10826-12350, 13516-13534
41	Chesapeake and Delaware Bays	North Carolina/Virginia Border to Cape May, NJ	04300-10815
42	New Jersey/New York Coasts	Cape May, NJ to New York/Connecticut Border (including Hudson River, Waterford, NY to Mouth)	02000-03199, 03786-04299
43	New York State Waterways	New York State Barge Canal and Lake Champlain	03200-03785
44	North Atlantic Coast	New York/Connecticut Border to Canada Border	00001-01799
45	Lake Ontario and St. Lawrence Seaway	Atlantic Ocean to Buffalo, NY (including Welland Canal)	70000-70499, 71000-71499
46	Lake Erie (United States)	Buffalo (inclusion of port) to Mouth of Detroit River)	72000-72499

NATIONAL WATERWAYS STUDY ANALYSIS SEGMENTS (1)

Segment Number	Segment Name	Description	PE Numbers(2)
47	Lake Huron (United States)	Includes St. Mary's and Detroit River	73000-73499, 74000-74499, 75000-75499, 76000-76499, 78000-78499
48	Lake Michigan	West of Mackinaw City, MI	77410-77999
49	Lake Superior (United States)	West of Soo Locks	79000-79499
50	Puget Sound	Head of navigation to Juan de Fuca Straits	91071-91571
51	Upper Columbia-Snake Waterway (Lewiston, ID to Bonneville Lock and Dam	Asotin Dam, WA to Bonneville Lock and Dam, WA	90146-90290, 92000-92999, 94000-94745, 91600-91999, 91580-91592
52	Lower Columbia-Snake Waterway/Willamette River (from Bonneville Lock to Mouth)	Bonneville Lock and Dam, WA to Mouth	90001-90145, 90500-90699
53	Oregon/Washington Coast	Puget Sound to Oregon-California border	90000,90880-90999, 91000-91050

NATIONAL WATERWAYS STUDY ANALYSIS SEGMENTS (1)

Segment Number	Segment Name	Description	PE Numbers(2)
54	Northern California (Oregon-California Border to San Francisco Bay)	Oregon-California border to Mouth of San Francisco Bay	82401-82999
55	San Francisco Bay Area, Sacramento River and San Joaquin River	Includes San Francisco Bay Area and the Sacramento River and tributaries and San Joaquin River and tributaries	81050-81726, 82202-82400
56	Central/South California (from San Francisco Bay to Mexico Border)	Mouth of San Francisco Bay to Mexico border	80000-80870, 82000-82170
57	Southeast Alaska (Panhandle)	Includes both intrasegment routes and routes between segment and CONUS	93000-93065
58	South Central Alaska Coast	Includes both intrasegment routes and routes between segment and CONUS	93127-93182, 93520
59	West and North Coasts of Alaska (including Aleutians)	Includes both intrasegment routes and routes between segment and CONUS	93268-93460, 93568-93710
60	Pacific Territories	Includes both intrasegment routes and routes between segment and CONUS (Hawaii, Guam and American Samoa)	84000-85000
61	Caribbean, including Puerto Rico and Virgin Islands	Includes both intrasegment routes and routes between segment and CONUS	17000-17900

NATIONAL WATERWAYS STUDY ANALYSIS SEGMENTS (1)

Segment Number	Segment Name	Description	PE Numbers(2)
62	Rest of World (not included as part of a Reporting Region)	Overseas (including B.C. West Coast)/ Canadian Great Lakes	99999,99905-99980 70500-70999, 71500-71999 72500-72999 73500-73999, 74500-74999, 75500-75999, 76500-76999, 78500-78999

NOTES

1. The segment definitions used for traffic forecasting and routing purposes differ somewhat for some segments from definitions used for other purposes in the National Waterways Study. The segments involved are some of those defined in this exhibit on Port Equivalents. There is no significant effect on any of the analyses at the reporting region level or at the national level. Specific footnotes identify where these differences exist.

2. Corps of Engineers Port Equivalent numbers for Mississippi River and tributaries and Gulf Coast Waterways only (Segments 1 through 32 and 34 through 38). Other code numbers are port and dock code groupings (Segments 33 and 39 through 62).

3. The port equivalents included in this segment for traffic forecasting and routing purposes incude the Chain of Rocks Canal above Locks 27. This short reach includes some miles below the mouth of the Missouri River.

NOTES (Continued)

4. The port equivalents included in this segment for traffic forecasting and routing purposes go up only to Locks 27 below the mouth of the Missouri River.

5. The port equivalents included in this segment for traffic forecasting and routing purposes extend downstream to Gallipolis Locks and Dam below the mouth of the Kanawha.

6. The port equivalents included in this segment for traffic forecasting and routing purposes lie between Gallipolis and Markland Locks and Dams. Gallipolis lies downstream of the mouth of the Kanawha River and Markland lies upstream of the mouth of the Kentucky River.

7. The port equivalents included in this segment for traffic forecasting and routing purposes lie between Markland Locks and Dam and mile 777.7, the site of old Lock and Dam 47. Markland Locks and Dam lies upstream of the mouth of the Kentucky River and mile 777.7 is upstream of the mouth of the Green River.

8. The port equivalents included in this segment for traffic forecasting and routing purposes lie between mile 777.7 and Smithland Locks and Dam. Mile 777.7 is above the mouth of the Green River and Smithland Locks and Dam is located upstream of the mouths of both the Tennessee and Cumberland Rivers.

9. The port equivalents included in this segment for traffic forecasting and routing purposes lie between Smithland Locks and Dam and the mouth of the Ohio River on the Mississippi River. Smithland Locks and Dam lie upstream of the mouth of the Tennessee River.

10. Port equivalent 2600 includes the Mississippi River Gulf Outlet, an alternative deep draft route for ocean going traffic moving in and out of the Port of New Orleans and points upstream on the main stem of the Mississippi River.

IX - MAPPING OF FEMA SECTORS TO NWS REPORTING COMMODITY GROUPS

INTRODUCTION

This section displays information necessary to understand how the Defense Scenario was constructed. The Federal Emergency Management Agency (FEMA) has defined "economic sectors" for its purposes and forecasts are made for these sectors. It was necessary to assign the sectors to NWS commodity groups so that the capability of the waterway system could be evaluated. This could not be accomplished at a highly detailed level of analysis since the FEMA sectors do not closely match the waterborne commerce commodity scheme. Therefore, FEMA sectors were assigned to one of the fourteen NWS reporting commodity groups. Not all sectors were assigned to NWS groups since water transportation would not be used for all sector movements. The rest of this section consists of two tables. The first is simply a listing of FEMA sectors. The second shows the mapping of FEMA sectors into NWS Reporting Commodity Groups.

Table IX-1

Individual FEMA Sectors of Economic Activity

Sector Number	Description
1	Agriculture, Forestry and Fisheries
2	Iron Ores Mining
3	Copper Ores Mining
4	Nonferrous Metal Mining
5	Coal Mining
6	Crude Petroleum and Natural Gas
7	Stone and Clay Mining
8	Chemical and Fertilizer Mineral Mining
9	New Residential Construction
10	New Industrial Buildings
11	New Highways
12	New Military Facilities
13	All Other New Construction
14	Maintenance and Repair Construction
15	Complete Guided Missiles
16	Tank and Tank Components
17	Ammunition, Including Small Arms
18	Other Ordnance and Accessories
19	Food and Tobacco
20	Broad and Narrow Fabrics, Yarn
21	Miscellaneous Textile Goods
22	Apparel
23	Miscellaneous Fabricated Textile Products
24	Lumber and Wood Products
25	Household Furniture
26	Other Furniture and Fixtures
27	Pulp and Paper
28	Printing and Publishing
29	Industrial Chemicals
30	Fertilizers and Agricultural Chemicals
31	Miscellaneous Chemical Products
32	Plastics and Synthetic Materials
33	Other Chemical Products
34	Petroleum Refining
35	Tires and Inner Tubes
36	Other Rubber and Plastic Products
37	Leather and Leather Products
38	Glass and Glass Products
39	Stone and Clay Products
40	Blast Furnace and Steel Mills

Table IX-1 (Cont'd)

Sector Number	Description
41	Iron and Steel Foundries
42	Iron and Steel Forgings
43	Primary Metal Products, Nec.
44	Primary Copper
45	Primary Lead
46	Primary Zinc
47	Primary Aluminum
48	Primary Nonferrous Metals, Nec.
49	Secondary Nonferrous Metals
50	Copper Rolling and Drawing
51	Aluminum Rolling and Drawing
52	Nonferrous Rolling and Drawing, Nec.
53	Nonferrous Wire Drawing, Insulating
54	Aluminum Castings
55	Brass, Bronze, and Copper Castings
56	Nonferrous Castings, Nec.
57	Nonferrous Forgings
58	Metal Containers
59	Heating and Plumbing Equipment
60	Fabricated Structural Metal Products
61	Screw Machine Products
62	Metal Stampings
63	Other Fabricated Metal Products
64	Engines and Turbines
65	Farm Machinery
66	Construction, Mining, and Oilfield Machinery
67	Materials Handling Machinery
68	Machine Tools: Metal Cutting
69	Machine Tools: Metal Forming
70	Special Dies, Tools
71	Metal Working Machinery, Nec.
72	Special Industrial Machinery
73	Pumps and Compressors
74	Ball and Roller Bearings
75	Fans, Furnaces, and Other Gen. Indust. Machines
76	Machine Shop Products
77	Computing and Office Machines
78	Refrigeration and Service Industry Machines
79	Electrical Measuring Instruments
80	Transformers and Switchgear
81	Motors, Controls, and Other Electrical Products
82	Household Appliances

Table IX-1 (Cont'd)

Sector Number	Description
83	Electrical Lighting & Wiring Equipment
84	Radio, T.V. and Phonograph
85	Telephone and Telegraph Apparatus
86	Communication Equipment
87	Electronic Components, Accessories
88	Engine Electrical Equipment
89	Batteries, X-Ray and Other Electrical Equip.
90	Truck and Bus Bodies
91	Motor Vehicles and Parts
92	Aircraft and Parts
93	Shipbuilding and Repairing
94	Railroad Equipment
95	Other Transportation Equipment
96	Scientific and Measuring Instruments
97	Surgical, Dental, and Medical Supplies
98	Watches, Clocks and Parts
99	Optical and Opthalmic Goods
100	Photographic Equipment
101	Miscellaneous Manufacturing
102	Transportation Services
103	Communication
104	Electric Utilities
105	Gas Utilities
106	Water and Sanitary Services
107	Wholesale and Retail Trade
108	Finance and Services
109	Government Enterprises
110	Non-Competitive Imports
111	Business Travel, Office Supplies
112	Scrap, Used and Secondhand
113	Government Industry
114	Rest of the Work Industry + IVA
115	Household Industry

Table IX-2

FEMA to NWS Commodity Mapping

NWS Reporting Commodities		FEMA Sectors
I.	Farm Products	1
II.	Metallic Ores	2-4
III.	Coal	5
IV.	Crude Petroleum	6
V.	Nonmetallic Minerals	7 or 9-14
VI.	Food and Kindred Products	19
VII.	Lumber and Wood	24
VIII.	Pulp and Paper	27
IX.	Chemicals	29-33
X.	Petroleum and Coal Products	34
XI.	Stone, Clay, and Glass	38-39
XII.	Primary Metals	40-57
XIII.	Waste and Scrap	112
XIV.	Other Commodities	1-101 except above sectors

X - FORECAST TABLES

This section contains forecasts by reporting commodity and segments for each NWS scenario (Baseline, High Use, Low Use, Bad Energy, Defense, High Coal Export and Miscellaneous Sensitivity). Historical domestic and foreign trade waterborne traffic is contained in Section III of the report "Evaluation of the Present Navigation System."

Whereas other tables refer to total commodity waterborne traffic on a region, these tables distinguish between shipped (or originated) versus received (or terminated) traffic for a particular region. For example, the Upper Mississippi River region reported shipping 20,619,000 tons of cargo into barges in 1977 versus receiving 16,474,000 tons in domestic movements. The sum of these two concepts does not equal total traffic because some tonnage both originates and terminates on the region and, thus, would be double counted if the two concepts were added. Total traffic tables remove double counting by netting out originated and terminated traffic by region from the measure.

Tons and Ton-miles for the Mississippi River system are for domestic traffic only, excluding foreign trade.

It should also be pointed out that there is some variance in the names of regions which appear on the tables in this section from the names in Exhibit VIII-2. The sequence of the regions in the tables is the same as the sequence in Exhibit VIII-2. The most significant difference in the names is in Region 12. This region is referred to in the tables as the "Warrior River System." The name given in Exhibit VIII-2, and used in the rest of this appendix, the main Element K2 Report, the Element L Report and the Element O Report, is "Mobile River and Tributaries."

NWS Forecasts by Scenario

LIST OF TABLES

Title	Page
Waterborne Projected Use (1000's Tons) Domestic Traffic	
Scenario: Baseline	
Farm Products	135
Metallic Ores	177
Coal	219
Crude Petroleum	261
Nonmetallic Minerals	303
Food and Kindred Products	345
Lumber and Wood Products	387
Pulp, Paper, and Allied Products	429
Chemicals	471
Petroleum and Coal Products	513
Stone, Clay, Glass, and Concrete Products	555
Primary Metals Products	597
Waste and Scrap	639
Other Commodities	681
All Commodities	723
Scenario: Low Use	
Farm Products	141
Metallic Ores	183
Coal	225
Crude Petroleum	267
Nonmetallic Minerals	309
Food and Kindred Products	351
Lumber and Wood Products	393
Pulp, Paper, and Allied Products	435
Chemicals	477
Petroleum and Coal Products	519
Stone, Clay, Glass, and Concrete Products	561
Primary Metals Products	603
Waste and Scrap	645
Other Commodities	687
All Commodities	729

NWS Forecasts by Scenario

LIST OF TABLES

Title	Page
Waterborne Projected Use (1000's Tons) Domestic Traffic (Cont'd)	
Scenario: High Use	
Farm Products	147
Metallic Ores	189
Coal	231
Crude Petroleum	273
Nonmetallic Minerals	315
Food and Kindred Products	357
Lumber and Wood Products	399
Pulp, Paper, and Allied Products	441
Chemicals	483
Petroleum and Coal Products	525
Stone, Clay, Glass, and Concrete Products	567
Primary Metals Products	609
Waste and Scrap	651
Other Commodities	693
All Commodities	735
Scenario: Bad Energy	
Farm Products	153
Metallic Ores	195
Coal	237
Crude Petroleum	279
Nonmetallic Minerals	321
Food and Kindred Products	363
Lumber and Wood Products	405
Pulp, Paper, and Allied Products	447
Chemicals	489
Petroleum and Coal Products	531
Stone, Clay, Glass, and Concrete Products	573
Primary Metals Products	615
Waste and Scrap	657
Other Commodities	699
All Commodities	741

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Title	Page
Waterborne Projected Use (1000's Tons) Domestic Traffic (Cont'd)	
Scenario: Defense	
Farm Products	159
Metallic Ores	201
Coal	243
Crude Petroleum	285
Nonmetallic Minerals	327
Food and Kindred Products	369
Lumber and Wood Products	411
Pulp, Paper, and Allied Products	453
Chemicals	495
Petroleum and Coal Products	537
Stone, Clay, Glass, and Concrete Products	579
Primary Metals Products	621
Waste and Scrap	663
Other Commodities	705
All Commodities	747
Scenario: High Coal Export	
Farm Products	165
Metallic Ores	207
Coal	249
Crude Petroleum	291
Nonmetallic Minerals	333
Food and Kindred Products	375
Lumber and Wood Products	417
Pulp, Paper, and Allied Products	459
Chemicals	501
Petroleum and Coal Products	543
Stone, Clay, Glass, and Concrete Products	585
Primary Metals Products	627
Waste and Scrap	669
Other Commodities	771
All Commodities	753

NWS Forecasts by Scenario

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Title	Page
Waterborne Projected Use (1000's Tons) Domestic Traffic (Cont'd)	
Scenario: Miscellaneous Sensitivity	
Farm Products	171
Metallic Ores	213
Coal	255
Crude Petroleum	297
Nonmetallic Minerals	339
Food and Kindred Products	381
Lumber and Wood Products	423
Pulp, Paper, and Allied Products	465
Chemicals	507
Petroleum and Coal Products	549
Stone, Clay, Glass, and Concrete Products	591
Primary Metals Products	633
Waste and Scrap	675
Other Commodities	717
All Commodities	759
Waterborne Projected Use (1000's Tons) Foreign Trade	
Scenario: Baseline	
Farm Products	137
Metallic Ores	179
Coal	221
Crude Petroleum	263
Nonmetallic Minerals	305
Food and Kindred Products	347
Lumber and Wood Products	389
Pulp, Paper, and Allied Products	431
Chemicals	473
Petroleum and Coal Products	515
Stone, Clay, Glass, and Concrete Products	557
Primary Metals Products	599
Waste and Scrap	641
Other Commodities	683
All Commodities	725

NWS Forecasts by Scenario

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Title	Page
Waterborne Projected Use (1000's Tons) Foreign Trade (Cont'd)	
Scenario: Low Use	
Farm Products	143
Metallic Ores	185
Coal	227
Crude Petroleum	269
Nonmetallic Minerals	311
Food and Kindred Products	353
Lumber and Wood Products	395
Pulp, Paper, and Allied Products	437
Chemicals	479
Petroleum and Coal Products	521
Stone, Clay, Glass, and Concrete Products	563
Primary Metals Products	605
Waste and Scrap	647
Other Commodities	689
All Commodities	731
Scenario: High Use	
Farm Products	149
Metallic Ores	191
Coal	233
Crude Petroleum	275
Nonmetallic Minerals	317
Food and Kindred Products	359
Lumber and Wood Products	401
Pulp, Paper, and Allied Products	443
Chemicals	485
Petroleum and Coal Products	527
Stone, Clay, Glass, and Concrete Products	569
Primary Metals Products	611
Waste and Scrap	653
Other Commodities	695
All Commodities	737

NWS Forecasts by Scenario

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Title	Page
Waterborne Projected Use (1000's Tons) Foreign Trade (Cont'd)	
Scenario: Bad Energy	
Farm Products	155
Metallic Ores	197
Coal	239
Crude Petroleum	281
Nonmetallic Minerals	323
Food and Kindred Products	365
Lumber and Wood Products	407
Pulp, Paper, and Allied Products	449
Chemicals	491
Petroleum and Coal Products	533
Stone, Clay, Glass, and Concrete Products	575
Primary Metals Products	617
Waste and Scrap	659
Other Commodities	701
All Commodities	743
Scenario: Defense	
Farm Products	161
Metallic Ores	203
Coal	245
Crude Petroleum	287
Nonmetallic Minerals	329
Food and Kindred Products	371
Lumber and Wood Products	413
Pulp, Paper, and Allied Products	455
Chemicals	497
Petroleum and Coal Products	539
Stone, Clay, Glass, and Concrete Products	581
Primary Metals Products	623
Waste and Scrap	665
Other Commodities	707
All Commodities	749

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Title	Page
Waterborne Projected Use (1000's Tons) Foreign Trade (Cont'd)	
Scenario: High Coal Export	
Farm Products	167
Metallic Ores	209
Coal	251
Crude Petroleum	293
Nonmetallic Minerals	335
Food and Kindred Products	377
Lumber and Wood Products	419
Pulp, Paper, and Allied Products	461
Chemicals	503
Petroleum and Coal Products	545
Stone, Clay, Glass, and Concrete Products	587
Primary Metals Products	629
Waste and Scrap	671
Other Commodities	713
All Commodities	755
Scenario: Miscellaneous Sensitivity	
Farm Products	173
Metallic Ores	215
Coal	257
Crude Petroleum	299
Nonmetallic Minerals	341
Food and Kindred Products	383
Lumber and Wood Products	425
Pulp, Paper, and Allied Products	467
Chemicals	509
Petroleum and Coal Products	551
Stone, Clay, Glass, and Concrete Products	593
Primary Metals Products	635
Waste and Scrap	677
Other Commodities	719
All Commodities	761

NWS Forecasts by Scenario

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Title	Page
Waterborne Projected Use (1000's Tons) Mississippi River System/Great Lakes Domestic Traffic - Inbound, Outbound, Local, and Through	
Scenario: Baseline	
Farm Products	139
Metallic Ores	181
Coal	223
Crude Petroleum	265
Nonmetallic Minerals	307
Food and Kindred Products	349
Lumber and Wood Products	391
Pulp, Paper, and Allied Products	433
Chemicals	475
Petroleum and Coal Products	517
Stone, Clay, Glass, and Concrete Products	559
Primary Metals Products	601
Waste and Scrap	643
Other Commodities	685
All Commodities	727
Scenario: Low Use	
Farm Products	145
Metallic Ores	187
Coal	229
Crude Petroleum	271
Nonmetallic Minerals	313
Food and Kindred Products	355
Lumber and Wood Products	397
Pulp, Paper, and Allied Products	439
Chemicals	481
Petroleum and Coal Products	523
Stone, Clay, Glass, and Concrete Products	565
Primary Metals Products	607
Waste and Scrap	649
Other Commodities	691
All Commodities	733

NWS Forecasts by Scenario

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Title	Page
Waterborne Projected Use (1000's Tons) Mississippi River System/Great Lakes Domestic Traffic - Inbound, Outbound, Local, and Through (Cont'd)	
Scenario: High Use	
Farm Products	151
Metallic Ores	193
Coal	235
Crude Petroleum	277
Nonmetallic Minerals	319
Food and Kindred Products	361
Lumber and Wood Products	403
Pulp, Paper, and Allied Products	445
Chemicals	487
Petroleum and Coal Products	529
Stone, Clay, Glass, and Concrete Products	571
Primary Metals Products	613
Waste and Scrap	655
Other Commodities	697
All Commodities	739
Scenario: Bad Energy	
Farm Products	157
Metallic Ores	199
Coal	241
Crude Petroleum	283
Nonmetallic Minerals	325
Food and Kindred Products	367
Lumber and Wood Products	409
Pulp, Paper, and Allied Products	451
Chemicals	493
Petroleum and Coal Products	535
Stone, Clay, Glass, and Concrete Products	577
Primary Metals Products	619
Waste and Scrap	661
Other Commodities	703
All Commodities	745

NWS Forecasts by Scenario

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Title	Page
Waterborne Projected Use (1000's Tons) Mississippi River System/Great Lakes Domestic Traffic - Inbound, Outbound, Local, and Through (Cont'd)	
Scenario: Defense	
Farm Products	163
Metallic Ores	205
Coal	247
Crude Petroleum	289
Nonmetallic Minerals	331
Food and Kindred Products	373
Lumber and Wood Products	415
Pulp, Paper, and Allied Products	457
Chemicals	499
Petroleum and Coal Products	541
Stone, Clay, Glass, and Concrete Products	583
Primary Metals Products	625
Waste and Scrap	667
Other Commodities	709
All Commodities	751
Scenario: High Coal Export	
Farm Products	169
Metallic Ores	211
Coal	253
Crude Petroleum	295
Nonmetallic Minerals	337
Food and Kindred Products	379
Lumber and Wood Products	421
Pulp, Paper, and Allied Products	463
Chemicals	505
Petroleum and Coal Products	547
Stone, Clay, Glass, and Concrete Products	589
Primary Metals Products	631
Waste and Scrap	673
Other Commodities	715
All Commodities	757

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Title	Page
Waterborne Projected Use (1000's Tons) Mississippi River System/Great Lakes Domestic Traffic - Inbound, Outbound, Local, and Through (Cont'd)	
Scenario: Miscellaneous Sensitivity	
Farm Products	175
Metallic Ores	217
Coal	259
Crude Petroleum	301
Nonmetallic Minerals	343
Food and Kindred Products	385
Lumber and Wood Products	427
Pulp, Paper, and Allied Products	469
Chemicals	511
Petroleum and Coal Products	553
Stone, Clay, Glass, and Concrete Products	595
Primary Metals Products	637
Waste and Scrap	679
Other Commodities	721
All Commodities	763
Waterborne Projected Use Millions of Ton Miles Mississippi River System/Great Lakes Domestic Traffic	
Scenario: Baseline	
Farm Products	140
Metallic Ores	182
Coal	224
Crude Petroleum	266
Nonmetallic Minerals	308
Food and Kindred Products	350
Lumber and Wood Products	392
Pulp, Paper, and Allied Products	434
Chemicals	476
Petroleum and Coal Products	518
Stone, Clay, Glass, and Concrete Products	560
Primary Metals Products	602
Waste and Scrap	644
Other Commodities	686
All Commodities	728

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Title	Page
Waterborne Projected Use Millions of Ton Miles Mississippi River System/Great Lakes Domestic Traffic (Cont'd)	
Scenario: Low Use	
Farm Products	146
Metallic Ores	188
Coal	230
Crude Petroleum	272
Nonmetallic Minerals	314
Food and Kindred Products	356
Lumber and Wood Products	398
Pulp, Paper, and Allied Products	440
Chemicals	482
Petroleum and Coal Products	524
Stone, Clay, Glass, and Concrete Products	566
Primary Metals Products	608
Waste and Scrap	650
Other Commodities	692
All Commodities	734
Scenario: High Use	
Farm Products	152
Metallic Ores	194
Coal	236
Crude Petroleum	278
Nonmetallic Minerals	320
Food and Kindred Products	362
Lumber and Wood Products	404
Pulp, Paper, and Allied Products	446
Chemicals	488
Petroleum and Coal Products	530
Stone, Clay, Glass, and Concrete Products	572
Primary Metals Products	614
Waste and Scrap	656
Other Commodities	698
All Commodities	740

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Title	Page
Waterborne Projected Use Millions of Ton Miles Mississippi River System/Great Lakes Domestic Traffic (Cont'd)	
Scenario: Bad Energy	
Farm Products	158
Metallic Ores	200
Coal	242
Crude Petroleum	284
Nonmetallic Minerals	326
Food and Kindred Products	368
Lumber and Wood Products	410
Pulp, Paper, and Allied Products	452
Chemicals	494
Petroleum and Coal Products	536
Stone, Clay, Glass, and Concrete Products	578
Primary Metals Products	620
Waste and Scrap	662
Other Commodities	704
All Commodities	746
Scenario: Defense	
Farm Products	164
Metallic Ores	206
Coal	248
Crude Petroleum	290
Nonmetallic Minerals	332
Food and Kindred Products	374
Lumber and Wood Products	416
Pulp, Paper, and Allied Products	458
Chemicals	500
Petroleum and Coal Products	542
Stone, Clay, Glass, and Concrete Products	584
Primary Metals Products	626
Waste and Scrap	668
Other Commodities	710
All Commodities	752

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Title	Page
Waterborne Projected Use Millions of Ton Miles Mississippi River System/Great Lakes Domestic Traffic (Cont'd)	
Scenario: High Coal Export	
Farm Products	170
Metallic Ores	212
Coal	254
Crude Petroleum	296
Nonmetallic Minerals	338
Food and Kindred Products	380
Lumber and Wood Products	422
Pulp, Paper, and Allied Products	464
Chemicals	506
Petroleum and Coal Products	548
Stone, Clay, Glass, and Concrete Products	590
Primary Metals Products	632
Waste and Scrap	674
Other Commodities	716
All Commodities	758
Scenario: Miscellaneous Sensitivity	
Farm Products	176
Metallic Ores	218
Coal	260
Crude Petroleum	302
Nonmetallic Minerals	344
Food and Kindred Products	386
Lumber and Wood Products	428
Pulp, Paper, and Allied Products	470
Chemicals	512
Petroleum and Coal Products	554
Stone, Clay, Glass and Concrete Products	596
Primary Metals Products	638
Waste and Scrap	680
Other Commodities	722
All Commodities	764

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WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Farm Products
ALTERNATIVE: Baseline

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	11,547	17,334	20,075	19,912	24,441	28,051	29,726	4.3	3.1
	Received	43	44	44	45	45	46	46	0.3	0.3
Lower Upper Mississippi	Shipped	3,046	3,734	4,230	4,382	5,154	5,773	6,201	2.8	2.7
	Received	279	292	291	313	319	334	343	0.9	0.7
Lower Mississippi	Shipped	4,370	5,526	6,293	7,068	8,423	9,515	10,183	3.8	2.8
	Received	694	698	698	706	708	714	717	0.1	0.1
Baton Rouge to Gulf	Shipped	837	841	896	906	915	929	935	0.6	0.2
	Received	37,781	48,664	56,673	57,252	70,490	80,957	86,022	3.2	3.2
Illinois River	Shipped	14,941	16,800	19,629	19,248	24,014	27,738	29,217	2.0	3.3
	Received	154	155	155	155	155	156	156	0.0	0.0
Missouri River	Shipped	1,223	1,609	1,734	1,757	1,887	2,020	2,205	2.8	1.8
	Received	6	6	6	6	6	6	6	0.0	0.0
Ohio River	Shipped	4,292	5,233	6,091	6,163	7,606	8,716	9,251	2.8	3.2
	Received	197	202	201	208	211	216	218	0.4	0.4
Tennessee River	Shipped	218	157	173	181	210	232	242	-1.4	2.3
	Received	1,462	1,474	1,474	1,494	1,500	1,514	1,522	0.2	0.1
Arkansas River	Shipped	1,034	1,188	1,314	1,448	1,670	1,835	1,959	2.6	2.4
	Received	7	7	7	7	7	7	7	0.0	0.0
Gulf Coast West	Shipped	552	604	613	701	740	815	860	1.9	1.6
	Received	271	314	313	385	406	458	487	2.7	1.8
Gulf Coast East	Shipped	208	219	223	242	253	272	283	1.2	1.2
	Received	740	744	749	756	765	775	783	0.2	0.3
Warrior River System	Shipped	730	1,400	1,645	1,861	2,320	2,651	2,791	7.5	3.2
	Received	975	1,643	1,885	2,097	2,550	2,874	3,009	6.1	2.8
South Atlantic Coast	Shipped	107	111	116	122	130	140	147	1.0	1.4
	Received	9	11	12	14	17	20	22	3.3	3.6
Middle Atlantic Coast	Shipped	574	607	652	710	781	872	937	1.6	2.2
	Received	484	512	551	599	661	738	794	1.7	2.2

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SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	6	7	8	9	11	13	15	3.3	3.6
	Received	2	2	3	3	4	5	5	3.3	3.6
Great Lakes and Seaway	Shipped	1,475	1,530	1,530	1,530	1,530	1,530	1,530	0.3	0.0
	Received	1,475	1,530	1,530	1,530	1,530	1,530	1,530	0.3	0.0
Washington/Oregon Coast	Shipped	65	72	81	92	107	125	139	2.8	3.2
	Received	2	3	3	4	4	5	6	3.3	3.3
Columbia-Snake Willamette River	Shipped	3,460	5,437	5,849	5,885	5,922	6,193	7,275	4.2	1.6
	Received	3,425	5,401	5,812	5,846	5,880	6,147	7,227	4.2	1.6
California Coast	Shipped	264	295	339	393	461	547	610	3.1	3.4
	Received	73	80	89	100	114	131	144	2.4	2.9
Alaska	Shipped	1	1	1	1	1	1	1	3.3	3.6
	Received	40	45	52	60	71	85	95	3.2	3.5
Hawaii and Pacific Territories	Shipped	389	438	506	591	698	833	931	3.3	3.6
	Received	520	582	667	774	908	1,078	1,201	3.1	3.4
Domestic Caribbean	Shipped	77	79	83	88	93	101	106	1.0	1.5
	Received	776	814	868	935	1,019	1,126	1,203	1.4	2.0
Total	Shipped	49,416	63,222	72,080	73,287	87,370	98,922	105,542	3.1	2.8
	Received	49,416	63,222	72,080	73,287	87,370	98,922	105,542	3.1	2.8

a = less than 500 tons

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WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Farm Products
ALTERNATIVE: Baseline

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	43,064	53,500	62,675	63,341	78,585	90,557	96,191	3.0	3.3
	Imports	238	246	250	255	260	264	267	0.6	0.4
Illinois River	Exports	1,353	3,139	3,730	3,692	4,698	5,492	5,793	8.0	3.5
	Imports	3	3	3	3	3	3	3	0.6	0.4
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	20,738	29,153	33,101	35,821	39,879	44,615	49,952	4.3	2.6
	Imports	313	327	332	339	345	351	355	0.6	0.4
Gulf Coast East	Exports	2,751	2,618	3,126	3,383	4,148	4,860	5,223	1.6	3.4
	Imports	709	739	751	766	782	795	803	0.6	0.4
Warrior River System	Exports	1,317	2,825	3,369	3,880	4,861	5,650	5,999	8.7	3.4
	Imports	67	70	71	72	74	75	76	0.6	0.4
South Atlantic Coast	Exports	691	986	1,174	1,327	1,614	1,879	2,022	5.1	3.3
	Imports	441	460	467	477	486	494	499	0.6	0.4
Middle Atlantic Coast	Exports	13,055	16,550	19,585	19,445	24,409	28,449	30,199	3.1	3.4
	Imports	1,944	2,027	2,058	2,102	2,143	2,179	2,202	0.6	0.4

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SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	76	86	104	129	152	178	195	4.1	3.2
	Imports	22	23	23	23	24	24	25	0.6	0.4
Great Lakes and Seaway	Exports	9,610	13,844	15,957	16,577	19,459	22,104	24,115	4.3	2.9
	Imports	135	139	141	143	145	147	148	0.4	0.3
Washington/Oregon Coast	Exports	1,626	5,639	6,694	6,519	8,176	9,581	10,207	11.3	3.5
	Imports	16	16	17	17	17	18	18	0.6	0.4
Columbia-Snake Willamette River	Exports	8,521	10,099	10,950	11,139	11,341	11,965	13,991	4.2	1.8
	Imports	5	5	6	6	6	6	6	0.6	0.4
California Coast	Exports	3,236	5,902	6,974	7,646	9,108	10,584	11,526	6.8	3.2
	Imports	575	600	609	622	634	645	651	0.6	0.4
Alaska	Exports	a	a	a	a	a	a	a	4.1	3.2
	Imports	6	6	6	6	6	6	6	0.1	0.1
Hawaii and Pacific Territories	Exports	3	3	4	4	5	6	7	4.1	3.2
	Imports	2	2	2	2	3	3	3	0.6	0.4
Domestic Caribbean	Exports	17	19	23	29	34	39	43	4.0	3.2
	Imports	129	132	133	134	135	136	137	0.3	0.2
Total	Exports	104,059	144,365	167,466	172,933	206,468	235,960	255,463	4.0	3.0
	Imports	4,603	4,796	4,867	4,968	5,064	5,146	5,199	0.6	0.4

a = less than 500 tons

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WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Farm Products
ALTERNATIVE: Baseline

SEGMENT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	11,558	17,345	20,086	19,923	24,452	28,062	29,736	4.3	3.1
Lower Upper Mississippi	30,632	39,351	45,542	45,171	55,369	63,453	67,219	3.0	3.1
Lower Mississippi	38,711	49,590	57,550	57,671	70,876	81,313	86,366	3.1	3.2
Baton Rouge to Gulf	39,145	50,048	58,061	58,367	71,620	82,114	87,196	3.1	3.1
Illinois River	14,982	16,841	19,670	19,289	24,055	27,779	29,258	2.0	3.3
Missouri River	1,229	1,615	1,740	1,763	1,894	2,027	2,211	2.8	1.8
Ohio River	5,965	6,860	7,733	7,929	9,380	10,529	11,054	2.2	2.6
Tennessee River	1,663	1,614	1,629	1,947	1,982	2,018	2,036	1.2	0.3
Arkansas River	1,040	1,195	1,321	1,454	1,677	1,842	1,966	2.6	2.3
Gulf Coast West	697	767	775	892	939	1,035	1,092	1.9	1.6
Gulf Coast East	1,323	1,340	1,349	1,270	1,319	1,372	1,402	-0.3	0.8
Warrior River System	1,162	1,833	2,079	2,489	2,978	3,332	3,482	6.0	2.6
Great Lakes	1,475	1,530	1,530	1,530	1,530	1,530	1,530	0.3	0.0

a = less than 500 tons

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WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Farm Products
ALTERNATIVE: Baseline

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	4,684	7,033	8,146	8,079	9,918	11,383	12,063	4.3	3.1
Lower Upper Mississippi	6,439	8,291	9,613	9,520	11,699	13,424	14,217	3.1	3.1
Lower Mississippi	24,495	31,432	36,532	36,416	44,839	51,509	54,717	3.1	3.2
Baton Rouge to Gulf	5,042	6,412	7,426	7,423	9,077	10,393	11,038	3.0	3.1
Illinois River	2,601	2,925	3,419	3,352	4,184	4,834	5,093	2.0	3.3
Missouri River	590	775	835	846	909	972	1,061	2.8	1.8
Ohio River	1,445	1,713	1,978	1,999	2,443	2,794	2,952	2.5	3.0
Tennessee River	608	609	610	682	687	695	699	0.9	0.2
Arkansas River	237	272	301	331	382	419	447	2.6	2.3
Gulf Coast West	122	134	134	154	160	174	182	1.8	1.3
Gulf Coast East	73	75	75	63	68	73	76	-1.1	1.4
Warrior River System	87	168	198	352	416	463	482	11.3	2.5
Great Lakes	1,278	1,318	1,318	1,318	1,318	1,318	1,318	0.2	0.0
Total	47,701	61,157	70,584	70,534	86,100	98,453	104,344	3.1	3.1

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Farm Products
ALTERNATIVE: Low Use

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	11,547	17,529	20,303	19,260	22,691	25,327	26,671	4.0	2.5
	Received	43	44	44	45	45	46	46	0.3	0.3
Lower Upper Mississippi	Shipped	3,046	3,776	4,278	4,341	5,004	5,525	5,923	2.8	2.4
	Received	279	292	291	313	319	334	343	0.9	0.7
Lower Mississippi	Shipped	4,370	5,591	6,367	7,130	8,474	9,556	10,223	3.8	2.8
	Received	694	698	698	706	708	714	717	0.1	0.1
Baton Rouge to Gulf	Shipped	837	848	903	909	915	926	932	0.6	0.2
	Received	37,781	49,243	57,346	55,733	66,234	74,274	78,519	3.0	2.7
Illinois River	Shipped	14,941	16,989	19,851	18,497	22,047	24,696	25,807	1.7	2.6
	Received	154	155	155	152	150	149	149	-0.1	0.2
Missouri River	Shipped	1,223	1,622	1,748	1,755	1,863	1,978	2,157	2.8	1.6
	Received	6	6	6	6	6	6	6	0.0	0.0
Ohio River	Shipped	4,292	5,293	6,160	6,000	7,153	8,026	8,453	2.6	2.7
	Received	197	202	201	208	211	216	218	0.4	0.4
Tennessee River	Shipped	218	158	174	179	205	224	233	-1.5	2.0
	Received	1,462	1,474	1,474	1,494	1,500	1,514	1,522	0.2	0.1
Arkansas River	Shipped	1,034	1,201	1,328	1,463	1,688	1,855	1,980	2.7	2.4
	Received	7	7	7	7	7	7	7	0.0	0.0
Gulf Coast West	Shipped	552	611	620	708	747	822	867	1.9	1.6
	Received	271	318	316	389	410	463	492	2.8	1.8
Gulf Coast East	Shipped	208	221	225	244	254	272	283	1.2	1.2
	Received	740	751	756	759	764	773	780	0.2	0.2
Warrior River System	Shipped	730	1,414	1,663	1,872	2,325	2,649	2,787	7.5	3.1
	Received	975	1,662	1,907	2,101	2,538	2,850	2,982	6.1	2.7
South Atlantic Coast	Shipped	107	112	117	123	131	141	148	1.1	1.4
	Received	9	11	12	14	17	20	23	3.4	3.6
Middle Atlantic Coast	Shipped	574	612	657	715	787	879	944	1.7	2.2
	Received	484	518	557	606	668	747	803	1.8	2.2

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	6	7	8	9	11	13	15	3.4	3.6
	Received	2	3	3	3	4	5	5	3.4	3.6
Great Lakes and Seaway	Shipped	1,475	1,530	1,530	1,530	1,530	1,530	1,530	0.3	0.0
	Received	1,475	1,530	1,530	1,530	1,530	1,530	1,530	0.3	0.0
Washington/Oregon Coast	Shipped	65	72	81	93	107	126	139	2.8	3.2
	Received	2	3	3	4	4	5	6	3.4	3.3
Columbia-Snake Willamette River	Shipped	3,460	5,502	5,919	5,955	5,992	6,265	7,360	4.3	1.6
	Received	3,425	5,466	5,881	5,915	5,950	6,220	7,313	4.3	1.6
California Coast	Shipped	264	296	339	393	461	548	610	3.1	3.4
	Received	73	81	90	101	115	133	146	2.5	2.9
Alaska	Shipped	1	1	1	1	1	1	1	3.4	3.6
	Received	40	45	52	60	71	85	95	3.2	3.5
Hawaii and Pacific Territories	Shipped	389	439	507	592	699	835	932	3.3	3.6
	Received	520	582	667	774	908	1,078	1,201	3.1	3.4
Domestic Caribbean	Shipped	77	79	83	88	94	102	107	1.1	1.5
	Received	776	814	868	935	1,019	1,126	1,203	1.4	2.0
Total	Shipped	49,416	63,902	72,863	71,855	83,180	92,294	98,104	2.9	2.4
	Received	49,416	63,902	72,863	71,855	83,180	92,294	98,104	2.9	2.4

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Farm Products
ALTERNATIVE: Low Use

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	43,064	54,137	63,420	61,593	73,724	82,933	87,632	2.8	2.7
	Imports	236	249	253	258	263	267	270	0.7	0.4
Illinois River	Exports	1,353	2,826	3,357	3,154	3,836	4,354	4,557	6.7	2.9
	Imports	3	3	3	3	3	3	3	0.6	0.4
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	20,738	29,500	33,494	35,986	39,704	44,172	49,460	4.3	2.5
	Imports	313	331	336	343	350	355	359	0.7	0.4
Gulf Coast East	Exports	2,751	2,649	3,163	3,321	3,962	4,564	4,890	1.5	3.0
	Imports	709	746	758	774	789	802	811	0.7	0.4
Warrior River System	Exports	1,317	2,859	3,409	3,900	4,858	5,626	5,969	8.7	3.3
	Imports	67	71	72	73	75	76	77	0.7	0.4
South Atlantic Coast	Exports	691	998	1,188	1,320	1,579	1,821	1,955	5.1	3.1
	Imports	441	465	472	482	492	500	505	0.7	0.4
Middle Atlantic Coast	Exports	13,055	16,747	19,817	18,727	22,499	25,485	26,876	2.8	2.8
	Imports	1,944	2,051	2,083	2,126	2,168	2,205	2,228	0.7	0.4

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	76	87	105	131	154	180	198	4.2	3.2
	Imports	22	23	23	24	24	25	25	0.7	0.4
Great Lakes and Seaway	Exports	9,610	12,459	14,361	14,559	16,677	18,637	20,303	3.2	2.6
	Imports	135	139	141	143	145	147	148	0.4	0.3
Washington/Oregon Coast	Exports	1,626	5,706	6,773	6,232	7,428	8,426	8,913	10.9	2.8
	Imports	16	17	17	17	18	18	18	0.7	0.4
Columbia-Snake Willamette River	Exports	6,521	10,219	11,081	11,271	11,475	12,106	14,156	4.3	1.8
	Imports	5	6	6	6	6	6	6	0.7	0.4
California Coast	Exports	3,236	5,972	7,057	7,565	8,818	10,113	10,997	6.8	2.9
	Imports	575	607	616	629	642	652	659	0.7	0.4
Alaska	Exports	a	a	a	a	a	a	a	4.2	3.2
	Imports	6	6	6	6	6	6	6	0.1	0.1
Hawaii and Pacific Territories	Exports	3	3	4	5	5	6	7	4.2	3.2
	Imports	2	2	2	2	3	3	3	0.6	0.4
Domestic Caribbean	Exports	17	20	23	29	34	40	43	4.1	3.2
	Imports	129	132	133	134	135	136	137	0.3	0.2
Total	Exports	104,059	144,181	167,253	167,772	194,753	218,462	235,956	3.7	2.7
	Imports	4,603	4,848	4,920	5,021	5,118	5,202	5,255	0.7	0.4

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: Farm Products
ALTERNATIVE: Low Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	11,558	17,540	20,314	19,271	22,702	25,338	26,682	4.0	2.5
Lower Upper Mississippi	30,632	39,791	46,056	43,727	51,481	57,401	60,433	2.8	2.5
Lower Mississippi	38,711	50,169	58,223	56,149	66,620	74,631	78,866	2.9	2.6
Baton Rouge to Gulf	39,145	50,639	58,746	56,851	67,363	75,427	79,688	2.9	2.6
Illinois River	14,982	17,030	19,892	18,537	22,087	24,736	25,847	1.7	2.6
Missouri River	1,229	1,628	1,755	1,761	1,870	1,984	2,163	2.8	1.6
Ohio River	5,965	6,921	7,804	7,759	8,913	9,801	10,237	2.0	2.2
Tennessee River	1,683	1,615	1,630	1,940	1,963	1,991	2,006	1.2	0.3
Arkansas River	1,040	1,207	1,335	1,470	1,694	1,861	1,987	2.7	2.3
Gulf Coast West	697	775	784	901	948	1,045	1,102	2.0	1.6
Gulf Coast East	1,323	1,354	1,363	1,272	1,311	1,358	1,386	-0.3	0.7
Warrior River System	1,162	1,853	2,101	2,492	2,961	3,300	3,446	6.0	2.5
Great Lakes	1,475	1,530	1,530	1,530	1,530	1,530	1,530	0.3	0.0

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Farm Products
ALTERNATIVE: Low Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	4,684	7,113	8,239	7,815	9,208	10,277	10,823	4.0	2.5
Lower Upper Mississippi	6,439	8,385	9,722	9,207	10,860	12,119	12,753	2.8	2.5
Lower Mississippi	24,495	31,801	36,961	35,387	41,992	47,051	49,714	2.9	2.6
Baton Rouge to Gulf	5,042	6,487	7,513	7,232	8,540	9,549	10,090	2.8	2.6
Illinois River	2,601	2,958	3,458	3,221	3,841	4,304	4,498	1.7	2.6
Missouri River	590	781	842	845	897	952	1,038	2.8	1.6
Ohio River	1,445	1,731	2,000	1,945	2,295	2,563	2,692	2.3	2.5
Tennessee River	608	609	610	680	684	690	694	0.9	0.2
Arkansas River	237	275	304	334	386	424	452	2.7	2.3
Gulf Coast West	122	136	136	155	161	176	184	1.9	1.3
Gulf Coast East	73	76	76	63	67	72	74	-1.1	1.2
Warrior River System	87	170	200	351	411	454	473	11.3	2.3
Great Lakes	1,278	1,318	1,318	1,318	1,318	1,318	1,318	0.2	0.0
Total	47,701	61,840	71,378	68,554	80,661	89,949	94,803	2.8	2.5

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Farm Products
ALTERNATIVE: High Use

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	11,547	17,334	20,075	19,912	24,441	28,051	29,726	4.3	3.1
	Received	43	44	44	45	45	46	46	0.3	0.3
Lower Upper Mississippi	Shipped	3,046	3,734	4,230	4,382	5,154	5,773	6,201	2.8	2.7
	Received	279	292	291	313	319	334	343	0.9	0.7
Lower Mississippi	Shipped	4,370	5,526	6,293	7,068	8,423	9,515	10,183	3.8	2.8
	Received	694	698	698	706	708	714	717	0.1	0.1
Baton Rouge to Gulf	Shipped	837	841	896	906	915	929	935	0.6	0.2
	Received	37,781	48,664	56,673	57,252	70,490	80,957	86,022	3.2	3.2
Illinois River	Shipped	14,941	16,800	19,629	19,248	24,014	27,738	29,217	2.0	3.3
	Received	154	155	155	155	155	156	156	0.0	0.0
Missouri River	Shipped	1,223	1,609	1,734	1,757	1,887	2,020	2,205	2.8	1.8
	Received	6	6	6	6	6	6	6	0.0	0.0
Ohio River	Shipped	4,292	5,233	6,091	6,163	7,606	8,736	9,251	2.8	3.2
	Received	197	202	201	208	211	216	218	0.4	0.4
Tennessee River	Shipped	218	157	173	181	210	232	242	-1.4	2.3
	Received	1,462	1,474	1,474	1,494	1,500	1,514	1,522	0.2	0.1
Arkansas River	Shipped	1,034	1,188	1,314	1,448	1,670	1,835	1,959	2.6	2.4
	Received	7	7	7	7	7	7	7	0.0	0.0
Gulf Coast West	Shipped	552	604	613	701	740	815	860	1.9	1.6
	Received	271	314	313	385	406	458	487	2.7	1.8
Gulf Coast East	Shipped	208	219	223	242	253	272	283	1.2	1.2
	Received	740	744	749	756	765	775	783	0.2	0.3
Warrior River System	Shipped	730	1,400	1,645	1,861	2,320	2,651	2,791	7.5	3.2
	Received	975	1,643	1,885	2,097	2,550	2,874	3,009	6.1	2.8
South Atlantic Coast	Shipped	107	111	116	122	130	140	147	1.0	1.4
	Received	9	11	12	14	17	20	22	3.3	3.6
Middle Atlantic Coast	Shipped	574	607	652	710	781	872	937	1.6	2.2
	Received	484	512	551	599	661	738	794	1.7	2.2

7/20/81

SEGMENT	IN/OUT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	6	7	8	9	11	13	15	3.3	3.6
	Received	2	2	3	3	4	5	5	3.3	3.6
Great Lakes and Seaway	Shipped	1,475	1,530	1,530	1,530	1,530	1,530	1,530	0.3	0.0
	Received	1,475	1,530	1,530	1,530	1,530	1,530	1,530	0.3	0.0
Washington/Oregon Coast	Shipped	65	72	81	92	107	125	139	2.8	3.2
	Received	2	3	3	4	4	5	6	3.3	3.3
Columbia-Snake Willamette River	Shipped	3,460	5,437	5,849	5,885	5,922	6,193	7,275	4.2	1.6
	Received	3,425	5,401	5,812	5,848	5,880	6,147	7,227	4.2	1.6
California Coast	Shipped	264	295	339	393	461	547	610	3.1	3.4
	Received	73	80	89	100	114	131	144	2.4	2.9
Alaska	Shipped	1	1	1	1	1	1	1	3.3	3.6
	Received	40	45	52	60	71	85	95	3.2	3.5
Hawaii and Pacific Territories	Shipped	389	438	506	591	698	833	931	3.3	3.6
	Received	520	582	667	774	908	1,078	1,201	3.1	3.4
Domestic Caribbean	Shipped	77	79	83	88	93	101	106	1.0	1.5
	Received	776	814	868	935	1,019	1,126	1,203	1.4	2.0
Total	Shipped	49,416	63,222	72,080	73,287	87,370	98,922	105,542	3.1	2.8
	Received	49,416	63,222	72,080	73,287	87,370	98,922	105,542	3.1	2.8

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Farm Products
ALTERNATIVE: High Use

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77 90	90 03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0 0	0 0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0 0	0 0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0 0	0 0
Baton Rouge to Gulf	Exports	43,064	53,500	62,675	63,341	78,585	90,557	96,191	3 0	3 3
	Imports	236	246	250	255	260	264	267	0 6	0 4
Illinois River	Exports	1,353	3,139	3,730	3,692	4,698	5,492	5,793	8 0	3 5
	Imports	3	3	3	3	3	3	3	0 6	0 4
Missouri River	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0 0	0 0
Ohio River	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0 0	0 0
Tennessee River	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0 0	0 0
Arkansas River	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0 0	0 0
Gulf Coast West	Exports	20,738	29,153	33,101	35,821	39,879	44,615	49,952	4 3	2 6
	Imports	313	327	332	339	345	351	355	0 6	0 4
Gulf Coast East	Exports	2,751	2,618	3,126	3,383	4,148	4,860	5,223	1 6	3 4
	Imports	709	739	751	766	782	795	803	0 6	0 4
Warrior River System	Exports	1,317	2,825	3,369	3,880	4,861	5,650	5,999	8 2	3 4
	Imports	67	70	71	72	74	75	76	0 6	0 4
South Atlantic Coast	Exports	691	986	1,174	1,327	1,614	1,879	2,022	5 1	3 3
	Imports	441	460	467	477	486	494	499	0 6	0 4
Middle Atlantic Coast	Exports	13,055	16,550	19,585	19,445	24,409	28,449	30,199	3 1	3 4
	Imports	1,944	2,027	2,058	2,102	2,143	2,179	2,202	0 6	0 4

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	76	86	104	129	152	178	195	4.1	3.2
	Imports	22	23	23	23	24	24	25	0.6	0.4
Great Lakes and Seaway	Exports	9,610	13,844	15,957	16,577	19,459	22,104	24,115	4.3	2.9
	Imports	135	139	141	143	145	147	148	0.4	0.3
Washington/Oregon Coast	Exports	1,626	5,639	6,694	6,519	8,176	9,581	10,207	11.3	3.5
	Imports	16	16	17	17	17	18	18	0.6	0.4
Columbia-Snake-Willamette River	Exports	6,521	10,099	10,950	11,139	11,341	11,965	13,991	4.2	1.8
	Imports	5	5	6	6	6	6	6	0.6	0.4
California Coast	Exports	3,236	5,902	6,974	7,646	9,108	10,584	11,526	6.8	3.2
	Imports	575	600	609	622	634	645	651	0.6	0.4
Alaska	Exports	a	a	a	a	a	a	a	4.1	3.2
	Imports	6	6	6	6	6	6	6	0.1	0.1
Hawaii and Pacific Territories	Exports	3	3	4	4	5	6	7	4.1	3.2
	Imports	2	2	2	2	3	3	3	0.6	0.4
Domestic Caribbean	Exports	17	19	23	29	34	39	43	4.0	3.2
	Imports	129	132	133	134	135	136	137	0.3	0.2
Total	Exports	104,059	144,365	167,466	172,933	206,468	235,960	255,463	4.0	3.0
	Imports	4,603	4,796	4,867	4,968	5,064	5,146	5,199	0.6	0.4

a = less than 500 tons

7/20/R1

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: Farm Products
ALTERNATIVE: High Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	11,558	17,345	20,086	19,923	24,452	28,062	29,736	4.3	3.1
Lower Upper Mississippi	30,632	39,351	45,542	45,171	55,369	63,453	67,219	3.0	3.1
Lower Mississippi	38,711	49,590	57,550	57,671	70,876	81,313	86,366	3.1	3.2
Baton Rouge to Gulf	39,145	50,048	58,061	58,367	71,620	82,114	87,196	3.1	3.1
Illinois River	14,982	16,841	19,670	19,289	24,055	27,779	29,258	2.0	3.3
Missouri River	1,229	1,615	1,740	1,763	1,894	2,027	2,211	2.8	1.8
Ohio River	5,965	6,860	7,733	7,929	9,380	10,529	11,054	2.2	2.6
Tennessee River	1,663	1,614	1,629	1,947	1,982	2,018	2,036	1.2	0.3
Arkansas River	1,040	1,195	1,321	1,454	1,677	1,842	1,966	2.6	2.3
Gulf Coast West	697	767	775	892	939	1,035	1,092	1.9	1.6
Gulf Coast East	1,323	1,340	1,349	1,270	1,319	1,372	1,402	-0.3	0.8
Warrior River System	1,162	1,833	2,079	2,489	2,978	3,332	3,482	6.0	2.6
Great Lakes	1,475	1,530	1,530	1,530	1,530	1,530	1,530	0.3	0.0

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Farm Products
ALTERNATIVE: High Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	4,684	7,033	8,146	8,079	9,918	11,383	12,063	4.3	3.1
Lower Upper Mississippi	6,439	8,291	9,613	9,520	11,699	13,424	14,217	3.1	3.1
Lower Mississippi	24,495	31,432	36,532	36,416	44,839	51,509	54,717	3.1	3.2
Baton Rouge to Gulf	5,042	6,412	7,426	7,423	9,077	10,393	11,038	3.0	3.1
Illinois River	2,601	2,925	3,419	3,352	4,184	4,834	5,093	2.0	3.3
Missouri River	590	775	835	846	909	972	1,061	2.8	1.8
Ohio River	1,445	1,713	1,978	1,999	2,443	2,794	2,952	2.5	3.0
Tennessee River	608	609	610	682	687	695	699	0.9	0.2
Arkansas River	237	272	301	331	382	419	447	2.6	2.3
Gulf Coast West	122	134	134	154	160	174	182	1.8	1.3
Gulf Coast East	73	75	75	63	68	73	76	-1.1	1.4
Warrior River System	87	168	198	352	416	463	482	11.3	2.5
Great Lakes	1,278	1,318	1,318	1,318	1,318	1,318	1,318	0.2	0.0
Total	47,701	61,157	70,584	70,534	86,100	98,453	104,344	3.1	3.1

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Farm Products
ALTERNATIVE: Bad Energy

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	11,547	17,969	23,604	26,379	26,858	26,808	34,075	6.6	2.0
	Received	43	44	44	45	45	46	46	0.3	0.3
Lower Upper Mississippi	Shipped	3,046	3,827	4,645	4,940	5,354	4,566	6,089	3.8	1.6
	Received	279	292	291	313	319	334	343	0.9	0.7
Lower Mississippi	Shipped	4,370	5,614	6,099	5,963	7,639	5,019	8,475	2.4	2.7
	Received	694	698	698	706	708	714	717	0.1	0.1
Baton Rouge to Gulf	Shipped	837	841	896	906	915	929	935	0.6	0.2
	Received	37,781	50,372	65,097	71,553	75,246	71,026	94,248	5.0	2.1
Illinois River	Shipped	14,941	17,469	23,286	26,095	26,445	26,954	34,512	4.4	2.2
	Received	154	155	155	155	155	156	156	0.0	0.0
Missouri River	Shipped	1,223	1,633	1,963	2,147	2,134	1,969	2,119	4.4	-0.1
	Received	6	6	6	6	6	6	6	0.0	0.0
Ohio River	Shipped	4,292	5,414	6,932	7,563	8,025	7,510	10,095	4.5	2.2
	Received	197	202	201	208	211	216	218	0.4	0.4
Tennessee River	Shipped	218	160	178	178	202	171	237	-1.5	2.2
	Received	1,462	1,474	1,474	1,494	1,500	1,514	1,522	0.2	0.1
Arkansas River	Shipped	1,034	1,204	1,256	1,193	1,506	972	1,606	1.1	2.3
	Received	7	7	7	7	7	7	7	0.0	0.0
Gulf Coast West	Shipped	552	604	613	701	740	815	860	1.9	1.6
	Received	271	314	313	385	406	458	487	2.7	1.8
Gulf Coast East	Shipped	208	219	223	242	253	272	283	1.2	1.2
	Received	740	744	749	756	765	775	783	0.2	0.3
Warrior River System	Shipped	730	1,423	1,521	1,412	1,980	1,215	2,336	5.2	4.0
	Received	975	1,666	1,760	1,648	2,210	1,438	2,555	4.1	3.4
South Atlantic Coast	Shipped	107	111	116	122	130	140	147	1.0	1.4
	Received	9	11	12	14	17	20	22	3.3	3.6
Middle Atlantic Coast	Shipped	574	607	652	710	781	872	937	1.6	2.2
	Received	484	512	551	599	661	738	794	1.7	2.2

7/20/81

SEGMENT	IN/OUT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
North Atlantic Coast	Shipped	6	7	8	9	11	13	15	3.3	3.6
	Received	2	2	3	3	4	5	5	3.3	3.6
Great Lakes and Seaway	Shipped	1,475	1,530	1,530	1,530	1,530	1,530	1,530	0.3	0.0
	Received	1,475	1,530	1,530	1,530	1,530	1,530	1,530	0.3	0.0
Washington/Oregon Coast	Shipped	65	72	81	92	107	125	139	2.8	3.2
	Received	2	3	3	4	4	5	6	3.3	3.3
Columbia-Snake Willamette River	Shipped	3,460	5,512	7,218	8,321	7,749	7,037	6,292	7.0	-2.1
	Received	3,425	5,476	7,180	8,282	7,707	6,991	6,244	7.0	-2.1
California Coast	Shipped	264	295	339	393	461	547	610	3.1	3.4
	Received	73	80	89	100	114	131	144	2.4	2.9
Alaska	Shipped	1	1	1	1	1	1	1	3.2	3.6
	Received	40	45	52	60	71	85	95	3.2	3.5
Hawaii and Pacific Territories	Shipped	389	438	506	591	698	833	931	3.3	3.6
	Received	520	582	667	774	908	1,078	1,201	3.1	3.4
Domestic Caribbean	Shipped	77	79	83	88	93	101	106	1.0	1.5
	Received	776	814	868	935	1,019	1,126	1,203	1.4	2.0
Total	Shipped	49,416	65,028	81,748	89,575	93,613	88,399	112,331	4.7	1.8
	Received	49,416	65,028	81,748	89,575	93,613	88,399	112,331	4.7	1.8

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Farm Products
ALTERNATIVE: Bad Energy

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	43,064	55,431	72,005	79,150	83,639	79,018	105,727	4.8	2.3
	Imports	236	246	250	255	260	264	267	0.6	0.4
Illinois River	Exports	1,353	3,273	4,434	4,986	5,130	5,161	6,789	10.6	2.4
	Imports	3	3	3	3	3	3	3	0.6	0.4
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	20,738	29,564	37,993	44,548	45,641	46,283	48,531	6.1	0.7
	Imports	313	327	332	339	345	351	355	0.6	0.4
Gulf Coast East	Exports	2,751	2,688	3,544	4,178	4,451	4,871	5,804	3.3	2.6
	Imports	709	739	751	766	782	795	803	0.6	0.4
Warrior River System	Exports	1,317	2,879	3,186	3,100	4,250	2,813	5,130	6.8	4.0
	Imports	67	70	71	72	74	75	76	0.6	0.4
South Atlantic Coast	Exports	691	1,005	1,239	1,420	1,622	1,675	2,088	5.7	3.0
	Imports	441	460	467	477	486	494	499	0.6	0.4
Middle Atlantic Coast	Exports	13,055	17,219	23,471	26,701	27,141	27,769	35,252	5.7	2.2
	Imports	1,944	2,027	2,058	2,102	2,143	2,179	2,202	0.6	0.4

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	76	86	104	129	152	178	195	4.1	3.2
	Imports	22	23	23	23	24	24	25	0.6	0.4
Great Lakes and Seaway	Exports	9,610	14,202	18,528	21,124	21,740	21,411	25,167	6.2	1.4
	Imports	135	139	141	143	145	147	148	0.4	0.3
Washington/Oregon Coast	Exports	1,626	5,882	8,369	9,820	9,577	10,471	12,514	14.8	1.9
	Imports	16	16	17	17	17	18	18	0.6	0.4
Columbia-Snake Willamette River	Exports	6,521	10,233	13,394	15,489	14,603	13,472	12,235	6.9	-1.8
	Imports	5	5	6	6	6	6	6	0.6	0.4
California Coast	Exports	3,236	6,026	7,940	9,516	10,004	11,113	12,484	8.7	2.1
	Imports	575	600	609	622	634	645	651	0.6	0.4
Alaska	Exports	a	a	a	a	a	a	a	4.1	3.2
	Imports	6	6	6	6	6	6	6	0.1	0.1
Hawaii and Pacific Territories	Exports	3	3	4	4	5	6	7	4.1	3.2
	Imports	2	2	2	2	3	3	3	0.6	0.4
Domestic Caribbean	Exports	17	19	23	29	34	39	43	4.0	3.2
	Imports	129	132	133	134	135	136	137	0.3	0.2
Total	Exports	104,059	148,510	194,233	220,193	227,990	224,279	271,965	5.9	1.6
	Imports	4,603	4,796	4,867	4,968	5,064	5,146	5,199	0.6	0.4

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Farm Products
ALTERNATIVE: Bad Energy

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	11,558	17,980	23,615	26,390	26,869	26,819	34,086	6.6	2.0
Lower Upper Mississippi	30,632	40,771	53,373	59,433	60,663	60,169	76,666	5.2	2.0
Lower Mississippi	38,711	51,298	65,973	71,974	75,641	71,443	94,597	4.9	2.1
Baton Rouge to Gulf	39,145	51,755	66,485	72,668	76,376	72,183	95,422	4.9	2.1
Illinois River	14,982	17,510	23,327	26,136	26,486	26,995	34,553	4.4	2.2
Missouri River	1,229	1,639	1,969	2,153	2,141	1,975	2,125	4.4	-0.1
Ohio River	5,965	7,044	8,578	9,329	9,799	9,303	11,899	3.5	1.9
Tennessee River	1,663	1,616	1,632	1,945	1,974	1,957	2,031	1.2	0.3
Arkansas River	1,040	1,210	1,262	1,200	1,513	979	1,613	1.1	2.3
Gulf Coast West	697	767	775	892	939	1,035	1,092	1.9	1.6
Gulf Coast East	1,323	1,340	1,349	1,268	1,311	1,311	1,398	-0.3	0.8
Warrior River System	1,162	1,857	1,955	2,038	2,630	1,835	3,024	4.4	3.1
Great Lakes	1,475	1,530	1,530	1,530	1,530	1,530	1,530	0.3	0.0

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Farm Products
ALTERNATIVE: Bad Energy

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	4,684	7,291	9,579	10,705	10,899	10,879	13,829	6.6	2.0
Lower Upper Mississippi	6,439	8,596	11,293	12,590	12,836	12,771	16,285	5.3	2.0
Lower Mississippi	24,495	32,545	42,232	46,319	48,280	46,228	60,657	5.0	2.1
Baton Rouge to Gulf	5,042	6,627	8,512	9,283	9,716	9,233	12,098	4.8	2.1
Illinois River	2,601	3,042	4,057	4,548	4,609	4,698	6,017	4.4	2.2
Missouri River	590	786	945	1,033	1,027	948	1,020	4.4	-0.1
Ohio River	1,445	1,770	2 257	2,478	2,597	2,483	3,255	4.2	2.1
Tennessee River	608	609	609	679	685	685	696	0.9	0.2
Arkansas River	237	275	287	273	344	223	367	1.1	2.3
Gulf Coast West	122	134	134	154	160	174	182	1.8	1.3
Gulf Coast East	73	75	75	63	67	65	75	-1.1	1.3
Warrior River System	87	171	182	296	372	268	425	9.8	2.8
Great Lakes	1,278	1,318	1,318	1,318	1,318	1,318	1,318	0.2	0.0
Total	47,701	63,240	81,482	89,737	92,909	89,971	116,223	5.0	2.0

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Farm Products
ALTERNATIVE: Defense

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	11,547	17,334	20,075	17,853	24,441	28,051	29,726	3.4	4.0
	Received	43	44	44	39	45	46	46	-0.8	1.4
Lower Upper Mississippi	Shipped	3,046	3,734	4,230	3,762	5,154	5,773	6,201	1.6	3.9
	Received	279	292	291	259	319	334	343	-0.6	2.2
Lower Mississippi	Shipped	4,370	5,526	6,293	5,596	8,423	9,515	10,183	1.9	4.7
	Received	694	698	698	621	708	714	717	-0.9	1.1
Baton Rouge to Gulf	Shipped	837	841	896	806	915	929	935	0.3	1.2
	Received	37,781	48,664	56,673	50,408	70,490	80,957	86,022	2.2	4.2
Illinois River	Shipped	14,941	16,800	19,629	17,456	24,014	27,738	29,217	1.2	4.0
	Received	154	155	155	138	155	156	156	-0.9	1.0
Missouri River	Shipped	1,223	1,609	1,734	1,542	1,887	2,020	2,205	1.8	2.8
	Received	6	6	6	6	6	6	6	-0.9	0.9
Ohio River	Shipped	4,292	5,233	6,091	5,416	7,606	8,736	9,251	1.8	4.2
	Received	197	202	201	179	211	216	218	-0.7	1.5
Tennessee River	Shipped	218	157	173	153	210	232	242	-2.7	3.6
	Received	1,462	1,474	1,474	1,311	1,500	1,514	1,522	-0.8	1.2
Arkansas River	Shipped	1,034	1,188	1,314	1,169	1,670	1,835	1,959	0.9	4.1
	Received	7	7	7	6	7	7	7	-0.9	0.9
Gulf Coast West	Shipped	552	604	613	546	740	815	860	-0.1	3.6
	Received	271	314	313	278	406	458	487	0.2	4.4
Gulf Coast East	Shipped	208	219	223	198	253	272	283	-0.4	2.8
	Received	740	744	749	666	765	775	783	-0.8	1.2
Warrior River System	Shipped	730	1,400	1,645	1,463	2,320	2,651	2,791	5.5	5.1
	Received	975	1,643	1,885	1,676	2,550	2,874	3,009	4.3	4.6
South Atlantic Coast	Shipped	107	111	116	103	130	140	147	-0.3	2.8
	Received	9	11	12	11	17	20	22	1.1	5.8
Middle Atlantic Coast	Shipped	574	607	652	580	781	872	937	0.1	3.8
	Received	484	512	551	490	661	738	794	0.1	3.8

7/20/91

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	6	7	8	7	11	13	15	1.1	5.8
	Received	2	2	3	3	4	5	5	1.1	5.8
Great Lakes and Seaway	Shipped	1,475	1,530	1,530	1,360	1,530	1,530	1,530	-0.6	0.9
	Received	1,475	1,530	1,530	1,360	1,530	1,530	1,530	-0.6	0.9
Washington/Oregon Coast	Shipped	65	72	81	72	107	125	139	0.8	5.2
	Received	2	3	3	3	4	5	6	1.0	5.7
Columbia-Snake Willamette River	Shipped	3,460	5,437	5,849	5,202	5,922	6,193	7,275	3.2	2.6
	Received	3,425	5,401	5,812	5,168	5,880	6,147	7,227	3.2	2.6
California Coast	Shipped	264	295	339	301	461	547	610	1.0	5.6
	Received	73	80	89	79	114	131	144	0.6	4.8
Alaska	Shipped	1	1	1	1	1	1	1	1.1	5.8
	Received	40	45	52	46	71	85	95	1.1	5.7
Hawaii and Pacific Territories	Shipped	389	438	506	450	698	833	931	1.1	5.8
	Received	520	582	667	593	908	1,078	1,201	1.0	5.6
Domestic Caribbean	Shipped	77	79	83	74	93	101	106	-0.3	2.9
	Received	776	814	868	772	1,019	1,126	1,203	0.0	3.5
Total	Shipped	49,416	63,222	72,080	64,109	87,370	98,922	105,542	2.0	3.9
	Received	49,416	63,222	72,080	64,109	87,370	98,922	105,542	2.0	3.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Farm Products
ALTERNATIVE: Defense

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	43,064	53,500	62,675	55,736	78,585	90,557	96,191	2.0	4.3
	Imports	236	246	250	179	260	264	267	-2.1	3.1
Illinois River	Exports	1,353	3,139	3,730	3,317	4,698	5,492	5,793	7.1	4.4
	Imports	3	3	3	2	3	3	3	-2.1	3.1
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	20,738	29,153	33,101	29,436	39,879	44,615	49,952	2.7	4.2
	Imports	313	327	332	238	345	351	355	-2.1	3.1
Gulf Coast East	Exports	2,751	2,618	3,126	2,780	4,148	4,860	5,223	0.1	5.0
	Imports	709	739	751	538	782	795	803	-2.1	3.1
Warrior River System	Exports	1,317	2,825	3,369	2,996	4,861	5,650	5,999	6.5	5.5
	Imports	67	70	71	51	74	75	76	-2.1	3.1
South Atlantic Coast	Exports	691	986	1,174	1,044	1,614	1,879	2,022	3.2	5.2
	Imports	441	460	467	335	486	494	499	-2.1	3.1
Middle Atlantic Coast	Exports	13,055	16,550	19,585	17,418	24,409	28,449	30,199	2.2	4.3
	Imports	1,944	2,027	2,058	1,475	2,143	2,179	2,202	-2.1	3.1

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SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
North Atlantic Coast	Exports	76	86	104	92	152	178	195	1.5	5.9
	Imports	22	23	23	16	24	24	25	-2.1	3.1
Great Lakes and Seaway	Exports	9,610	13,844	15,957	14,190	19,459	22,104	24,115	3.0	4.2
	Imports	133	139	141	101	145	147	148	-2.2	3.0
Washington/Oregon Coast	Exports	1,626	5,639	6,694	5,953	8,176	9,581	10,207	10.5	4.2
	Imports	16	16	17	12	17	18	18	-2.1	3.1
Columbia-Snake Willamette River	Exports	6,521	10,099	10,950	9,718	11,341	11,965	13,991	3.1	2.8
	Imports	5	5	6	4	6	6	6	-2.1	3.1
California Coast	Exports	3,236	5,902	6,974	6,202	9,108	10,584	11,526	5.1	4.9
	Imports	575	600	609	437	634	645	651	-2.1	3.1
Alaska	Exports	a	a	a	a	a	a	a	1.5	5.9
	Imports	6	6	6	5	6	6	6	-2.5	2.7
Hawaii and Pacific Territories	Exports	3	3	4	3	5	6	7	1.5	5.9
	Imports	2	2	2	2	3	3	3	-2.1	3.1
Domestic Caribbean	Exports	17	19	23	21	34	39	43	1.4	5.8
	Imports	129	132	133	95	135	136	137	-2.3	2.9
Total	Exports	104,059	144,365	167,466	148,925	206,468	235,960	255,463	2.8	4.2
	Imports	4,603	4,796	4,867	3,490	5,064	5,146	5,199	-2.1	3.1

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: Farm Products
ALTERNATIVE: Defense

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	11,558	17,345	20,086	17,863	24,452	28,062	29,736	3.4	4.0
Lower Upper Mississippi	30,632	39,351	45,542	40,500	55,369	63,453	67,219	2.2	4.0
Lower Mississippi	38,711	49,590	57,550	50,787	70,878	81,313	86,366	2.1	4.2
Baton Rouge to Gulf	39,145	50,048	58,061	51,371	71,620	82,114	87,196	2.1	4.2
Illinois River	14,982	16,841	19,670	17,492	24,055	27,779	29,258	1.2	4.0
Missouri River	1,229	1,615	1,740	1,547	1,894	2,027	2,211	1.8	2.8
Ohio River	5,985	6,860	7,733	6,963	9,380	10,529	11,054	1.2	3.6
Tennessee River	1,663	1,614	1,629	1,707	1,982	2,018	2,036	0.2	1.4
Arkansas River	1,040	1,195	1,321	1,175	1,677	1,842	1,966	0.9	4.0
Gulf Coast West	697	767	775	690	939	1,035	1,092	-0.1	3.6
Gulf Coast East	1,323	1,340	1,349	1,097	1,319	1,372	1,402	-1.4	1.9
Warrior River System	1,162	1,833	2,079	2,013	2,978	3,332	3,482	4.3	4.3
Great Lakes	1,475	1,530	1,530	1,360	1,530	1,530	1,530	-0.6	0.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Farm Products
ALTERNATIVE: Defense

SEGMENT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	4,684	7,033	8,146	7,244	9,918	11,383	12,063	3.4	4.0
Lower Upper Mississippi	6,439	8,291	9,613	8,549	11,699	13,424	14,217	2.2	4.0
Lower Mississippi	24,495	31,432	38,532	32,228	44,839	51,509	54,717	2.1	4.2
Baton Rouge to Gulf	5,042	6,412	7,426	6,542	9,077	10,393	11,038	2.0	4.1
Illinois River	2,601	2,925	3,419	3,041	4,184	4,834	5,093	1.2	4.0
Missouri River	590	775	835	742	909	972	1,061	1.8	2.8
Ohio River	1,445	1,713	1,978	1,765	2,443	2,794	2,952	1.6	4.0
Tennessee River	608	609	610	598	687	695	699	-0.1	1.2
Arkansas River	237	272	301	267	382	419	447	0.9	4.0
Gulf Coast West	122	134	134	119	160	174	182	-0.2	3.3
Gulf Coast East	73	75	75	53	68	73	76	-2.5	2.8
Warrior River System	87	168	198	287	416	463	482	9.6	4.1
Great Lakes	1,278	1,318	1,318	1,172	1,318	1,318	1,318	-0.7	0.9
Total	47,701	61,157	70,584	62,607	86,100	98,453	104,344	2.1	4.0

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Farm Products
ALTERNATIVE: High Coal Export

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	11,547	17,334	20,075	19,912	24,441	28,051	29,726	4.3	3.1
	Received	43	44	44	45	45	46	46	0.3	0.3
Lower Upper Mississippi	Shipped	3,046	3,734	4,230	4,382	5,154	5,773	6,201	2.8	2.7
	Received	279	292	291	313	319	334	343	0.9	0.7
Lower Mississippi	Shipped	4,370	5,526	6,293	7,068	8,423	9,515	10,183	3.8	2.8
	Received	694	698	698	706	708	714	717	0.1	0.1
Baton Rouge to Gulf	Shipped	837	841	896	906	915	929	935	0.6	0.2
	Received	37,781	48,664	56,673	57,252	70,490	80,957	86,022	3.2	3.2
Illinois River	Shipped	14,941	16,800	19,629	19,248	24,014	27,738	29,217	2.0	3.3
	Received	154	155	155	155	155	156	156	0.0	0.0
Missouri River	Shipped	1,223	1,609	1,734	1,757	1,887	2,020	2,205	2.8	1.8
	Received	6	6	6	6	6	6	6	0.0	0.0
Ohio River	Shipped	4,292	5,233	6,091	6,163	7,606	8,736	9,251	2.8	3.2
	Received	197	202	207	208	211	216	218	0.4	0.4
Tennessee River	Shipped	218	157	173	181	210	232	242	-1.4	2.3
	Received	1,462	1,474	1,474	1,494	1,500	1,514	1,522	0.2	0.1
Arkansas River	Shipped	1,034	1,188	1,314	1,448	1,670	1,835	1,959	2.6	2.4
	Received	7	7	7	7	7	7	7	0.0	0.0
Gulf Coast West	Shipped	552	604	613	701	740	815	860	1.9	1.6
	Received	271	314	313	385	406	458	487	2.7	1.8
Gulf Coast East	Shipped	208	219	223	242	253	272	283	1.2	1.2
	Received	740	744	749	756	765	775	783	0.2	0.3
Warrior River System	Shipped	730	1,400	1,645	1,861	2,320	2,651	2,791	7.5	3.2
	Received	975	1,643	1,885	2,097	2,550	2,874	3,009	6.1	2.8
South Atlantic Coast	Shipped	107	111	116	122	130	140	147	1.0	1.4
	Received	9	11	12	14	17	20	22	3.3	3.6
Middle Atlantic Coast	Shipped	574	607	652	710	781	872	937	1.6	2.2
	Received	484	512	551	599	661	738	794	1.7	2.2

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SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	6	7	8	9	11	13	15	3.3	3.6
	Received	2	2	3	3	4	5	5	3.3	3.6
Great Lakes and Seaway	Shipped	1,475	1,530	1,530	1,530	1,530	1,530	1,530	0.3	0.0
	Received	1,475	1,530	1,530	1,530	1,530	1,530	1,530	0.3	0.0
Washington/Oregon Coast	Shipped	65	72	81	92	107	125	139	2.8	3.2
	Received	2	3	3	4	4	5	6	3.3	3.3
Columbia-Snake Willamette River	Shipped	3,460	5,437	5,849	5,885	5,922	6,193	7,275	4.2	1.6
	Received	3,425	5,401	5,812	5,846	5,880	6,147	7,227	4.2	1.6
California Coast	Shipped	264	295	339	393	461	547	610	3.1	3.4
	Received	73	80	89	100	114	131	144	2.4	2.9
Alaska	Shipped	1	1	1	1	1	1	1	3.3	3.6
	Received	40	45	52	60	71	85	95	3.2	3.5
Hawaii and Pacific Territories	Shipped	389	438	506	591	698	833	931	3.3	3.6
	Received	520	582	667	774	908	1,078	1,201	3.1	3.4
Domestic Caribbean	Shipped	77	79	83	88	93	101	106	1.0	1.5
	Received	776	814	868	935	1,019	1,126	1,203	1.4	2.0
Total	Shipped	49,416	63,222	72,080	73,287	87,370	98,922	105,542	3.1	2.8
	Received	49,416	63,222	72,080	73,287	87,370	98,922	105,542	3.1	2.8

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Farm Products
ALTERNATIVE: High Coal Export

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	43,064	53,500	62,675	63,341	78,585	90,557	96,191	3.0	3.3
	Imports	236	246	250	255	260	264	267	0.6	0.4
Illinois River	Exports	1,353	3,139	3,730	3,692	4,698	5,492	5,793	8.0	3.5
	Imports	3	3	3	3	3	3	3	0.6	0.4
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	20,738	29,153	33,101	35,821	39,879	44,615	49,952	4.3	2.6
	Imports	313	327	332	339	345	351	355	0.6	0.4
Gulf Coast East	Exports	2,751	2,618	3,126	3,383	4,148	4,860	5,223	1.6	3.4
	Imports	709	739	751	766	782	795	803	0.6	0.4
Warrior River System	Exports	1,317	2,825	3,369	3,880	4,861	5,650	5,999	8.7	3.4
	Imports	67	70	71	72	74	75	76	0.6	0.4
South Atlantic Coast	Exports	691	986	1,174	1,327	1,614	1,879	2,022	5.1	3.3
	Imports	441	460	467	477	486	494	499	0.6	0.4
Middle Atlantic Coast	Exports	13,055	16,550	19,585	19,445	24,409	28,449	30,139	3.1	3.4
	Imports	1,944	2,027	2,058	2,102	2,143	2,179	2,202	0.6	0.4

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	76	86	104	129	152	178	195	4.1	3.2
	Imports	22	23	23	23	24	24	25	0.6	0.4
Great Lakes and Seaway	Exports	9,610	13,844	15,957	16,577	19,459	22,104	24,115	4.3	2.9
	Imports	135	139	141	143	145	147	148	0.4	0.3
Washington/Oregon Coast	Exports	1,626	5,639	6,694	6,519	8,176	9,581	10,207	11.3	3.5
	Imports	16	16	17	17	17	18	18	0.6	0.4
Columbia-Snake Willamette River	Exports	6,521	10,099	10,950	11,139	11,341	11,965	13,991	4.2	1.8
	Imports	5	5	6	6	6	6	6	0.6	0.4
California Coast	Exports	3,236	5,902	6,974	7,646	9,108	10,584	11,526	6.8	3.2
	Imports	575	600	609	622	634	645	651	0.6	0.4
Alaska	Exports	a	a	a	a	a	a	a	4.1	3.2
	Imports	6	6	6	6	6	6	6	0.1	0.1
Hawaii and Pacific Territories	Exports	3	3	4	4	5	6	7	4.1	3.2
	Imports	2	2	2	2	3	3	3	0.6	0.4
Domestic Caribbean	Exports	17	19	23	29	34	39	43	4.0	3.2
	Imports	129	132	133	134	135	136	137	0.3	0.2
Total	Exports	104,059	144,365	167,466	172,933	206,468	235,960	255,463	4.0	3.0
	Imports	4,603	4,796	4,867	4,968	5,064	5,146	5,199	0.6	0.4

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: Farm Products
ALTERNATIVE: High Coal Export

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	11,558	17,345	20,086	19,923	24,452	28,062	29,736	4.3	3.1
Lower Upper Mississippi	30,632	39,351	45,542	45,171	55,369	63,453	67,219	3.0	3.1
Lower Mississippi	38,711	49,590	57,550	57,671	70,876	81,313	86,366	3.1	3.2
Baton Rouge to Gulf	39,145	50,048	58,061	58,367	71,620	82,114	87,196	3.1	3.1
Illinois River	14,982	16,841	19,670	19,289	24,055	27,779	29,258	2.0	3.3
Missouri River	1,229	1,615	1,740	1,763	1,894	2,027	2,211	2.8	1.8
Ohio River	5,965	6,860	7,733	7,929	9,380	10,529	11,054	2.2	2.6
Tennessee River	1,663	1,614	1,629	1,947	1,982	2,018	2,036	1.2	0.3
Arkansas River	1,040	1,195	1,321	1,454	1,677	1,842	1,966	2.6	2.3
Gulf Coast West	697	787	775	892	939	1,035	1,092	1.9	1.6
Gulf Coast East	1,323	1,340	1,349	1,270	1,319	1,372	1,402	-0.3	0.8
Warrior River System	1,162	1,833	2,079	2,489	2,978	3,332	3,482	6.0	2.6
Great Lakes	1,475	1,530	1,530	1,530	1,530	1,530	1,530	0.3	0.0

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Farm Products
ALTERNATIVE: High Coal Export

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	4,684	7,033	8,146	8,079	9,918	11,383	12,063	4.3	3.1
Lower Upper Mississippi	6,439	8,291	9,613	9,520	11,699	13,424	14,217	3.1	3.1
Lower Mississippi	24,495	31,432	36,532	36,416	44,839	51,509	54,717	3.1	3.2
Baton Rouge to Gulf	5,042	6,412	7,426	7,423	9,077	10,393	11,038	3.0	3.1
Illinois River	2,601	2,925	3,419	3,352	4,184	4,834	5,093	2.0	3.3
Missouri River	590	775	835	846	909	972	1,061	2.8	1.8
Ohio River	1,445	1,713	1,978	1,999	2,443	2,794	2,952	2.5	3.0
Tennessee River	608	609	610	682	687	695	699	0.9	0.2
Arkansas River	237	272	301	331	382	419	447	2.6	2.3
Gulf Coast West	122	134	134	154	160	174	182	1.8	1.3
Gulf Coast East	*73*	*75*	*75*	*63*	*68*	*73*	76	-1.1	1.4
Warrior River System	87	168	198	352	416	463	482	11.3	2.5
Great Lakes	1,278	1,318	1,318	1,318	1,318	1,318	1,318	0.2	0.0
Total	47,701	61,157	70,584	70,534	86,100	98,453	104,344	3.1	3.1

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Farm Products
ALTERNATIVE: Misc. Sensitivity

SEGMENT	IN/OUT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Shipped	11,594	17,382	20,124	19,963	24,493	28,104	29,780	4.3	3.1
	Received	43	44	44	45	45	46	46	0.3	0.3
Lower Upper Mississippi	Shipped	3,057	3,745	4,240	4,392	5,165	5,783	6,212	2.8	2.7
	Received	279	292	291	313	319	334	343	0.9	0.7
Lower Mississippi	Shipped	4,371	5,527	6,294	7,069	8,424	9,516	10,184	3.8	2.8
	Received	700	704	709	722	729	743	753	0.2	0.3
Baton Rouge to Gulf	Shipped	838	842	897	907	917	931	938	0.6	0.3
	Received	38,201	49,158	57,419	58,166	71,814	82,783	88,278	3.3	3.3
Illinois River	Shipped	14,981	16,840	19,669	19,289	24,055	27,780	29,259	2.0	3.3
	Received	155	155	155	155	156	156	156	0.0	0.0
Missouri River	Shipped	1,263	1,648	1,773	1,797	1,927	2,061	2,245	2.8	1.7
	Received	6	6	6	6	6	6	6	0.0	0.0
Ohio River	Shipped	4,721	5,757	6,700	6,779	8,367	9,610	10,176	2.8	3.2
	Received	217	222	222	230	232	238	241	0.4	0.4
Tennessee River	Shipped	238	171	188	197	229	253	264	-1.5	2.3
	Received	1,607	1,619	1,631	1,663	1,681	1,714	1,737	0.3	0.3
Arkansas River	Shipped	1,042	1,179	1,493	1,805	2,310	2,893	3,422	4.3	5.0
	Received	7	7	8	8	9	11	12	1.7	2.6
Gulf Coast West	Shipped	552	604	613	701	740	815	860	1.9	1.6
	Received	271	315	313	388	408	461	491	2.8	1.9
Gulf Coast East	Shipped	208	219	223	242	253	272	283	1.2	1.2
	Received	745	749	756	764	774	787	797	0.2	0.3
Warrior River System	Shipped	730	1,400	1,645	1,861	2,320	2,651	2,791	7.5	3.2
	Received	975	1,644	1,886	2,100	2,554	2,881	3,017	6.1	2.8
South Atlantic Coast	Shipped	107	111	116	122	130	140	147	1.0	1.4
	Received	9	11	12	14	17	20	22	3.3	3.6
Middle Atlantic Coast	Shipped	574	607	652	710	781	872	937	1.6	2.2
	Received	484	512	551	599	661	738	794	1.7	2.2

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SEGMENT	IN/OUT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
North Atlantic Coast	Shipped	6	7	8	9	11	13	15	3.3	3.6
	Received	2	2	3	3	4	5	5	3.3	3.6
Great Lakes and Seaway	Shipped	1,475	1,530	1,530	1,530	1,530	1,530	1,530	0.3	0.0
	Received	1,475	1,530	1,530	1,530	1,530	1,530	1,530	0.3	0.0
Washington/Oregon Coast	Shipped	65	72	81	92	107	125	139	2.8	3.2
	Received	2	3	3	4	4	5	6	3.3	3.3
Columbia-Snake Willamette River	Shipped	3,460	5,437	5,849	5,885	5,922	6,193	7,275	4.2	1.6
	Received	3,425	5,401	5,812	5,846	5,880	6,147	7,227	4.2	1.6
California Coast	Shipped	264	295	339	393	461	547	610	3.1	3.4
	Received	73	80	89	100	114	131	144	2.4	2.9
Alaska	Shipped	1	1	1	1	1	1	1	3.3	3.6
	Received	40	45	52	60	71	85	95	3.2	3.5
Hawaii and Pacific Territories	Shipped	389	438	506	591	698	833	931	3.3	3.6
	Received	520	582	667	774	908	1,078	1,201	3.1	3.4
Domestic Caribbean	Shipped	77	79	83	88	93	101	106	1.0	1.5
	Received	776	814	868	935	1,019	1,126	1,203	1.4	2.0
Total	Shipped	50,012	63,891	73,025	74,422	88,936	101,025	108,104	3.1	2.9
	Received	50,012	63,891	73,025	74,422	88,936	101,025	108,104	3.1	2.9

s = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Farm Products
ALTERNATIVE: Misc. Sensitivity

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	43,064	53,500	62,675	63,341	78,585	90,557	96,191	3.0	3.3
	Imports	236	246	250	255	260	264	267	0.6	0.4
Illinois River	Exports	1,353	3,139	3,730	3,692	4,698	5,492	5,793	8.0	3.5
	Imports	3	3	3	3	3	3	3	0.6	0.4
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	20,738	29,153	33,101	35,821	39,879	44,615	49,952	4.3	2.6
	Imports	313	327	332	339	345	351	355	0.6	0.4
Gulf Coast East	Exports	2,751	2,618	3,126	3,383	4,148	4,860	5,223	1.6	3.4
	Imports	709	739	751	766	782	795	803	0.6	0.4
Warrior River System	Exports	1,317	2,825	3,369	3,880	4,861	5,650	5,999	8.7	3.4
	Imports	67	70	71	72	74	75	76	0.6	0.4
South Atlantic Coast	Exports	691	986	1,174	1,327	1,614	1,879	2,022	5.1	3.3
	Imports	441	460	467	477	486	494	499	0.6	0.4
Middle Atlantic Coast	Exports	13,055	16,550	19,585	19,445	24,409	28,449	30,199	3.1	3.4
	Imports	1,944	2,027	2,058	2,102	2,143	2,179	2,202	0.6	0.4

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SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	76	86	104	129	152	178	195	4.1	3.2
	Imports	22	23	23	23	24	24	25	0.6	0.4
Great Lakes and Seaway	Exports	9,610	13,844	15,957	16,577	19,459	22,104	24,115	4.3	2.9
	Imports	135	139	141	143	145	147	148	0.4	0.3
Washington/Oregon Coast	Exports	1,626	5,639	6,694	6,519	8,176	9,581	10,207	11.3	3.5
	Imports	16	16	17	17	17	18	18	0.6	0.4
Columbia-Snake Willamette River	Exports	6,521	10,099	10,950	11,139	11,341	11,965	13,991	4.2	1.8
	Imports	5	5	6	6	6	6	6	0.6	0.4
California Coast	Exports	3,236	5,902	6,974	7,646	9,108	10,584	11,526	6.8	3.2
	Imports	575	600	609	622	634	645	651	0.6	0.4
Alaska	Exports	a	a	a	a	a	a	a	4.1	3.2
	Imports	6	6	6	6	6	6	6	0.1	0.1
Hawaii and Pacific Territories	Exports	3	3	4	4	5	6	7	4.1	3.2
	Imports	2	2	2	2	3	3	3	0.6	0.4
Domestic Caribbean	Exports	17	19	23	29	34	39	43	4.0	3.2
	Imports	129	132	133	134	135	136	137	0.3	0.2
Total	Exports	104,059	144,365	167,466	172,933	206,468	235,960	255,463	4.0	3.0
	Imports	4,603	4,796	4,867	4,968	5,064	5,146	5,199	0.6	0.4

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Farm Products
ALTERNATIVE: Misc. Sensitivity

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	11,605	17,393	20,135	19,974	24,504	28,115	29,791	4.3	3.1
Lower Upper Mississippi	30,770	39,490	45,682	45,314	55,513	63,600	67,367	3.0	3.1
Lower Mississippi	39,153	50,103	58,338	58,626	72,260	83,229	88,739	3.2	3.2
Baton Rouge to Gulf	39,571	50,547	58,816	59,289	72,955	83,957	89,475	3.2	3.2
Illinois River	15,022	16,881	19,710	19,330	24,096	27,821	29,300	2.0	3.3
Missouri River	1,269	1,655	1,780	1,803	1,934	2,067	2,251	2.7	1.7
Ohio River	6,561	7,545	8,518	8,719	10,327	11,609	12,201	2.2	2.6
Tennessee River	1,828	1,772	1,801	2,137	2,187	2,244	2,278	1.2	0.5
Arkansas River	1,049	1,186	1,500	1,813	2,319	2,903	3,434	4.3	5.0
Gulf Coast West	698	767	776	893	941	1,039	1,096	1.9	1.6
Gulf Coast East	1,329	1,346	1,357	1,294	1,349	1,408	1,443	-0.2	0.8
Warrior River System	1,163	1,834	2,081	2,511	3,004	3,363	3,516	6.1	2.6
Great Lakes	1,475	1,530	1,530	1,530	1,530	1,530	1,530	0.3	0.0

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON MILES
MISSISSIPPI RIVER SYSTEM,GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Farm Products
ALTERNATIVE: Misc Sensitivity

SEGMENT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	4,703	7,053	8,166	8,100	9,939	11,405	12,085	4.3	3.1
Lower Upper Mississippi	6,467	8,320	9,641	9,549	11,729	13,455	14,248	3.0	3.1
Lower Mississippi	24,786	31,775	36,996	36,932	45,544	52,426	55,799	3.1	3.2
Baton Rouge to Gulf	5,101	6,481	7,523	7,534	9,234	10,603	11,293	3.0	3.2
Illinois River	2,608	2,932	3,426	3,360	4,191	4,842	5,100	2.0	3.3
Missouri River	609	794	854	865	928	992	1,080	2.7	1.7
Ohio River	1,389	1,884	2,177	2,199	2,688	3,076	3,250	2.5	3.1
Tennessee River	668	669	675	753	764	779	790	0.9	0.4
Arkansas River	239	270	341	413	528	661	781	4.3	5.0
Gulf Coast West	122	134	134	154	160	175	183	1.8	1.3
Gulf Coast East	73	75	75	66	71	77	79	-0.9	1.5
Warrior River System	87	168	198	358	424	471	491	11.5	2.5
Great Lakes	1,278	1,318	1,318	1,318	1,318	1,318	1,318	0.2	0.0
Total	48,331	61,874	71,526	71,601	87,518	100,278	106,498	3.1	3.1

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Metallic Ores
ALTERNATIVE: Baseline

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	13	14	15	17	18	19	20	1.7	1.3
	Received	18	19	21	23	24	26	27	1.7	1.3
Lower Upper Mississippi	Shipped	31	33	36	39	41	44	46	1.7	1.3
	Received	43	45	49	52	55	58	60	1.4	1.2
Lower Mississippi	Shipped	1	2	2	2	2	2	2	1.7	1.3
	Received	92	97	107	115	122	131	137	1.7	1.3
Baton Rouge to Gulf	Shipped	2,377	2,483	2,773	2,993	3,234	3,528	3,737	1.8	1.7
	Received	95	100	152	166	181	198	208	4.4	1.7
Illinois River	Shipped	69	69	70	71	72	72	73	0.2	0.2
	Received	4,470	7,439	8,133	8,920	9,996	11,261	12,218	5.5	2.4
Missouri River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Shipped	248	260	286	306	325	347	362	1.6	1.3
	Received	1,108	1,150	1,267	1,377	1,513	1,685	1,813	1.7	2.1
Tennessee River	Shipped	16	17	19	21	22	23	24	1.7	1.3
	Received	465	489	539	578	615	658	687	1.7	1.3
Arkansas River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	755	795	876	940	1,000	1,070	1,117	1.7	1.3
Gulf Coast West	Shipped	78	82	91	97	104	111	116	1.7	1.3
	Received	105	110	119	127	134	142	148	1.5	1.2
Gulf Coast East	Shipped	121	128	141	151	161	172	179	1.7	1.3
	Received	62	65	72	77	82	88	92	1.7	1.3
Warrior River System	Shipped	3,693	3,737	4,043	6,081	7,958	9,704	11,069	3.9	4.7
	Received	3,716	3,760	4,065	6,103	7,979	9,724	11,089	3.9	4.7
South Atlantic Coast	Shipped	434	446	482	731	960	1,172	1,339	4.1	4.8
	Received	501	514	550	798	1,027	1,240	1,406	3.6	4.5
Middle Atlantic Coast	Shipped	71	71	71	71	71	71	71	0.0	0.0
	Received	3	3	3	3	3	3	3	0.0	0.0

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SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
Great Lakes and Seaway	Shipped	45,198	71,265	78,770	87,595	98,511	111,294	120,378	5.2	2.5
	Received	40,917	64,022	70,846	78,895	88,746	100,276	108,411	5.2	2.5
Washington/Oregon Coast	Shipped	a	a	a	a	a	a	a	0.0	0.0
	Received	4	4	4	4	4	4	4	0.0	0.0
Columbia-Snake Willamette River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
California Coast	Shipped	4	4	4	4	4	4	4	0.0	0.0
	Received	a	a	a	a	a	a	a	0.0	0.0
Alaska	Shipped	4	4	4	4	4	4	4	0.0	0.0
	Received	a	a	a	a	a	a	a	0.0	0.0
Hawaii and Pacific Territories	Shipped	a	a	a	a	a	a	a	0.0	0.0
	Received	4	4	4	4	4	4	4	0.0	0.0
Domestic Caribbean	Shipped	a	a	a	a	a	a	a	0.0	0.0
	Received	a	a	a	a	a	a	a	0.0	0.0
Total	Shipped	52,361	78,616	86,807	98,183	111,486	126,568	137,425	5.0	2.6
	Received	52,361	78,616	86,807	98,183	111,486	126,568	137,425	5.0	2.6

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Metallic Ores
ALTERNATIVE: Baseline

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	97	102	111	121	132	143	150	1.7	1.7
	Imports	8,049	8,391	9,452	10,238	11,072	12,155	12,923	1.9	1.8
Illinois River	Exports	a	a	a	a	1	1	1	1.7	1.7
	Imports	1,239	993	1,089	1,195	1,336	1,503	1,629	-0.3	2.4
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	9	9	10	11	12	13	13	1.7	1.6
	Imports	8,047	8,370	9,407	10,683	11,923	13,330	14,357	2.2	2.3
Gulf Coast East	Exports	112	118	128	139	151	164	173	1.7	1.7
	Imports	204	213	240	260	280	307	325	1.9	1.7
Warrior River System	Exports	1	1	1	2	2	2	2	1.7	1.7
	Imports	6,683	6,838	7,512	10,212	12,720	15,134	16,999	3.3	4.0
South Atlantic Coast	Exports	38	40	43	47	51	55	58	1.7	1.7
	Imports	1,144	1,177	1,303	1,671	2,017	2,359	2,621	3.0	3.5
Middle Atlantic Coast	Exports	170	129	140	153	166	180	189	-0.8	1.7
	Imports	14,439	11,115	13,024	14,522	16,472	18,602	19,745	0.0	2.4

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	1	1	1	1	1	1	1	1.7	1.7
	Imports	13	13	15	16	18	19	21	1.9	1.7
Great Lakes and Seaway	Exports	2,396	3,584	3,597	3,611	3,627	3,644	3,655	3.2	0.1
	Imports	18,073	17,300	19,254	21,540	24,297	27,547	29,820	1.4	2.5
Washington/Oregon Coast	Exports	1	1	1	1	1	1	1	1.7	1.7
	Imports	114	119	135	146	157	172	182	1.9	1.7
Columbia-Snake Willamette River	Exports	a	a	a	a	a	a	a	1.7	1.7
	Imports	85	126	148	166	183	206	220	5.3	2.2
California Coast	Exports	58	62	67	73	79	85	89	1.7	1.6
	Imports	349	626	749	849	943	1,074	1,153	7.1	2.4
Alaska	Exports	460	484	526	572	621	675	710	1.7	1.7
	Imports	a	a	a	a	a	a	a	0.0	0.0
Hawaii and Pacific Territories	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Domestic Caribbean	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	1,147	1,198	1,354	1,465	1,579	1,726	1,829	1.9	1.7
Total	Exports	3,343	4,531	4,627	4,730	4,843	4,965	5,043	2.7	0.5
	Imports	59,586	56,479	63,682	72,963	82,997	94,135	101,823	1.6	2.6

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: Metallic Ores
ALTERNATIVE: Baseline

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	31	33	36	39	42	45	46	1.7	1.3
Lower Upper Mississippi	252	265	292	312	332	355	370	1.7	1.3
Lower Mississippi	2,510	2,625	2,892	2,664	2,882	3,151	3,343	0.5	1.8
Baton Rouge to Gulf	2,665	2,786	3,107	3,280	3,540	3,855	4,078	1.6	1.7
Illinois River	4,584	7,559	8,266	9,063	10,148	11,423	12,388	5.4	2.4
Missouri River	0	0	0	0	0	0	0	0.0	0.0
Ohio River	1,634	1,702	1,875	1,613	1,763	1,953	2,092	-0.1	2.0
Tennessee River	471	496	546	627	667	714	745	2.2	1.3
Arkansas River	755	795	876	940	1,000	1,070	1,117	1.7	1.3
Gulf Coast West	181	190	207	221	235	250	260	1.6	1.2
Gulf Coast East	254	265	289	707	750	801	834	8.2	1.3
Warrior River System	3,742	3,787	4,095	6,574	8,481	10,261	11,649	4.4	4.5
Great Lakes	49,676	78,715	86,921	96,540	108,537	122,591	132,637	5.2	2.5

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Metallic Ores
ALTERNATIVE: Baseline

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	11	12	13	14	15	16	16	1.7	1.3
Lower Upper Mississippi	53	55	61	65	69	74	77	1.7	1.3
Lower Mississippi	1,386	1,448	1,598	1,423	1,546	1,699	1,809	0.2	1.9
Baton Rouge to Gulf	304	317	356	308	333	364	385	0.1	1.7
Illinois River	145	222	243	265	295	330	356	4.7	2.3
Missouri River	0	0	0	0	0	0	0	0.0	0.0
Ohio River	1,007	1,049	1,164	1,235	1,349	1,497	1,607	1.6	2.0
Tennessee River	57	60	66	80	85	91	95	2.6	1.3
Arkansas River	90	95	104	112	119	127	133	1.7	1.3
Gulf Coast West	42	44	49	52	56	59	62	1.7	1.3
Gulf Coast East	12	12	13	67	71	76	79	14.3	1.3
Warrior River System	1,354	1,370	1,482	2,381	3,080	3,733	4,243	4.4	4.5
Great Lakes	32,546	50,761	56,291	62,714	70,640	79,899	86,391	5.2	2.5
Total	37,006	55,445	61,437	68,715	77,657	87,964	95,252	4.9	2.5

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Metallic Ores
ALTERNATIVE: Low Use

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	13	14	15	16	17	18	19	1.5	1.2
	Received	18	19	21	22	23	25	26	1.5	1.2
Lower Upper Mississippi	Shipped	31	33	36	38	40	42	44	1.5	1.2
	Received	43	45	49	51	53	56	58	1.3	1.0
Lower Mississippi	Shipped	1	2	2	2	2	2	2	1.5	1.2
	Received	92	97	107	112	117	125	130	1.5	1.2
Baton Rouge to Gulf	Shipped	2,377	2,483	2,765	2,851	2,998	3,226	3,390	1.4	1.3
	Received	95	100	151	164	176	192	202	4.3	1.6
Illinois River	Shipped	69	69	70	71	71	72	72	0.2	0.2
	Received	4,470	7,439	8,133	8,181	8,787	9,518	10,137	4.8	1.7
Missouri River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Shipped	248	260	285	299	312	332	345	1.5	1.1
	Received	1,108	1,150	1,265	1,271	1,346	1,461	1,552	1.1	1.5
Tennessee River	Shipped	16	17	19	20	21	22	23	1.5	1.2
	Received	465	489	537	564	589	629	655	1.5	1.2
Arkansas River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	755	795	872	917	957	1,022	1,064	1.5	1.2
Gulf Coast West	Shipped	78	82	90	95	99	106	110	1.5	1.2
	Received	105	110	119	124	129	137	142	1.3	1.0
Gulf Coast East	Shipped	121	128	140	147	154	164	171	1.5	1.2
	Received	62	65	72	75	79	84	87	1.5	1.2
Warrior River System	Shipped	3,693	3,737	4,043	4,511	5,543	6,608	7,590	1.6	4.1
	Received	3,716	3,760	4,065	4,532	5,564	6,629	7,610	1.5	4.1
South Atlantic Coast	Shipped	434	446	482	539	665	794	914	1.7	4.1
	Received	501	514	550	606	732	861	981	1.5	3.8
Middle Atlantic Coast	Shipped	71	71	71	71	71	71	71	0.0	0.0
	Received	3	3	3	3	3	3	3	0.0	0.0

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
Great Lakes and Seaway	Shipped	45,198	71,265	78,770	79,103	85,935	93,470	99,929	4.4	1.8
	Received	40,917	64,022	70,845	71,138	77,372	84,186	90,034	4.3	1.8
Washington/Oregon Coast	Shipped	a	a	a	a	a	a	a	0.0	0.0
	Received	4	4	4	4	4	4	4	0.0	0.0
Columbia-Snake, Willamette River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
California Coast	Shipped	4	4	4	4	4	4	4	0.0	0.0
	Received	a	a	a	a	a	a	a	0.0	0.0
Alaska	Shipped	4	4	4	4	4	4	4	0.0	0.0
	Received	a	a	a	a	a	a	a	0.0	0.0
Hawaii and Pacific Territories	Shipped	a	a	a	a	a	a	a	0.0	0.0
	Received	4	4	4	4	4	4	4	0.0	0.0
Domestic Caribbean	Shipped	a	a	a	a	a	a	a	0.0	0.0
	Received	a	a	a	a	a	a	a	0.0	0.0
Total	Shipped	52,361	78,616	86,796	87,770	95,936	104,936	112,689	4.1	1.9
	Received	52,361	78,616	86,796	87,770	95,936	104,936	112,689	4.1	1.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Metallic Ores
ALTERNATIVE: Low Use

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	97	102	111	121	132	143	150	1.7	1.7
	Imports	8,049	7,476	8,449	9,201	9,971	10,899	11,550	1.0	1.8
Illinois River	Exports	a	a	a	a	1	1	1	1.7	1.7
	Imports	1,239	993	1,089	1,102	1,184	1,284	1,368	-0.9	1.7
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	9	9	10	11	12	13	13	1.7	1.6
	Imports	8,047	8,370	9,407	10,223	11,217	12,426	13,340	1.9	2.1
Gulf Coast East	Exports	112	118	128	139	151	164	173	1.7	1.7
	Imports	204	213	240	260	280	307	325	1.9	1.7
Warrior River System	Exports	1	1	1	2	2	2	2	1.7	1.7
	Imports	6,683	6,838	7,512	8,300	9,762	11,367	12,766	1.7	3.4
South Atlantic Coast	Exports	38	40	43	47	51	55	58	1.7	1.7
	Imports	1,144	1,177	1,303	1,431	1,648	1,886	2,089	1.7	3.0
Middle Atlantic Coast	Exports	170	129	140	153	166	180	189	-0.8	1.7
	Imports	11,439	11,115	13,024	12,537	14,123	15,389	16,478	-1.1	2.1

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	1	1	1	1	1	1	1	1.7	1.7
	Imports	13	13	15	16	18	19	21	1.9	1.7
Great Lakes and Seaway	Exports	2,396	3,584	3,597	3,611	3,627	3,644	3,655	3.2	0.1
	Imports	18,073	17,300	19,254	19,255	21,036	22,992	24,686	0.5	1.9
Washington/Oregon Coast	Exports	1	1	1	1	1	1	1	1.7	1.7
	Imports	114	119	135	146	157	172	182	1.9	1.7
Columbia-Snake Willamette River	Exports	a	a	a	a	a	a	a	1.7	1.7
	Imports	85	126	148	149	163	180	193	4.4	2.0
California Coast	Exports	58	62	67	73	79	85	89	1.7	1.6
	Imports	349	626	749	732	806	891	964	5.9	2.1
Alaska	Exports	460	484	526	572	621	675	710	1.7	1.7
	Imports	a	a	a	a	a	a	a	0.0	0.0
Hawaii and Pacific Territories	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Domestic Caribbean	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	1,147	1,198	1,354	1,465	1,579	1,726	1,829	1.9	1.7
Total	Exports	3,343	4,531	4,627	4,730	4,843	4,965	5,043	2.7	0.5
	Imports	59,586	55,564	62,680	64,819	71,965	79,540	85,791	0.6	2.2

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: Metallic Ores
ALTERNATIVE: Low Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	31	33	36	38	40	43	44	1.5	1.2
Lower Upper Mississippi	252	265	290	305	318	339	353	1.5	1.1
Lower Mississippi	2,510	2,625	2,883	2,527	2,658	2,861	3,010	0.1	1.4
Baton Rouge to Gulf	2,665	2,786	3,098	3,131	3,291	3,538	3,715	1.2	1.3
Illinois River	4,584	7,559	8,285	8,320	8,932	9,673	10,299	4.7	1.7
Missouri River	0	0	0	0	0	0	0	0.0	0.0
Ohio River	1,634	1,702	1,870	1,502	1,587	1,717	1,818	-0.6	1.5
Tennessee River	471	496	544	612	638	682	710	2.0	1.2
Arkansas River	755	795	872	917	957	1,022	1,064	1.5	1.2
Gulf Coast West	181	190	207	216	225	239	249	1.4	1.1
Gulf Coast East	254	265	288	691	720	766	797	8.0	1.1
Warrior River System	3,742	3,787	4,094	4,992	6,045	7,142	8,144	2.2	3.8
Great Lakes	49,676	78,715	88,921	87,306	94,748	103,020	110,102	4.4	1.8

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Metallic Ores
ALTERNATIVE: Low Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	11	12	13	13	14	15	16	1.5	1.2
Lower Upper Mississippi	53	55	61	64	66	71	74	1.5	1.1
Lower Mississippi	1,386	1,448	1,593	1,340	1,412	1,524	1,607	-0.3	1.4
Baton Rouge to Gulf	304	317	354	294	309	333	350	-0.3	1.3
Illinois River	145	222	243	246	263	284	302	4.1	1.6
Missouri River	0	0	0	0	0	0	0	0.0	0.0
Ohio River	1,007	1,049	1,161	1,146	1,209	1,310	1,388	1.0	1.5
Tennessee River	57	60	66	78	81	87	90	2.4	1.2
Arkansas River	90	95	104	109	114	122	127	1.5	1.2
Gulf Coast West	42	44	49	51	53	57	59	1.5	1.1
Gulf Coast East	12	12	13	65	68	72	75	14.1	1.1
Warrior River System	1,354	1,370	1,482	1,799	2,185	2,587	2,954	2.2	3.9
Great Lakes	32,546	50,761	56,290	56,347	61,404	66,888	71,607	4.3	1.9
Total	37,006	55,445	61,428	61,553	67,180	73,348	78,648	4.0	1.9

p = less than 500,000 ton-miles

7/20/81

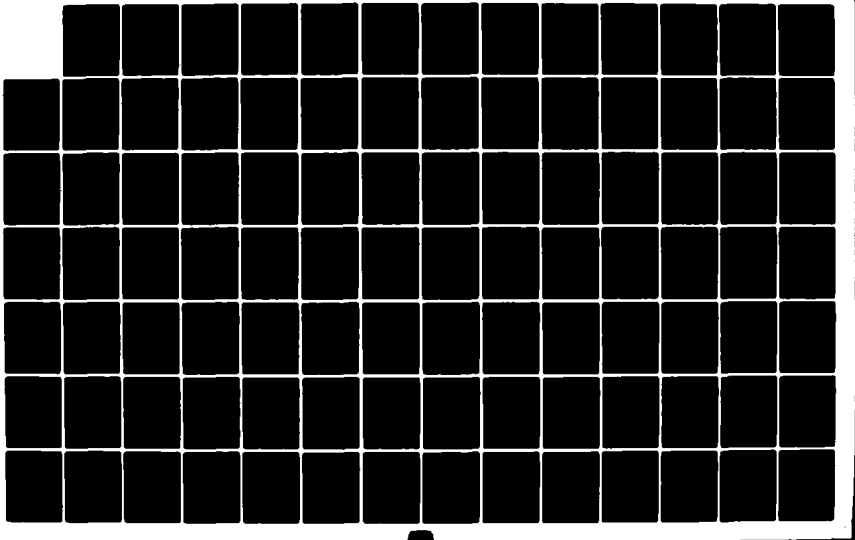
WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

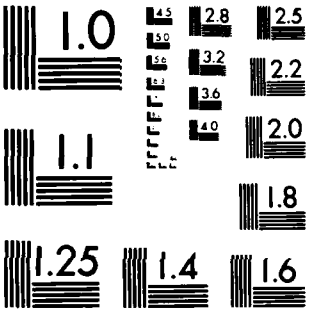
COMMODITY: Metallic Ores
ALTERNATIVE: High Use

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	13	14	15	17	18	19	20	1.7	1.3
	Received	18	19	21	23	24	26	27	1.7	1.3
Lower Upper Mississippi	Shipped	31	33	36	39	41	44	46	1.7	1.3
	Received	43	45	49	52	55	58	60	1.4	1.2
Lower Mississippi	Shipped	1	2	2	2	2	2	2	1.7	1.3
	Received	92	97	107	115	122	131	137	1.7	1.3
Baton Rouge to Gulf	Shipped	2,377	2,483	2,773	2,993	3,234	3,528	3,737	1.8	1.7
	Received	95	100	152	166	181	198	208	4.4	1.7
Illinois River	Shipped	69	69	70	71	72	72	73	0.2	0.2
	Received	4,470	7,439	8,133	8,920	9,996	11,261	12,218	5.5	2.4
Missouri River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Shipped	248	260	286	306	325	347	362	1.6	1.3
	Received	1,108	1,150	1,267	1,377	1,513	1,685	1,813	1.7	2.1
Tennessee River	Shipped	16	17	19	21	22	23	24	1.7	1.3
	Received	465	489	539	578	615	658	687	1.7	1.3
Arkansas River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	755	795	876	940	1,000	1,070	1,117	1.7	1.3
Gulf Coast West	Shipped	78	82	91	97	104	111	116	1.7	1.3
	Received	105	110	119	127	134	142	148	1.5	1.2
Gulf Coast East	Shipped	121	128	141	151	161	172	179	1.7	1.3
	Received	62	65	72	77	82	88	92	1.7	1.3
Warrior River System	Shipped	3,693	3,737	4,043	6,081	7,958	9,704	11,069	3.9	4.7
	Received	3,716	3,760	4,065	6,103	7,979	9,724	11,089	3.9	4.7
South Atlantic Coast	Shipped	434	446	482	731	960	1,172	1,339	4.1	4.8
	Received	501	514	550	798	1,027	1,240	1,406	3.6	4.5
Middle Atlantic Coast	Shipped	71	71	71	71	71	71	71	0.0	0.0
	Received	3	3	3	3	3	3	3	0.0	0.0

AD-A129 641 EVALUATION OF THE PRESENT NAVIGATION SYSTEM APPENDIX A 3/4
(U) KEARNEY (A T) INC CHICAGO ILL MAR 82
DACW72-79-C-0003

UNCLASSIFIED F/G 13/3 NL





MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
Great Lakes and Seaway	Shipped	45,198	71,265	78,770	87,595	98,511	111,294	120,378	5.2	2.5
	Received	40,917	64,022	70,846	78,895	88,746	100,276	108,411	5.2	2.5
Washington/Oregon Coast	Shipped	a	a	a	a	a	a	a	0.0	0.0
	Received	4	4	4	4	4	4	4	0.0	0.0
Columbia-Snake-Willamette River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
California Coast	Shipped	4	4	4	4	4	4	4	0.0	0.0
	Received	a	a	a	a	a	a	a	0.0	0.0
Alaska	Shipped	4	4	4	4	4	4	4	0.0	0.0
	Received	a	a	a	a	a	a	a	0.0	0.0
Hawaii and Pacific Territories	Shipped	a	a	a	a	a	a	a	0.0	0.0
	Received	4	4	4	4	4	4	4	0.0	0.0
Domestic Caribbean	Shipped	a	a	a	a	a	a	a	0.0	0.0
	Received	a	a	a	a	a	a	a	0.0	0.0
Total	Shipped	52,361	78,616	86,807	98,183	111,486	126,568	137,425	5.0	2.6
	Received	52,361	78,616	86,807	98,183	111,486	126,568	137,425	5.0	2.6

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Metallic Ores
ALTERNATIVE: High Use

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	97	102	111	121	132	143	150	1.7	1.7
	Imports	8,049	8,391	9,452	10,238	11,072	12,155	12,923	1.9	1.8
Illinois River	Exports	a	a	a	a	1	1	1	1.7	1.7
	Imports	1,239	993	1,089	1,195	1,336	1,503	1,629	-0.3	2.4
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	9	9	10	11	12	13	13	1.7	1.6
	Imports	8,047	8,370	9,407	10,683	11,923	13,330	14,357	2.2	2.3
Gulf Coast East	Exports	112	118	128	139	151	164	173	1.7	1.7
	Imports	204	213	240	260	280	307	325	1.9	1.7
Warrior River System	Exports	1	1	1	2	2	2	2	1.7	1.7
	Imports	6,683	6,838	7,512	10,212	12,720	15,134	16,999	3.3	4.0
South Atlantic Coast	Exports	38	40	43	47	51	55	58	1.7	1.7
	Imports	1,144	1,177	1,303	1,671	2,017	2,359	2,621	3.0	3.5
Middle Atlantic Coast	Exports	170	129	140	153	166	180	189	-0.8	1.7
	Imports	14,439	11,115	13,024	14,522	16,472	18,602	19,745	0.0	2.4

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	1	1	1	1	1	1	1	1.7	1.7
	Imports	13	13	15	16	18	19	21	1.9	1.7
Great Lakes and Seaway	Exports	2,396	3,584	3,597	3,611	3,627	3,644	3,655	3.2	0.1
	Imports	18,073	17,300	19,254	21,540	24,297	27,547	29,820	1.4	2.5
Washington/Oregon Coast	Exports	1	1	1	1	1	1	1	1.7	1.7
	Imports	114	119	135	146	157	172	182	1.9	1.7
Columbia-Snake Willamette River	Exports	a	a	a	a	a	a	a	1.7	1.7
	Imports	85	126	148	166	183	206	220	5.3	2.2
California Coast	Exports	58	62	67	73	79	85	89	1.7	1.6
	Imports	349	626	749	849	943	1,074	1,153	7.1	2.4
Alaska	Exports	460	484	526	572	621	675	710	1.7	1.7
	Imports	a	a	a	a	a	a	a	0.0	0.0
Hawaii and Pacific Territories	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Domestic Caribbean	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	1,147	1,198	1,354	1,465	1,579	1,726	1,829	1.9	1.7
Total	Exports	3,343	4,531	4,627	4,730	4,843	4,965	5,043	2.7	0.5
	Imports	59,586	56,479	63,682	72,963	82,997	94,135	101,823	1.6	2.6

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Metallic Ores
ALTERNATIVE: High Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	31	33	36	39	42	45	46	1.7	1.3
Lower Upper Mississippi	252	265	292	312	332	355	370	1.7	1.3
Lower Mississippi	2,510	2,625	2,892	2,664	2,882	3,151	3,343	0.5	1.8
Baton Rouge to Gulf	2,685	2,786	3,107	3,280	3,540	3,855	4,078	1.6	1.7
Illinois River	4,584	7,559	8,266	9,063	10,148	11,423	12,388	5.4	2.4
Missouri River	0	0	0	0	0	0	0	0.0	0.0
Ohio River	1,634	1,702	1,875	1,613	1,763	1,953	2,092	-0.1	2.0
Tennessee River	471	496	546	627	667	714	745	2.2	1.3
Arkansas River	755	795	876	940	1,000	1,070	1,117	1.7	1.3
Gulf Coast West	181	190	207	221	235	250	260	1.6	1.2
Gulf Coast East	254	265	289	707	750	801	834	8.2	1.3
Warrior River System	3,742	3,787	4,095	6,574	8,481	10,261	11,649	4.4	4.5
Great Lakes	49,676	78,715	86,921	96,540	108,537	122,591	132,637	5.2	2.5

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Metallic Ores
ALTERNATIVE: High Use

SEGMENT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	11	12	13	14	15	16	16	1.7	1.3
Lower Upper Mississippi	53	55	61	65	69	74	77	1.7	1.3
Lower Mississippi	1,386	1,448	1,598	1,423	1,546	1,699	1,809	0.2	1.9
Baton Rouge to Gulf	304	317	356	308	333	364	385	0.1	1.7
Illinois River	145	222	243	265	295	330	356	4.7	2.3
Missouri River	0	0	0	0	0	0	0	0.0	0.0
Ohio River	1,007	1,049	1,164	1,235	1,349	1,497	1,607	1.6	2.0
Tennessee River	57	60	66	80	85	91	95	2.6	1.3
Arkansas River	90	95	104	112	119	127	133	1.7	1.3
Gulf Coast West	42	44	49	52	56	59	62	1.7	1.3
Gulf Coast East	12	12	13	67	71	76	79	14.3	1.3
Warrior River System	1,354	1,370	1,482	2,381	3,080	3,733	4,243	4.4	4.5
Great Lakes	32,546	50,761	56,291	62,714	70,640	79,899	86,391	5.2	2.5
Total	37,006	55,445	61,437	68,715	77,657	87,964	95,252	4.9	2.5

0 = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Metallic Ores
ALTERNATIVE: Bad Energy

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	13	14	15	16	17	18	19	1.6	1.3
	Received	18	19	21	22	24	25	26	1.6	1.3
Lower Upper Mississippi	Shipped	31	33	36	38	41	43	45	1.6	1.3
	Received	43	45	49	51	54	57	59	1.3	1.1
Lower Mississippi	Shipped	1	2	2	2	2	2	2	1.6	1.3
	Received	92	97	106	113	120	128	133	1.6	1.3
Baton Rouge to Gulf	Shipped	2,377	2,483	2,747	2,935	3,140	3,417	3,614	1.6	1.6
	Received	95	100	151	165	178	194	205	4.3	1.7
Illinois River	Shipped	69	69	70	71	71	72	73	0.2	0.2
	Received	4,470	7,438	8,010	8,772	9,606	10,781	11,678	5.3	2.2
Missouri River	Shipped	.0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Shipped	248	260	284	301	319	339	353	1.5	1.2
	Received	1,108	1,150	1,251	1,343	1,452	1,614	1,736	1.5	2.0
Tennessee River	Shipped	16	17	19	20	21	23	24	1.6	1.3
	Received	465	489	535	569	603	643	670	1.6	1.3
Arkansas River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	755	795	869	924	980	1,045	1,089	1.6	1.3
Gulf Coast West	Shipped	78	82	90	96	101	108	113	1.6	1.3
	Received	105	110	119	125	132	139	144	1.3	1.1
Gulf Coast East	Shipped	121	128	140	149	157	168	175	1.6	1.3
	Received	62	65	71	76	80	86	89	1.6	1.3
Warrior River System	Shipped	3,693	3,737	3,985	5,714	6,975	8,726	10,083	3.4	4.5
	Received	3,716	3,760	4,007	5,735	6,998	8,746	10,103	3.4	4.5
South Atlantic Coast	Shipped	434	446	475	686	840	1,053	1,219	3.6	4.5
	Received	501	514	543	753	907	1,120	1,286	3.2	4.2
Middle Atlantic Coast	Shipped	71	71	71	71	71	71	71	0.0	0.0
	Received	3	3	3	3	3	3	3	0.0	0.0

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SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
Great Lakes and Seaway	Shipped	45,198	71,264	77,541	85,277	94,796	106,701	115,468	5.0	2.4
	Received	40,917	64,021	69,739	76,723	85,417	96,158	104,036	5.0	2.4
Washington/Oregon Coast	Shipped	a	a	a	a	a	a	a	0.0	0.0
	Received	4	4	4	4	4	4	4	0.0	0.0
Columbia-Snake Willamette River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
California Coast	Shipped	4	4	4	4	4	4	4	0.0	0.0
	Received	a	a	a	a	a	a	a	0.0	0.0
Alaska	Shipped	4	4	4	4	4	4	4	0.0	0.0
	Received	a	a	a	a	a	a	a	0.0	0.0
Hawaii and Pacific Territories	Shipped	a	a	a	a	a	a	a	0.0	0.0
	Received	4	4	4	4	4	4	4	0.0	0.0
Domestic Caribbean	Shipped	a	a	a	a	a	a	a	0.0	0.0
	Received	a	a	a	a	a	a	a	0.0	0.0
Total	Shipped	52,361	78,615	85,484	95,384	106,560	120,749	131,267	4.7	2.5
	Received	52,361	78,615	85,484	95,384	106,560	120,749	131,267	4.7	2.5

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Metallic Ores
ALTERNATIVE: Bad Energy

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	97	102	111	121	132	143	150	1.7	1.7
	Imports	8,049	8,391	9,437	10,208	11,011	12,086	12,847	1.8	1.8
Illinois River	Exports	a	a	a	a	1	1	1	1.7	1.7
	Imports	1,239	993	1,074	1,176	1,287	1,443	1,562	-0.4	2.2
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	9	9	10	11	12	13	13	1.7	1.6
	Imports	8,047	8,370	9,391	10,576	11,636	13,045	14,069	2.1	2.2
Gulf Coast East	Exports	112	118	128	139	151	164	173	1.7	1.7
	Imports	204	213	240	260	280	307	325	1.9	1.7
Warrior River System	Exports	1	1	1	2	2	2	2	1.7	1.7
	Imports	6,683	6,838	7,442	9,766	11,524	13,946	15,801	3.0	3.8
South Atlantic Coast	Exports	38	40	43	47	51	55	58	1.7	1.7
	Imports	1,144	1,177	1,294	1,615	1,866	2,210	2,470	2.7	3.3
Middle Atlantic Coast	Exports	170	129	140	153	166	180	189	-0.8	1.7
	Imports	14,439	11,115	12,815	13,733	16,089	18,079	19,338	-0.4	2.7

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SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77 90	90-03
North Atlantic Coast	Exports	1	1	1	1	1	1	1	1.7	1.7
	Imports	13	13	15	16	18	19	21	1.9	1.7
Great Lakes and Seaway	Exports	2,396	3,584	3,597	3,611	3,627	3,644	3,655	3.2	0.1
	Imports	18,073	17,300	18,951	20,851	23,314	26,359	28,582	1.1	2.5
Washington/Oregon Coast	Exports	1	1	1	1	1	1	1	1.7	1.7
	Imports	114	119	135	146	157	172	182	1.9	1.7
Columbia-Snake Willamette River	Exports	a	a	a	a	a	a	a	1.7	1.7
	Imports	85	126	146	159	178	200	215	4.9	2.4
California Coast	Exports	58	62	67	73	79	85	89	1.7	1.6
	Imports	349	626	738	798	910	1,035	1,118	6.6	2.6
Alaska	Exports	460	484	526	572	621	675	710	1.7	1.7
	Imports	a	a	a	a	a	a	a	0.0	0.0
Hawaii and Pacific Territories	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Domestic Caribbean	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	1,147	1,198	1,354	1,465	1,579	1,726	1,829	1.9	1.7
Total	Exports	3,343	4,531	4,627	4,730	4,843	4,965	5,043	2.7	0.5
	Imports	59,586	56,478	63,031	70,770	79,851	90,627	98,360	1.3	2.6

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: Metallic Ores
ALTERNATIVE: Bad Energy

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	31	33	36	38	41	43	45	1.6	1.3
Lower Upper Mississippi	252	265	290	308	325	347	361	1.5	1.2
Lower Mississippi	2,510	2,625	2,865	2,610	2,794	3,046	3,227	0.3	1.6
Baton Rouge to Gulf	2,665	2,786	3,079	3,218	3,439	3,736	3,947	1.5	1.6
Illinois River	4,584	7,559	8,142	8,912	9,755	10,940	11,844	5.2	2.2
Missouri River	0	0	0	0	0	0	0	0.0	0.0
Ohio River	1,634	1,702	1,855	1,576	1,697	1,876	2,008	-0.3	1.9
Tennessee River	471	496	542	617	653	697	726	2.1	1.3
Arkansas River	755	795	869	924	980	1,045	1,089	1.6	1.3
Gulf Coast West	181	190	206	218	230	244	254	1.4	1.2
Gulf Coast East	254	265	287	696	736	783	814	8.1	1.2
Warrior River System	3,742	3,787	4,037	6,199	7,487	9,270	10,649	4.0	4.2
Great Lakes	49,676	78,714	85,570	94,072	104,431	117,516	127,185	5.0	2.3

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Metallic Ores
ALTERNATIVE: Bad Energy

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	11	12	13	13	14	15	16	1.6	1.3
Lower Upper Mississippi	53	55	60	64	68	72	75	1.5	1.2
Lower Mississippi	1,386	1,448	1,582	1,392	1,494	1,638	1,743	0.0	1.7
Baton Rouge to Gulf	304	317	352	303	324	352	373	0.0	1.6
Illinois River	145	222	239	261	284	317	341	4.6	2.1
Missouri River	0	0	0	0	0	0	0	0.0	0.0
Ohio River	1,007	1,049	1,150	1,205	1,297	1,437	1,541	1.4	1.9
Tennessee River	57	60	66	78	83	89	92	2.5	1.3
Arkansas River	90	95	103	110	117	124	129	1.6	1.3
Gulf Coast West	42	44	48	51	54	58	60	1.5	1.2
Gulf Coast East	12	12	13	66	70	74	77	14.2	1.2
Warrior River System	1,354	1,370	1,460	2,243	2,715	3,369	3,875	4.0	4.3
Great Lakes	32,546	50,760	55,406	60,885	67,944	76,583	82,898	4.9	2.4
Total	37,006	55,444	60,494	66,672	74,485	84,130	91,221	4.6	2.4

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Metallic Ores
ALTERNATIVE: Defense

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	13	14	15	41	18	19	20	9.1	5.6
	Received	18	19	21	57	24	26	27	9.1	5.6
Lower Upper Mississippi	Shipped	31	33	36	97	41	44	46	9.1	5.6
	Received	43	45	49	132	55	58	60	8.9	5.8
Lower Mississippi	Shipped	1	2	2	5	2	2	2	9.1	5.6
	Received	92	97	107	288	122	131	137	9.1	5.6
Baton Rouge to Gulf	Shipped	2,377	2,483	2,773	7,395	3,234	3,528	3,737	9.1	5.1
	Received	95	100	152	344	181	198	208	10.4	-3.8
Illinois River	Shipped	69	69	70	189	72	72	73	8.1	7.0
	Received	4,470	7,439	8,133	21,879	9,996	11,261	12,218	13.0	4.4
Missouri River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Shipped	248	260	286	769	325	347	362	9.1	5.6
	Received	1,108	1,150	1,267	3,409	1,513	1,685	1,813	9.0	4.7
Tennessee River	Shipped	16	17	19	51	22	23	24	9.1	5.6
	Received	465	489	539	1,449	615	658	687	9.1	5.6
Arkansas River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	755	795	876	2,355	1,000	1,070	1,117	9.1	5.6
Gulf Coast West	Shipped	78	82	91	244	104	111	116	9.1	5.6
	Received	105	110	119	321	134	142	148	9.0	5.8
Gulf Coast East	Shipped	121	128	141	379	161	172	179	9.1	5.6
	Received	62	65	72	193	82	88	92	9.1	5.6
Warrior River System	Shipped	3,693	3,737	4,043	10,877	7,958	9,704	11,069	8.7	0.1
	Received	3,716	3,760	4,065	10,936	7,979	9,724	11,089	8.7	0.1
South Atlantic Coast	Shipped	434	446	482	1,297	960	1,172	1,339	8.8	0.2
	Received	501	514	550	1,478	1,027	1,240	1,406	8.7	0.4
Middle Atlantic Coast	Shipped	71	71	71	191	71	71	71	7.9	7.1
	Received	3	3	3	9	3	3	3	7.9	7.1

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SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
Great Lakes and Seaway	Shipped	45,198	71,265	78,770	211,901	98,511	111,294	120,378	12.6	-4.3
	Received	40,917	64,022	70,846	190,584	88,746	100,276	108,411	12.6	-4.2
Washington/Oregon Coast	Shipped	a	a	a	a	a	a	a	7.9	-7.3
	Received	4	4	4	11	4	4	4	7.9	-7.3
Columbia-Snake Willamette River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
California Coast	Shipped	4	4	4	11	4	4	4	7.9	-7.3
	Received	a	a	a	a	a	a	a	7.9	-7.3
Alaska	Shipped	4	4	4	11	4	4	4	7.9	7.3
	Received	a	a	a	a	a	a	a	7.9	-7.3
Hawaii and Pacific Territories	Shipped	a	a	a	1	a	a	a	7.9	-7.3
	Received	4	4	4	12	4	4	4	7.9	-7.3
Domestic Caribbean	Shipped	a	a	a	a	a	a	a	7.9	-7.3
	Received	a	a	a	a	a	a	a	7.9	-7.3
Total	Shipped	52,361	78,616	86,807	233,459	111,486	126,568	137,425	12.2	-4.0
	Received	52,361	78,616	86,807	233,459	111,486	126,568	137,425	12.2	-4.0

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Metallic Ores
ALTERNATIVE: Defense

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	97	102	111	114	132	143	150	1.2	2.1
	Imports	8,049	8,391	9,452	7,617	11,072	12,155	12,923	-0.4	4.1
Illinois River	Exports	a	a	a	a	1	1	1	1.2	2.1
	Imports	1,239	993	1,089	878	1,336	1,503	1,629	-2.6	4.9
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	9	9	10	10	12	13	13	1.3	2.1
	Imports	8,047	8,370	9,407	7,581	11,923	13,330	14,357	-0.5	5.0
Gulf Coast East	Exports	112	118	128	131	151	164	173	1.2	2.1
	Imports	204	213	240	194	280	307	325	-0.4	4.1
Warrior River System	Exports	1	1	1	1	2	2	2	1.2	2.1
	Imports	6,683	6,838	7,512	6,054	12,720	15,134	16,999	-0.8	8.3
South Atlantic Coast	Exports	38	40	43	44	51	55	58	1.2	2.1
	Imports	1,144	1,177	1,303	1,050	2,017	2,359	2,621	-0.7	7.3
Middle Atlantic Coast	Exports	170	129	140	144	166	180	189	-1.3	2.1
	Imports	14,439	11,115	13,024	10,496	16,472	18,602	19,745	-2.4	5.0

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	1	1	1	1	1	1	1	1.2	2.1
	Imports	13	13	15	12	18	19	21	-0.4	4.1
Great Lakes and Seaway	Exports	2,396	3,584	3,597	3,681	3,627	3,644	3,655	3.4	-0.1
	Imports	18,073	17,300	19,254	15,517	24,297	27,547	29,820	-1.2	5.2
Washington/Oregon Coast	Exports	1	1	1	1	1	1	1	1.2	2.1
	Imports	114	119	135	109	157	172	182	-0.4	4.1
Columbia-Snake Willamette River	Exports	a	a	a	a	a	a	a	1.2	2.1
	Imports	85	126	148	119	183	206	220	2.7	4.8
California Coast	Exports	58	62	67	69	79	85	89	1.3	2.1
	Imports	349	626	749	603	943	1,074	1,153	4.3	5.1
Alaska	Exports	460	484	526	538	621	675	710	1.2	2.1
	Imports	a	a	a	a	a	a	a	-1.6	1.7
Hawaii and Pacific Territories	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Domestic Caribbean	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	1,147	1,198	1,354	1,091	1,579	1,726	1,829	-0.4	4.1
Total	Exports	3,343	4,531	4,627	4,734	4,843	4,965	5,043	2.7	0.5
	Imports	59,586	56,479	63,682	51,321	82,997	94,135	101,823	-1.1	5.4

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: Metallic Ores
ALTERNATIVE: Defense

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	31	33	36	98	42	45	46	9.1	-5.6
Lower Upper Mississippi	252	265	292	785	332	355	370	9.1	-5.6
Lower Mississippi	2,510	2,628	2,892	6,635	2,882	3,151	3,343	7.8	-5.1
Baton Rouge to Gulf	2,665	2,786	3,107	8,116	3,540	3,855	4,078	8.9	-5.2
Illinois River	4,584	7,559	8,266	22,237	10,148	11,423	12,388	12.9	-4.4
Missouri River	0	0	0	0	0	0	0	0.0	0.0
Ohio River	1,634	1,702	1,875	4,002	1,763	1,953	2,092	7.1	-4.9
Tennessee River	471	496	546	1,571	667	714	745	9.7	-5.6
Arkansas River	755	795	876	2,355	1,000	1,070	1,117	9.1	-5.6
Gulf Coast West	181	190	207	558	235	250	260	9.0	-5.7
Gulf Coast East	254	265	289	1,777	750	801	834	16.2	-5.7
Warrior River System	3,742	3,787	4,095	12,118	8,481	10,261	11,649	9.5	-0.3
Great Lakes	49,676	78,715	86,921	233,830	108,537	122,591	132,637	12.7	-4.3

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Metallic Ores
ALTERNATIVE: Defense

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	11	12	13	34	15	16	16	9.1	-5.6
Lower Upper Mississippi	53	55	61	164	69	74	77	9.1	-5.6
Lower Mississippi	1,386	1,448	1,598	3,534	1,546	1,699	1,809	7.5	-5.0
Baton Rouge to Gulf	304	317	356	758	333	364	385	7.3	-5.1
Illinois River	145	222	243	653	295	330	356	12.2	-4.6
Missouri River	0	0	0	0	0	0	0	0.0	0.0
Ohio River	1,007	1,049	1,164	3,065	1,349	1,497	1,607	8.9	-4.8
Tennessee River	37	80	66	200	85	91	95	10.1	-5.6
Arkansas River	90	95	104	280	119	127	133	9.1	-5.6
Gulf Coast West	42	44	49	131	56	59	62	9.1	-5.6
Gulf Coast East	12	12	13	168	71	76	79	22.8	-5.7
Warrior River System	1,354	1,370	1,482	4,361	3,080	3,733	4,243	9.4	-0.2
Great Lakes	32,546	50,761	58,291	151,429	70,640	79,899	86,391	12.6	-4.2
Total	37,008	55,445	61,437	164,778	77,657	87,964	95,252	12.2	-4.1

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Metallic Ores
ALTERNATIVE: High Coal Export

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	13	14	15	17	18	19	20	1.7	1.3
	Received	18	19	21	23	24	26	27	1.7	1.3
Lower Upper Mississippi	Shipped	31	33	36	39	41	44	46	1.7	1.3
	Received	43	45	49	52	55	58	60	1.4	1.2
Lower Mississippi	Shipped	1	2	2	2	2	2	2	1.7	1.3
	Received	92	97	107	115	122	131	137	1.7	1.3
Baton Rouge to Gulf	Shipped	2,377	2,483	2,773	2,993	3,234	3,528	3,737	1.8	1.7
	Received	95	100	152	166	181	198	208	4.4	1.7
Illinois River	Shipped	69	69	70	71	72	72	73	0.2	0.2
	Received	4,470	7,439	8,133	8,920	9,996	11,261	12,218	5.5	2.4
Missouri River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Shipped	248	260	286	306	325	347	362	1.6	1.3
	Received	1,108	1,150	1,267	1,377	1,513	1,685	1,813	1.7	2.1
Tennessee River	Shipped	16	17	19	21	22	23	24	1.7	1.3
	Received	485	489	539	578	615	658	687	1.7	1.3
Arkansas River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	755	795	876	940	1,000	1,070	1,117	1.7	1.3
Gulf Coast West	Shipped	78	82	91	97	104	111	116	1.7	1.3
	Received	105	110	119	127	134	142	148	1.5	1.2
Gulf Coast East	Shipped	121	128	141	151	161	172	179	1.7	1.3
	Received	62	65	72	77	82	88	92	1.7	1.3
Warrior River System	Shipped	3,693	3,737	4,043	6,081	7,958	9,704	11,069	3.9	4.7
	Received	3,718	3,760	4,065	6,103	7,979	9,724	11,089	3.9	4.7
South Atlantic Coast	Shipped	434	446	482	731	960	1,172	1,339	4.1	4.8
	Received	501	514	550	798	1,027	1,240	1,406	3.6	4.5
Middle Atlantic Coast	Shipped	71	71	71	71	71	71	71	0.0	0.0
	Received	3	3	3	3	3	3	3	0.0	0.0

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SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
Great Lakes and Seaway	Shipped	45,198	71,265	78,770	87,595	98,511	111,294	120,378	5.2	2.5
	Received	40,917	64,022	70,846	78,895	88,746	100,276	108,411	5.2	2.5
Washington/Oregon Coast	Shipped	a	a	a	a	a	a	a	0.0	0.0
	Received	4	4	4	4	4	4	4	0.0	0.0
Columbia-Snake Willamette River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
California Coast	Shipped	4	4	4	4	4	4	4	0.0	0.0
	Received	a	a	a	a	a	a	a	0.0	0.0
Alaska	Shipped	4	4	4	4	4	4	4	0.0	0.0
	Received	a	a	a	a	a	a	a	0.0	0.0
Hawaii and Pacific Territories	Shipped	a	a	a	a	a	a	a	0.0	0.0
	Received	4	4	4	4	4	4	4	0.0	0.0
Domestic Caribbean	Shipped	a	a	a	a	a	a	a	0.0	0.0
	Received	a	a	a	a	a	a	a	0.0	0.0
Total	Shipped	52,361	78,616	86,807	98,183	111,486	126,568	137,425	5.0	2.6
	Received	52,361	78,616	86,807	98,183	111,486	126,568	137,425	5.0	2.6

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Metallic Ores
ALTERNATIVE: High Coal Export

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	97	102	111	121	132	143	150	1.7	1.7
	Imports	8,049	8,391	9,452	10,238	11,072	12,155	12,923	1.9	1.8
Illinois River	Exports	a	a	a	a	1	1	1	1.7	1.7
	Imports	1,239	993	1,089	1,195	1,336	1,503	1,629	-0.3	2.4
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	9	9	10	11	12	13	13	1.7	1.6
	Imports	8,047	8,370	9,407	10,683	11,923	13,330	14,357	2.2	2.3
Gulf Coast East	Exports	112	118	128	139	151	164	173	1.7	1.7
	Imports	204	213	240	280	280	307	325	1.9	1.7
Warrior River System	Exports	1	1	1	2	2	2	2	1.7	1.7
	Imports	6,683	6,838	7,512	10,212	12,720	15,134	16,999	3.3	4.0
South Atlantic Coast	Exports	38	40	43	47	51	55	58	1.7	1.7
	Imports	1,144	1,177	1,303	1,671	2,017	2,359	2,621	3.0	3.5
Middle Atlantic Coast	Exports	170	129	140	153	166	180	189	-0.8	1.7
	Imports	14,439	11,115	13,024	14,522	16,472	18,602	19,745	0.0	2.4

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	1	1	1	1	1	1	1	1.7	1.7
	Imports	13	13	15	16	18	19	21	1.9	1.7
Great Lakes and Seaway	Exports	2,396	3,584	3,597	3,611	3,627	3,644	3,655	3.2	0.1
	Imports	18,073	17,300	19,254	21,540	24,295	27,547	29,820	1.4	2.5
Washington/Oregon Coast	Exports	1	1	1	1	1	1	1	1.7	1.7
	Imports	114	119	135	146	157	172	182	1.9	1.7
Columbia-Snake Willamette River	Exports	a	a	a	a	a	a	a	1.7	1.7
	Imports	85	126	148	166	183	206	220	5.3	2.2
California Coast	Exports	58	62	67	73	79	85	89	1.7	1.6
	Imports	349	626	749	849	943	1,074	1,153	7.1	2.4
Alaska	Exports	460	484	526	572	621	675	710	1.7	1.7
	Imports	a	a	a	a	a	a	a	0.0	0.0
Hawaii and Pacific Territories	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Domestic Caribbean	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	1,147	1,198	1,354	1,465	1,579	1,726	1,829	1.9	1.7
Total	Exports	3,343	4,531	4,627	4,730	4,843	4,965	5,043	2.7	0.5
	Imports	59,586	56,479	63,682	72,963	82,997	94,135	101,823	1.6	2.6

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: Metallic Ores
ALTERNATIVE: High Coal Export

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	31	33	36	39	42	45	46	1.7	1.3
Lower Upper Mississippi	252	265	292	312	332	355	370	1.7	1.3
Lower Mississippi	2,510	2,625	2,892	2,664	2,882	3,151	3,343	0.5	1.8
Baton Rouge to Gulf	2,665	2,786	3,107	3,280	3,540	3,855	4,078	1.6	1.7
Illinois River	4,584	7,559	8,266	9,063	10,148	11,423	12,388	5.4	2.4
Missouri River	0	0	0	0	0	0	0	0.0	0.0
Ohio River	1,634	1,702	1,875	1,613	1,763	1,953	2,092	-0.1	2.0
Tennessee River	471	496	546	627	667	714	745	2.2	1.3
Arkansas River	755	795	876	940	1,000	1,070	1,117	1.7	1.3
Gulf Coast West	181	190	207	221	235	250	260	1.6	1.2
Gulf Coast East	254	265	289	707	750	801	834	8.2	1.3
Warrior River System	3,742	3,787	4,095	6,574	8,481	10,261	11,649	4.4	4.5
Great Lakes	49,676	78,715	86,921	96,540	108,537	122,591	132,637	5.2	2.5

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Metallic Ores
ALTERNATIVE: High Coal Export

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	11	12	13	14	15	16	16	1.7	1.3
Lower Upper Mississippi	53	55	61	65	69	74	77	1.7	1.3
Lower Mississippi	1,386	1,448	1,598	1,423	1,546	1,699	1,809	0.2	1.9
Baton Rouge to Gulf	304	317	356	308	333	364	385	0.1	1.7
Illinois River	145	222	243	265	295	330	356	4.7	2.3
Missouri River	0	0	0	0	0	0	0	0.0	0.0
Ohio River	1,007	1,049	1,164	1,235	1,349	1,497	1,607	1.6	2.0
Tennessee River	57	60	66	80	85	91	95	2.6	1.3
Arkansas River	90	95	104	112	119	127	133	1.7	1.3
Gulf Coast West	42	44	49	52	56	59	62	1.7	1.3
Gulf Coast East	12	12	13	67	71	76	79	14.3	1.3
Warrior River System	1,354	1,370	1,482	2,381	3,080	3,733	4,243	4.4	4.5
Great Lakes	32,546	50,761	56,291	62,714	70,640	79,899	86,391	5.2	2.5
Total	37,006	55,445	61,437	68,715	77,657	87,964	95,252	4.9	2.5

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Metallic Ores
ALTERNATIVE: Misc. Sensitivity

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	13	14	15	17	18	19	20	1.7	1.3
	Received	18	19	21	23	24	26	27	1.7	1.3
Lower Upper Mississippi	Shipped	31	33	36	39	42	44	46	1.7	1.3
	Received	44	46	50	53	56	59	62	1.4	1.1
Lower Mississippi	Shipped	1	2	2	2	2	2	2	1.7	1.3
	Received	93	98	108	116	123	132	138	1.7	1.3
Baton Rouge to Gulf	Shipped	2,529	2,630	3,057	3,401	3,806	4,349	4,784	2.3	2.7
	Received	101	106	159	174	189	207	218	4.3	1.7
Illinois River	Shipped	69	70	71	71	72	73	74	0.3	0.2
	Received	4,470	7,439	8,133	8,920	9,996	11,261	12,218	5.5	2.4
Missouri River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Shipped	282	296	325	349	370	396	413	1.6	1.3
	Received	1,246	1,293	1,426	1,549	1,707	1,897	2,042	1.7	2.1
Tennessee River	Shipped	17	18	20	21	23	24	25	1.7	1.3
	Received	514	541	596	639	680	728	760	1.7	1.3
Arkansas River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	755	784	988	1,165	1,376	1,679	1,942	3.4	4.0
Gulf Coast West	Shipped	85	90	99	106	113	121	126	1.7	1.3
	Received	106	111	121	128	135	144	149	1.5	1.2
Gulf Coast East	Shipped	123	129	145	160	175	194	208	2.1	2.0
	Received	62	66	72	77	82	88	92	1.7	1.3
Warrior River System	Shipped	3,694	3,738	4,044	6,083	7,960	9,705	11,071	3.9	4.7
	Received	3,717	3,761	4,066	6,104	7,980	9,725	11,090	3.9	4.7
South Atlantic Coast	Shipped	4	446	482	731	960	1,172	1,339	4.1	4.8
	Received	501	514	550	798	1,027	1,240	1,406	3.6	4.5
Middle Atlantic Coast	Shipped	71	71	71	71	71	71	71	0.0	0.0
	Received	3	3	3	3	3	3	3	0.0	0.0

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SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
Great Lakes and Seaway	Shipped	45,199	71,266	78,770	87,596	98,512	111,294	120,379	5.2	2.5
	Received	40,917	64,022	70,846	78,895	88,746	100,276	108,412	5.2	2.5
Washington/Oregon Coast	Shipped	a	a	a	a	a	a	a	0.0	0.0
	Received	4	4	4	4	4	4	4	0.0	0.0
Columbia-Snake Willamette River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
California Coast	Shipped	4	4	4	4	4	4	4	0.0	0.0
	Received	a	a	a	a	a	a	a	0.0	0.0
Alaska	Shipped	4	4	4	4	4	4	4	0.0	0.0
	Received	a	a	a	a	a	a	a	0.0	0.0
Hawaii and Pacific Territories	Shipped	a	a	a	a	a	a	a	0.0	0.0
	Received	4	4	4	4	4	4	4	0.0	0.0
Domestic Caribbean	Shipped	a	a	a	a	a	a	a	0.0	0.0
	Received	a	a	a	a	a	a	a	0.0	0.0
Total	Shipped	52,558	78,811	87,148	98,655	112,131	127,473	138,567	5.0	2.6
	Received	52,558	78,811	87,148	98,655	112,131	127,473	138,567	5.0	2.6

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Metallic Ores
ALTERNATIVE: Misc. Sensitivity

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	97	102	111	121	132	143	150	1.7	1.7
	Imports	8,049	8,391	9,452	10,238	11,072	12,155	12,923	1.9	1.8
Illinois River	Exports	a	a	a	a	1	1	1	1.7	1.7
	Imports	1,239	993	1,089	1,195	1,336	1,503	1,629	-0.3	2.4
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	9	9	10	11	12	13	13	1.7	1.6
	Imports	8,047	8,370	9,407	10,683	11,923	13,330	14,357	2.2	2.3
Gulf Coast East	Exports	112	118	128	139	151	164	173	1.7	1.7
	Imports	204	213	240	260	280	307	325	1.9	1.7
Warrior River System	Exports	1	1	1	2	2	2	2	1.7	1.7
	Imports	6,683	6,838	7,512	10,212	12,720	15,134	16,999	3.3	4.0
South Atlantic Coast	Exports	38	40	43	47	51	55	58	1.7	1.7
	Imports	1,144	1,177	1,303	1,671	2,017	2,359	2,621	3.0	3.5
Middle Atlantic Coast	Exports	170	129	140	153	166	180	189	-0.8	1.7
	Imports	14,439	11,115	13,024	14,522	16,472	18,602	19,745	0.0	2.4

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	1	1	1	1	1	1	1	1.7	1.7
	Imports	13	13	15	16	18	19	21	1.9	1.7
Great Lakes and Seaway	Exports	2,396	3,584	3,597	3,611	3,627	3,644	3,655	3.2	0.1
	Imports	18,073	17,300	19,254	21,540	24,297	27,547	29,820	1.4	2.5
Washington/Oregon Coast	Exports	1	1	1	1	1	1	1	1.7	1.7
	Imports	114	119	135	146	157	172	182	1.9	1.7
Columbia-Snake Willamette River	Exports	a	a	a	a	a	a	a	1.7	1.7
	Imports	85	126	148	166	183	206	220	5.3	2.2
California Coast	Exports	58	62	67	73	79	85	89	1.7	1.6
	Imports	349	626	749	849	943	1,074	1,153	7.1	2.4
Alaska	Exports	460	484	526	572	621	675	710	1.7	1.7
	Imports	a	a	a	a	a	a	a	0.0	0.0
Hawaii and Pacific Territories	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Domestic Caribbean	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	1,147	1,198	1,354	1,465	1,579	1,726	1,829	1.9	1.7
Total	Exports	3,343	4,531	4,627	4,730	4,843	4,965	5,043	2.7	0.5
	Imports	59,586	56,479	63,682	72,963	82,997	94,135	101,823	1.6	2.6

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: Metallic Ores
ALTERNATIVE: Misc. Sensitivity

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	31	33	36	39	42	45	46	1.7	1.3
Lower Upper Mississippi	255	268	295	316	335	358	374	1.6	1.3
Lower Mississippi	2,680	2,791	3,202	3,056	3,443	3,966	4,391	1.0	2.8
Baton Rouge to Gulf	2,835	2,952	3,416	3,710	4,140	4,712	5,170	2.1	2.6
Illinois River	4,586	7,561	8,268	9,065	10,150	11,425	12,390	5.4	2.4
Missouri River	0	0	0	0	0	0	0	0.0	0.0
Ohio River	1,830	1,907	2,102	1,817	1,987	2,201	2,359	-0.1	2.0
Tennessee River	521	548	604	693	737	789	823	2.2	1.3
Arkansas River	755	784	988	1,165	1,376	1,679	1,942	3.4	4.0
Gulf Coast West	189	198	217	232	245	261	272	1.6	1.2
Gulf Coast East	257	268	297	758	809	870	913	8.7	1.4
Warrior River System	3,743	3,789	4,097	6,620	8,530	10,313	11,704	4.5	4.5
Great Lakes	49,677	78,716	86,922	96,540	108,538	122,592	132,638	5.2	2.5

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Metallic Ores
ALTERNATIVE: Misc. Sensitivity

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	11	12	13	14	15	16	16	1.7	1.3
Lower Upper Mississippi	53	56	61	66	70	75	78	1.7	1.3
Lower Mississippi	1,499	1,562	1,763	1,603	1,784	2,023	2,211	0.5	2.5
Baton Rouge to Gulf	322	336	389	348	390	447	493	0.6	2.7
Illinois River	146	222	243	266	295	330	357	4.7	2.3
Missouri River	0	0	0	0	0	0	0	0.0	0.0
Ohio River	1,139	1,186	1,317	1,399	1,528	1,697	1,821	1.6	2.0
Tennessee River	64	67	74	89	95	102	106	2.6	1.3
Arkansas River	90	93	118	139	164	200	231	3.4	4.0
Gulf Coast West	45	47	52	55	59	63	66	1.7	1.3
Gulf Coast East	12	12	13	73	77	82	86	14.9	1.3
Warrior River System	1,354	1,370	1,482	2,396	3,096	3,750	4,261	4.5	4.5
Great Lakes	32,546	50,761	56,291	62,714	70,640	79,899	86,391	5.2	2.5
Total	37,280	55,725	61,815	69,161	78,214	88,684	96,117	4.9	2.6

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Coal
ALTERNATIVE: Baseline

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	2,314	3,557	5,374	8,363	10,568	11,714	12,246	10.4	3.0
	Received	6,840	8,480	10,794	13,913	16,194	17,172	17,688	5.6	1.9
Lower Upper Mississippi	Shipped	7,446	7,837	10,228	14,950	19,196	22,711	24,178	5.5	3.8
	Received	2,018	2,088	3,852	9,529	14,138	18,527	20,083	12.7	5.9
Lower Mississippi	Shipped	5	5	6	7	8	8	8	3.3	1.4
	Received	4,244	3,960	4,551	5,542	6,952	8,110	8,826	2.1	3.6
Baton Rouge to Gulf	Shipped	2,911	2,784	3,482	4,256	3,455	3,606	3,674	3.0	-1.1
	Received	3,445	4,341	6,198	13,637	20,659	26,364	28,660	11.2	5.9
Illinois River	Shipped	7,457	8,042	9,634	11,070	12,491	13,332	13,697	3.1	1.7
	Received	6,138	6,507	8,739	10,830	12,566	13,547	13,971	4.5	2.0
Missouri River	Shipped	1	2	2	3	3	3	3	4.5	2.0
	Received	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Shipped	98,828	104,041	135,033	158,085	187,443	211,858	225,107	3.7	2.8
	Received	83,043	87,764	113,343	122,419	136,956	149,161	156,889	3.0	1.9
Tennessee River	Shipped	4,079	4,160	4,468	5,667	9,723	12,502	14,247	2.6	7.3
	Received	7,435	7,376	7,009	8,235	10,507	12,953	14,542	0.8	4.5
Arkansas River	Shipped	515	621	977	2,552	3,833	4,872	5,260	13.1	5.7
	Received	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Shipped	a	a	a	a	a	a	a	10.8	5.5
	Received	261	291	529	2,426	3,844	5,028	5,390	18.7	6.3
Gulf Coast East	Shipped	692	1,044	2,821	5,682	10,266	12,902	14,106	17.6	7.2
	Received	8,063	7,541	14,104	22,253	30,732	36,977	39,828	8.1	4.6
Warrior River System	Shipped	7,821	7,728	10,262	13,312	13,786	16,093	17,526	4.2	2.1
	Received	7,118	7,200	8,888	10,972	13,543	16,717	18,968	3.4	4.3
South Atlantic Coast	Shipped	a	a	a	a	a	a	a	2.8	2.7
	Received	2	2	2	2	2	2	2	0.0	0.0
Middle Atlantic Coast	Shipped	5,034	7,654	15,177	21,789	30,178	36,510	40,859	11.9	5.0
	Received	5,026	7,648	13,670	18,782	27,171	33,503	37,851	10.7	5.5

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SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	0	0	0	0	0	0	0	0 0	0 0
	Received	a	a	1,500	3,000	3,000	3,000	3,000	155 7	0 0
Great Lakes and Seaway	Shipped	19,145	25,024	25,254	24,424	28,133	30,932	32,157	1 9	2 1
	Received	22,615	29,300	29,560	28,621	32,818	35,985	37,371	1 8	2 1
Washington/Oregon Coast	Shipped	37	37	37	37	37	37	37	0 0	0 0
	Received	1	1	1	1	1	1	1	0 0	0 0
Columbia-Snake Willamette River	Shipped	0	0	0	0	0	0	0	0 0	0 0
	Received	0	0	0	0	0	0	0	0 0	0 0
California Coast	Shipped	a	a	a	a	a	a	a	0 0	0 0
	Received	1	1	1	1	1	1	1	0 0	0 0
Alaska	Shipped	11	11	11	11	11	11	11	0.0	0.0
	Received	46	46	46	46	46	46	46	0.0	0.0
Hawaii and Pacific Territories	Shipped	0	0	0	0	0	0	0	0 0	0 0
	Received	a	a	a	a	a	a	a	0.0	0 0
Domestic Caribbean	Shipped	0	0	0	0	0	0	0	0 0	0 0
	Received	a	a	a	a	a	a	a	0 0	0 0
Total	Shipped	156,296	172,546	222,788	270,207	329,130	377,094	403,117	4 3	3 1
	Received	158,296	172,546	222,788	270,207	329,130	377,094	403,117	4 3	3 1

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Coal
ALTERNATIVE: Baseline

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	1,313	1,971	3,761	4,692	5,710	6,825	7,543	10.3	3.7
	Imports	142	252	260	284	277	287	287	5.5	0.1
Illinois River	Exports	12	17	21	23	26	28	30	5.3	1.8
	Imports	0	0	0	0	0	0	0	0.0	0.0
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	18	380	1,365	1,877	2,437	3,050	3,445	42.7	4.8
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast East	Exports	125	125	125	125	125	125	125	0.0	0.0
	Imports	219	385	398	434	425	439	439	5.4	0.1
Warrior River System	Exports	3,612	4,236	5,937	6,821	7,789	8,847	9,530	5.0	2.6
	Imports	866	1,526	1,580	1,722	1,684	1,741	1,741	5.4	0.1
South Atlantic Coast	Exports	1	1	1	1	1	1	1	0.0	0.0
	Imports	8	1	1	1	1	1	1	5.4	0.1
Middle Atlantic Coast	Exports	31,988	33,629	38,106	40,432	42,978	45,764	47,560	1.8	1.3
	Imports	306	536	555	605	592	612	612	5.4	0.1

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SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77 90	90 03
North Atlantic Coast	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0 0	0 0
Great Lakes and Seaway	Exports	16,868	23,173	28,316	30,988	33,912	37,113	39,176	4 8	1 8
	Imports	19	33	35	38	37	38	38	5.4	0 1
Washington/Oregon Coast	Exports	a	a	a	a	a	a	a	0 0	0 0
	Imports	13	21	22	24	23	24	24	4 9	0 1
Columbia-Snake Willamette River	Exports	a	a	a	a	a	a	a	0 0	0 0
	Imports	a	a	a	a	a	a	a	5 0	0 1
California Coast	Exports	1	1	1	1	1	1	1	0 0	0 0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Alaska	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Hawaii and Pacific Territories	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Domestic Caribbean	Exports	a	a	a	a	a	a	a	0.0	0 0
	Imports	0	0	0	0	0	0	0	0.0	0 0
Total	Exports	53,938	63,535	77,635	84,962	92,980	101,755	107,412	3.6	1 8
	Imports	1,565	2,755	2,851	3,106	3,038	3,142	3,142	5 4	0 1

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: Coal
ALTERNATIVE: Baseline

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	6,872	8,524	10,920	14,689	17,464	18,855	19,516	6.0	2.2
Lower Upper Mississippi	10,683	11,796	15,681	24,320	32,072	38,678	41,294	6.5	4.2
Lower Mississippi	11,936	12,064	18,056	22,074	32,012	40,110	43,507	4.8	5.4
Baton Rouge to Gulf	10,410	10,653	16,674	20,583	28,311	35,420	38,178	5.4	4.9
Illinois River	9,625	10,807	13,072	15,054	17,280	18,631	19,218	3.5	1.9
Missouri River	1	2	2	3	3	3	3	4.5	2.0
Ohio River	100,087	105,321	137,120	160,022	189,863	214,714	228,171	3.7	2.8
Tennessee River	10,085	10,213	10,051	21,379	31,557	39,592	44,388	5.9	5.8
Arkansas River	515	621	977	2,552	3,833	4,872	5,260	13.1	5.7
Gulf Coast West	261	291	529	2,426	3,844	5,028	5,390	18.7	6.3
Gulf Coast East	8,446	7,935	14,586	22,511	31,068	37,377	40,261	7.8	4.6
Warrior River System	8,178	8,089	10,729	23,308	30,569	37,201	41,034	8.4	4.4
Great Lakes	25,718	32,722	32,994	32,011	36,401	39,714	41,163	1.7	2.0

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Coal
ALTERNATIVE: Baseline

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	2,259	2,549	2,987	3,823	4,442	4,798	4,953	4.1	2.0
Lower Upper Mississippi	1,351	1,546	1,987	2,897	3,741	4,441	4,722	6.0	3.8
Lower Mississippi	5,417	5,637	9,179	10,757	16,129	20,497	22,218	5.4	5.7
Baton Rouge to Gulf	1,533	1,608	2,492	2,493	3,500	4,354	4,710	3.8	5.0
Illinois River	1,260	1,499	1,836	2,122	2,490	2,719	2,818	4.1	2.2
Missouri River	1	1	1	1	1	1	1	4.5	2.0
Ohio River	20,080	21,539	29,755	37,822	46,984	54,419	58,186	5.0	3.4
Tennessee River	1,184	1,240	1,190	3,398	5,149	6,482	7,265	8.4	6.0
Arkansas River	189	228	359	938	1,409	1,791	1,934	13.1	5.7
Gulf Coast West	121	126	165	479	713	908	968	11.2	5.6
Gulf Coast East	446	402	832	1,307	1,916	2,332	2,522	8.6	5.2
Warrior River System	2,134	2,144	2,706	6,642	8,795	10,741	11,884	9.1	4.6
Great Lakes	10,593	13,801	13,924	13,480	15,461	16,957	17,611	1.9	2.1
Total	46,566	52,318	67,414	86,158	110,729	130,441	139,793	4.8	3.8

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Coal
ALTERNATIVE: Low Use

SEGMENT	IN/OUT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Shipped	2,314	3,486	5,014	7,677	8,966	9,373	9,561	9 7	1.7
	Received	6,840	8,399	10,432	13,962	15,665	16,191	16,432	5 6	1 3
Lower Upper Mississippi	Shipped	7,446	7,813	10,041	15,187	18,717	21,835	23,096	5 6	3 3
	Received	2,018	2,051	3,756	9,584	13,770	17,908	19,323	12 7	5 5
Lower Mississippi	Shipped	5	5	6	7	7	8	8	3 4	1 0
	Received	4,244	3,958	4,296	5,309	6,204	7,043	7,475	1 7	2.7
Baton Rouge to Gulf	Shipped	2,911	2,789	3,343	4,077	3,354	3,477	3,521	2 6	-1 1
	Received	3,445	4,462	6,113	10,095	12,997	15,898	17,617	8 6	4 4
Illinois River	Shipped	7,457	7,987	9,405	11,206	12,277	12,946	13,227	3 2	1 3
	Received	6,138	6,405	8,391	11,051	12,364	13,089	13,372	4 6	1 5
Missouri River	Shipped	1	2	2	3	3	3	3	4 6	1 5
	Received	0	0	0	0	0	0	0	0 0	0 0
Ohio River	Shipped	98,828	102,063	130,766	152,716	173,614	191,963	201,986	3 4	2 2
	Received	83,043	85,694	109,905	120,880	132,267	142,122	147,980	2 9	1 6
Tennessee River	Shipped	4,079	4,170	4,538	6,267	11,162	13,905	15,655	3 4	7 3
	Received	7,435	7,396	7,290	9,681	11,698	13,822	15,112	2 1	3 5
Arkansas River	Shipped	515	610	814	1,218	1,483	1,722	1,854	6 8	3 3
	Received	0	0	0	0	0	0	0	0 0	0 0
Gulf Coast West	Shipped	a	a	a	a	a	a	a	10 0	5 0
	Received	261	261	261	261	261	261	261	0 0	0 0
Gulf Coast East	Shipped	692	1,030	2,304	5,018	8,470	10,608	11,384	16 5	6 5
	Received	8,063	7,563	12,629	20,353	26,475	31,538	33,376	7 4	3 9
Warrior River System	Shipped	7,821	8,064	10,474	15,960	14,628	16,966	18,473	5 6	1 1
	Received	7,118	7,547	9,290	14,019	16,484	20,046	22,729	5 4	3 8
South Atlantic Coast	Shipped	a	a	a	a	a	a	a	2 5	2 3
	Received	2	2	2	2	2	2	2	0 0	0 0
Middle Atlantic Coast	Shipped	5,034	8,320	15,913	20,090	25,507	31,322	35,278	11 2	4 4
	Received	5,026	8,312	14,405	17,083	22,500	28,315	32,270	9 9	5 0

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	a	a	1,500	3,000	3,000	3,000	3,000	155.7	0.0
Great Lakes and Seaway	Shipped	19,145	24,961	25,578	24,025	26,748	29,730	31,271	1.8	2.0
	Received	22,615	29,229	29,927	28,170	31,250	34,624	36,368	1.7	2.0
Washington/Oregon Coast	Shipped	37	37	37	37	37	37	37	0.0	0.0
	Received	1	1	1	1	1	1	1	0.0	0.0
Columbia-Snake Willamette River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
California Coast	Shipped	a	a	a	a	a	a	a	0.0	0.0
	Received	1	1	1	1	1	1	1	0.0	0.0
Alaska	Shipped	11	11	11	11	11	11	11	0.0	0.0
	Received	46	46	46	46	46	46	46	0.0	0.0
Hawaii and Pacific Territories	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	a	a	a	a	a	a	a	0.0	0.0
Domestic Caribbean	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	a	a	a	a	a	a	a	0.0	0.0
Total	Shipped	156,296	171,327	218,245	263,496	304,985	343,907	365,367	4.1	2.5
	Received	156,296	171,327	218,245	263,496	304,985	343,907	365,367	4.1	2.5

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Coal
ALTERNATIVE: Low Use

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	1,313	1,292	2,292	3,003	3,512	4,069	4,428	6.6	1.0
	Imports	142	252	260	284	277	287	287	5.5	0.1
Illinois River	Exports	12	16	20	23	26	28	30	5.3	1.8
	Imports	0	0	0	0	0	0	0	0.0	0.0
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	18	18	18	18	18	18	18	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast East	Exports	125	125	125	125	125	125	125	0.0	0.0
	Imports	219	385	398	434	425	439	439	5.4	0.1
Warrior River System	Exports	3,612	3,579	5,080	6,146	6,909	7,745	8,284	4.2	2.3
	Imports	866	1,526	1,580	1,722	1,684	1,741	1,741	5.4	0.1
South Atlantic Coast	Exports	1	1	1	1	1	1	1	0.0	0.0
	Imports	a	1	1	1	1	1	1	5.4	0.1
Middle Atlantic Coast	Exports	31,986	31,824	39,325	44,656	48,474	52,653	55,348	2.6	1.7
	Imports	306	536	555	605	592	612	612	5.4	0.1

7/20/81

SEGMENT	EXP/IMP	YEARS 1977*	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0 0	0 0
Great Lakes and Seaway	Exports	16,868	21,161	26,906	30,988	33,912	37,113	39,176	4 8	1 8
	Imports	19	33	35	38	37	38	38	5 4	0 1
Washington/Oregon Coast	Exports	a	a	a	a	a	a	a	0 0	0 0
	Imports	13	21	22	24	23	24	24	4 9	0 1
Columbia-Snake Willamette River	Exports	a	a	a	a	a	a	a	0 0	0 0
	Imports	a	a	a	a	a	a	a	5 0	0 1
California Coast	Exports	1	1	1	1	1	1	1	0 0	0 0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Alaska	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Hawaii and Pacific Territories	Exports	0	0	0	0	0	0	0	0 0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Domestic Caribbean	Exports	a	a	a	a	a	a	a	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Total	Exports	53,938	58,020	73,770	84,962	92,980	101,755	107,412	3.6	1 8
	Imports	1,585	2,755	2,851	3,106	3,038	3,142	3,142	5 4	0 1

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: Coal
ALTERNATIVE: Low Use

SEGMENT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	6,872	8,433	10,469	14,015	15,730	16,269	16,517	5.6	1.3
Lower Upper Mississippi	10,683	11,719	15,308	23,860	29,997	35,607	37,785	6.4	3.6
Lower Mississippi	11,936	12,188	16,827	16,040	19,877	23,624	25,762	2.3	3.7
Baton Rouge to Gulf	10,410	10,790	15,574	14,679	16,918	19,998	21,782	2.7	3.1
Illinois River	9,625	10,696	12,766	15,224	16,897	18,016	18,502	3.6	1.5
Missouri River	1	2	2	3	3	3	3	4.6	1.5
Ohio River	100,087	103,341	132,803	154,722	176,033	194,764	204,955	3.4	2.2
Tennessee River	9,567	9,667	9,876	21,891	31,875	38,867	42,833	6.6	5.3
Arkansas River	515	610	814	1,218	1,483	1,722	1,854	6.8	3.3
Gulf Coast West	261	261	261	261	261	261	261	0.0	0.0
Gulf Coast East	8,446	7,975	13,132	20,690	26,886	32,031	33,918	7.1	3.9
Warrior River System	8,178	8,443	10,941	25,399	31,272	37,667	41,397	9.1	3.8
Great Lakes	25,718	32,647	33,377	31,539	34,761	38,290	40,115	1.6	1.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Coal
ALTERNATIVE: Low Use

SEGMENT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	2,259	2,530	2,885	3,504	3,805	3,902	3,947	3.4	0.9
Lower Upper Mississippi	1,351	1,533	1,933	2,763	3,371	3,919	4,137	5.7	3.2
Lower Mississippi	5,417	5,724	8,560	7,358	9,325	11,265	12,399	2.4	4.1
Baton Rouge to Gulf	1,533	1,648	2,439	2,326	2,872	3,466	3,815	3.3	3.9
Illinois River	1,260	1,482	1,795	2,142	2,418	2,615	2,703	4.2	1.8
Missouri River	1	1	1	1	1	1	1	4.6	1.5
Ohio River	20,080	20,879	28,286	35,373	41,675	47,073	49,906	4.5	2.7
Tennessee River	1,072	1,119	1,130	3,347	5,060	6,212	6,855	9.1	5.7
Arkansas River	189	224	299	448	545	633	682	6.8	3.3
Gulf Coast West	121	121	121	121	121	121	121	0.0	0.0
Gulf Coast East	446	406	744	1,200	1,649	1,990	2,116	7.9	4.5
Warrior River System	2,134	2,244	2,806	7,302	9,125	11,026	12,162	9.9	4.0
Great Lakes	10,593	13,473	13,772	13,018	14,341	15,789	16,538	1.6	1.9
Total	46,455	51,384	64,772	78,902	94,308	108,012	115,383	4.2	3.0

A = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Coal
ALTERNATIVE: High Use

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	2,314	3,580	5,353	8,936	10,927	13,639	14,322	11.0	3.7
	Received	6,840	8,510	10,766	14,664	16,657	19,701	20,418	6.0	2.6
Lower Upper Mississippi	Shipped	7,446	7,892	10,210	15,999	20,240	25,945	27,543	6.1	4.3
	Received	2,018	2,110	3,835	10,004	14,425	20,130	21,732	13.1	6.1
Lower Mississippi	Shipped	5	5	6	7	8	9	9	3.6	1.9
	Received	4,244	3,993	4,699	6,153	7,667	9,638	10,162	2.9	3.9
Baton Rouge to Gulf	Shipped	2,911	2,792	3,500	4,435	3,510	3,727	3,791	3.3	1.2
	Received	3,445	4,463	5,704	15,741	23,529	33,088	36,155	12.4	6.6
Illinois River	Shipped	7,457	8,127	9,618	11,596	12,856	14,811	15,451	3.5	2.2
	Received	6,138	6,535	8,697	11,314	12,822	15,278	15,975	4.8	2.7
Missouri River	Shipped	1	2	2	3	3	4	4	4.8	2.7
	Received	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Shipped	98,828	104,975	135,465	177,328	207,069	250,049	262,380	4.6	3.1
	Received	83,043	88,402	113,809	137,333	150,868	174,215	180,480	3.9	2.1
Tennessee River	Shipped	4,079	4,230	4,629	6,642	12,333	18,041	20,156	3.8	8.9
	Received	7,435	7,476	7,402	10,037	12,715	17,520	18,678	2.3	4.9
Arkansas River	Shipped	515	631	945	2,721	4,041	5,402	5,843	13.7	6.1
	Received	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Shipped	a	a	a	a	a	a	a	12.3	7.0
	Received	261	291	529	2,426	3,844	5,028	5,390	18.7	6.3
Gulf Coast East	Shipped	692	1,022	2,887	6,344	11,243	15,049	16,178	18.6	7.5
	Received	8,063	7,574	14,290	24,136	33,046	42,059	44,734	8.8	4.9
Warrior River System	Shipped	7,821	7,812	9,715	16,038	15,933	20,666	22,724	5.7	2.7
	Received	7,118	7,278	8,266	13,587	17,451	24,998	28,619	5.1	5.9
South Atlantic Coast	Shipped	a	a	a	a	a	a	a	3.4	3.9
	Received	2	2	2	2	2	2	2	0.0	0.0
Middle Atlantic Coast	Shipped	5,034	8,626	14,845	25,275	34,649	50,684	56,670	13.2	6.4
	Received	5,026	8,619	13,338	22,267	31,642	47,676	53,662	12.1	7.0

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	a	a	1,500	3,000	3,000	3,000	3,000	155.7	0.0
Great Lakes and Seaway	Shipped	19,145	26,276	25,497	27,946	31,635	35,804	38,615	3.0	2.5
	Received	22,615	30,716	29,835	32,606	36,780	41,497	44,677	2.9	2.5
Washington/Oregon Coast	Shipped	37	37	37	37	37	37	37	0.0	0.0
	Received	1	1	1	1	1	1	1	0.0	0.0
Columbia-Snake Willamette River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
California Coast	Shipped	a	a	a	a	a	a	a	0.0	0.0
	Received	1	1	1	1	1	1	1	0.0	0.0
Alaska	Shipped	11	11	11	11	11	11	11	0.0	0.0
	Received	46	46	46	46	46	46	46	0.0	0.0
Hawaii and Pacific Territories	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	a	a	a	a	a	a	a	0.0	0.0
Domestic Caribbean	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	a	a	a	a	a	a	a	0.0	0.0
Total	Shipped	156,296	176,017	222,720	303,317	364,496	453,878	483,733	5.2	3.7
	Received	156,296	176,017	222,720	303,317	364,496	453,878	483,733	5.2	3.7

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Coal
ALTERNATIVE: High Use

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	1,313	3,470	5,256	7,535	10,120	13,159	13,706	14.4	4.7
	Imports	142	252	260	284	277	287	287	5.5	0.1
Illinois River	Exports	12	21	25	29	35	42	43	7.2	2.9
	Imports	0	0	0	0	0	0	0	0.0	0.0
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	18	1,205	2,187	3,440	4,862	6,533	6,834	49.5	5.4
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast East	Exports	125	125	125	125	125	125	125	0.0	0.0
	Imports	219	385	398	434	425	439	439	5.4	0.1
Warrior River System	Exports	3,612	5,661	7,357	9,522	11,978	14,865	15,385	7.7	3.8
	Imports	866	1,526	1,580	1,722	1,684	1,741	1,741	5.4	0.1
South Atlantic Coast	Exports	1	1	1	1	1	1	1	0.0	0.0
	Imports	1	1	1	1	1	1	1	5.4	0.1
Middle Atlantic Coast	Exports	31,986	37,378	41,843	47,540	54,003	61,599	62,967	3.1	2.2
	Imports	306	536	555	605	592	612	612	5.4	0.1

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Great Lakes and Seaway	Exports	16,868	27,479	32,608	39,152	46,577	55,303	56,875	6.7	2.9
	Imports	19	33	35	38	37	38	38	5.4	0.1
Washington/Oregon Coast	Exports	a	a	a	a	a	a	a	0.0	0.0
	Imports	13	21	22	24	23	24	24	4.9	0.1
Columbia-Snake Willamette River	Exports	a	a	a	a	a	a	a	0.0	0.0
	Imports	a	a	a	a	a	a	a	5.0	0.1
California Coast	Exports	1	1	1	1	1	1	1	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Alaska	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Hawaii and Pacific Territories	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Domestic Caribbean	Exports	a	a	a	a	a	a	a	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Total	Exports	53,938	75,343	89,404	107,348	127,705	151,630	155,938	5.4	2.9
	Imports	1,565	2,755	2,851	3,106	3,038	3,142	3,142	5.4	0.1

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: Coal
ALTERNATIVE: High Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	6,872	8,555	10,892	15,450	17,939	21,412	22,274	6.4	2.9
Lower Upper Mississippi	10,683	11,970	15,665	26,051	33,642	43,656	46,600	7.1	4.6
Lower Mississippi	11,936	12,260	17,757	24,779	35,557	48,311	52,269	5.8	5.9
Baton Rouge to Gulf	10,410	10,822	16,245	22,889	31,262	42,322	45,845	6.2	5.5
Illinois River	9,625	10,999	13,063	16,003	17,998	21,005	22,073	4.0	2.5
Missouri River	1	2	2	3	3	4	4	4.8	2.7
Ohio River	100,087	106,269	137,567	179,420	209,646	253,335	265,853	4.6	3.1
Tennessee River	10,085	10,379	10,690	24,786	37,530	52,208	56,918	7.2	6.6
Arkansas River	515	631	945	2,721	4,041	5,402	5,843	13.7	6.1
Gulf Coast West	261	291	529	2,426	3,844	5,028	5,390	18.7	6.3
Gulf Coast East	8,446	7,972	14,742	24,456	33,462	42,647	45,375	8.5	4.9
Warrior River System	8,178	8,177	10,130	27,005	35,815	48,431	53,559	9.6	5.4
Great Lakes	25,718	34,203	33,281	36,179	40,545	45,479	48,806	2.7	2.3

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Coal
ALTERNATIVE: High Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	2,259	2,554	2,983	3,958	4,528	5,250	5,440	4.4	2.5
Lower Upper Mississippi	1,351	1,575	1,987	3,111	3,929	5,019	5,353	6.6	4.3
Lower Mississippi	5,417	5,745	8,908	12,156	18,011	24,919	27,103	6.4	6.4
Baton Rouge to Gulf	1,533	1,640	2,401	2,927	4,079	5,710	6,219	5.1	6.0
Illinois River	1,260	1,540	1,838	2,299	2,632	3,121	3,308	4.7	2.8
Missouri River	1	1	1	1	1	1	1	4.8	2.7
Ohio River	20,080	21,811	29,695	41,727	50,990	63,909	67,717	5.8	3.8
Tennessee River	1,184	1,265	1,279	3,905	6,099	8,489	9,291	9.6	6.9
Arkansas River	189	232	348	1,000	1,486	1,986	2,148	13.7	6.1
Gulf Coast West	121	126	165	479	713	908	968	11.2	5.6
Gulf Coast East	446	405	840	1,431	2,078	2,688	2,869	9.4	5.5
Warrior River System	2,134	2,167	2,529	7,723	10,400	14,174	15,732	10.4	5.6
Great Lakes	10,593	14,469	14,054	15,362	17,332	19,559	21,060	2.9	2.5
Total	46,566	53,531	67,025	98,078	122,278	155,732	167,209	5.7	4.4

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Coal
ALTERNATIVE: Bad Energy

SEGMENT	IN/OUT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Shipped	2,314	3,503	5,078	8,057	9,816	10,619	11,162	10.1	2.5
	Received	6,840	8,398	10,310	13,785	16,007	16,804	17,234	5.5	1.7
Lower Upper Mississippi	Shipped	7,446	7,818	9,981	14,071	17,706	20,744	22,217	5.0	3.6
	Received	2,018	2,051	3,686	9,472	13,963	18,257	19,780	12.6	5.8
Lower Mississippi	Shipped	5	5	6	7	8	8	8	3.3	1.3
	Received	4,244	3,957	4,258	4,246	5,099	5,718	6,193	0.0	2.9
Baton Rouge to Gulf	Shipped	2,911	2,789	3,334	4,056	3,367	3,486	3,529	2.6	-1.1
	Received	3,445	4,616	7,296	19,435	28,629	36,720	40,252	14.2	5.8
Illinois River	Shipped	7,457	7,969	9,346	11,178	12,573	13,392	13,763	3.2	1.6
	Received	6,138	6,404	8,296	10,984	12,700	13,637	14,074	4.6	1.9
Missouri River	Shipped	1	2	2	3	3	3	3	4.6	1.9
	Received	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Shipped	98,828	103,982	132,721	173,626	205,612	230,954	243,554	4.4	2.6
	Received	83,043	87,460	110,821	131,455	145,616	156,238	162,626	3.6	1.7
Tennessee River	Shipped	4,079	4,172	4,469	6,185	11,413	14,342	16,245	3.3	7.7
	Received	7,435	7,395	7,147	9,531	11,960	14,405	15,995	1.9	4.1
Arkansas River	Shipped	515	648	1,121	3,773	5,769	7,429	7,997	16.5	5.9
	Received	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Shipped	a	a	a	a	a	a	a	10.1	5.7
	Received	261	322	797	4,591	7,427	9,795	10,519	24.7	6.6
Gulf Coast East	Shipped	692	1,030	2,271	4,938	8,691	10,764	11,511	16.3	6.7
	Received	8,063	7,562	12,535	20,130	26,997	31,908	33,674	7.3	4.0
Warrior River System	Shipped	7,821	8,063	10,274	15,707	14,808	17,186	18,720	5.5	1.4
	Received	7,118	7,545	9,092	13,783	16,722	20,409	23,171	5.2	4.1
South Atlantic Coast	Shipped	a	a	a	a	a	a	a	2.6	2.7
	Received	2	2	2	2	2	2	2	0.0	0.0
Middle Atlantic Coast	Shipped	5,034	8,339	15,838	20,163	27,323	33,973	38,406	11.3	5.1
	Received	5,026	8,331	14,331	17,155	24,315	30,965	35,398	9.9	5.7

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	a	a	1,500	3,000	3,000	3,000	3,000	155.7	0.0
Great Lakes and Seaway	Shipped	19,145	25,014	25,729	24,395	27,864	30,844	32,028	1.9	2.1
	Received	22,615	29,288	30,097	28,588	32,514	35,885	37,225	1.8	2.1
Washington/Oregon Coast	Shipped	37	37	37	37	37	37	37	0.0	0.0
	Received	1	1	1	1	1	1	1	0.0	0.0
Columbia-Snake Willamette River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
California Coast	Shipped	a	a	a	a	a	a	a	0.0	0.0
	Received	1	1	1	1	1	1	1	0.0	0.0
Alaska	Shipped	11	11	11	11	11	11	11	0.0	0.0
	Received	46	46	46	46	46	46	46	0.0	0.0
Hawaii and Pacific Territories	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	a	a	a	a	a	a	a	0.0	0.0
Domestic Caribbean	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	a	a	a	a	a	a	a	0.0	0.0
Total	Shipped	156,296	173,381	220,216	286,205	345,000	393,791	419,192	4.8	3.0
	Received	156,296	173,381	220,216	286,205	345,000	393,791	419,192	4.8	3.0

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Coal
ALTERNATIVE: Bad Energy

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	1,313	3,470	5,256	7,535	10,120	13,159	13,706	14.4	4.7
	Imports	142	252	260	284	277	287	287	5.5	0.1
Illinois River	Exports	12	21	25	29	35	42	43	7.2	2.9
	Imports	0	0	0	0	0	0	0	0.0	0.0
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	18	1,205	2,187	3,440	4,862	6,533	6,834	49.5	5.4
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast East	Exports	125	125	125	125	125	125	125	0.0	0.0
	Imports	219	385	398	434	425	439	439	5.4	0.1
Warrior River System	Exports	3,612	5,661	7,357	9,522	11,978	14,865	15,385	7.7	3.8
	Imports	866	1,526	1,580	1,722	1,684	1,741	1,741	5.4	0.1
South Atlantic Coast	Exports	1	1	1	1	1	1	1	0.0	0.0
	Imports	a	1	1	1	1	1	1	5.4	0.1
Middle Atlantic Coast	Exports	31,986	37,378	41,843	47,540	54,003	61,599	62,967	3.1	2.2
	Imports	306	536	555	605	592	612	612	5.4	0.1

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Great Lakes and Seaway	Exports	16,868	27,479	32,608	39,152	46,577	55,303	56,875	6.7	2.9
	Imports	19	33	35	38	37	38	38	5.4	0.1
Washington/Oregon Coast	Exports	a	a	a	a	a	a	a	0.0	0.0
	Imports	13	21	22	24	23	24	24	4.9	0.1
Columbia-Snake Willamette River	Exports	a	a	a	a	a	a	a	0.0	0.0
	Imports	a	a	a	a	a	a	a	5.0	0.1
California Coast	Exports	1	1	1	1	1	1	1	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Alaska	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Hawaii and Pacific Territories	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Domestic Caribbean	Exports	a	a	a	a	a	a	a	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Total	Exports	53,938	75,343	89,404	107,348	127,705	151,630	155,938	5.4	2.9
	Imports	1,565	2,755	2,851	3,106	3,038	3,142	3,142	5.4	0.1

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: Coal
ALTERNATIVE: Bad Energy

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	6,872	8,450	10,503	14,351	16,666	17,667	18,318	5.8	1.9
Lower Upper Mississippi	10,683	11,746	15,355	23,199	29,844	35,701	38,370	6.1	3.9
Lower Mississippi	11,936	12,404	18,456	28,651	41,589	52,679	57,402	7.0	5.5
Baton Rouge to Gulf	10,410	11,004	17,234	28,325	39,734	50,368	54,687	8.0	5.2
Illinois River	9,625	10,702	12,691	15,206	17,380	18,710	19,304	3.6	1.9
Missouri River	1	2	2	3	3	3	3	4.6	1.9
Ohio River	100,087	105,263	134,738	175,615	208,075	233,833	246,630	4.4	2.6
Tennessee River	10,085	10,208	10,173	22,265	33,488	41,188	45,753	6.3	5.7
Arkansas River	515	648	1,121	3,773	5,769	7,429	7,997	16.5	5.9
Gulf Coast West	261	322	797	4,591	7,427	9,795	10,519	24.7	6.6
Gulf Coast East	8,446	7,974	13,028	20,458	27,407	32,401	34,215	7.0	4.0
Warrior River System	8,178	8,441	10,730	25,031	31,793	38,231	42,002	9.0	4.1
Great Lakes	25,718	32,709	33,555	31,976	36,083	39,609	41,011	1.7	1.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Coal
ALTERNATIVE: Bad Energy

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	2,259	2,538	2,934	3,706	4,133	4,364	4,538	3.9	1.6
Lower Upper Mississippi	1,351	1,538	1,954	2,776	3,468	4,074	4,367	5.7	3.5
Lower Mississippi	5,417	5,854	9,553	15,416	22,836	29,271	31,942	8.4	5.8
Baton Rouge to Gulf	1,533	1,666	2,560	3,444	4,800	6,035	6,603	6.4	5.1
Illinois River	1,260	1,483	1,785	2,144	2,502	2,729	2,830	4.2	2.2
Missouri River	1	1	1	1	1	1	1	4.6	1.9
Ohio River	20,080	21,564	29,153	41,411	51,707	59,856	63,630	5.7	3.4
Tennessee River	1,184	1,236	1,213	3,448	5,369	6,633	7,367	8.6	6.0
Arkansas River	189	238	412	1,387	2,121	2,731	2,940	16.5	5.9
Gulf Coast West	121	131	209	836	1,305	1,696	1,816	16.0	6.1
Gulf Coast East	446	406	737	1,184	1,683	2,014	2,135	7.8	4.6
Warrior River System	2,134	2,244	2,748	7,195	9,277	11,195	12,346	9.8	4.2
Great Lakes	10,593	13,795	14,177	13,465	15,318	16,909	17,542	1.9	2.1
Total	46,566	52,695	67,436	96,413	124,518	147,509	158,057	5.8	3.9

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Coal
ALTERNATIVE: Defense

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	2,314	3,580	5,353	7,569	10,927	13,639	14,322	9 5	5.0
	Received	6,840	8,510	10,766	15,223	16,657	19,701	20,418	6.3	2.3
Lower Upper Mississippi	Shipped	7,446	7,892	10,210	14,436	20,240	25,945	27,543	5.2	5.1
	Received	2,018	2,110	3,835	5,423	14,425	20,130	21,732	7.9	11.3
Lower Mississippi	Shipped	5	5	6	9	8	9	9	5 1	0 4
	Received	4,244	3,993	4,699	6,645	7,667	9,638	10,162	3 5	3.3
Baton Rouge to Gulf	Shipped	2,911	2,792	3,500	4,949	3,510	3,727	3,791	4 2	-2.0
	Received	3,445	4,463	5,704	8,065	23,529	33,088	36,155	6 8	12.2
Illinois River	Shipped	7,457	8,127	9,618	13,600	12,856	14,811	15,451	4 7	1.0
	Received	6,138	6,535	8,697	12,298	12,822	15,278	15,975	5 5	2 0
Missouri River	Shipped	1	2	2	3	3	4	4	5 5	2.0
	Received	0	0	0	0	0	0	0	0 0	0 0
Ohio River	Shipped	98,828	104,975	135,465	191,548	207,069	250,049	262,380	5 2	2 4
	Received	83,043	88,402	113,809	160,927	150,868	174,215	180,480	5 2	0 9
Tennessee River	Shipped	4,079	4,230	4,629	6,545	12,333	18,041	20,156	3 7	9 0
	Received	7,435	7,476	7,402	10,466	12,715	17,520	18,678	2 7	4 6
Arkansas River	Shipped	515	631	945	1,337	4,041	5,402	5,843	7 6	12 0
	Received	0	0	0	0	0	0	0	0 0	0 0
Gulf Coast West	Shipped	a	a	a	a	a	a	a	10 9	8 4
	Received	261	291	529	748	3 844	5,028	5,390	8 4	16 4
Gulf Coast East	Shipped	692	1,022	2,887	4,082	11,243	15,049	16,178	14 6	11 2
	Received	8,063	7,574	14,290	20,207	33,046	42,059	44,734	7 3	6 3
Warrior River System	Shipped	7,821	7,812	9,715	13,738	15,933	20,666	22,724	4 4	3 9
	Received	7,118	7,278	8,266	11,688	17,451	24,998	28,619	3 9	7 1
South Atlantic Coast	Shipped	a	a	a	a	a	a	a	4 6	2 8
	Received	2	2	2	2	2	2	2	2 7	2 6
Middle Atlantic Coast	Shipped	5,034	8,626	14,845	20,991	34,649	50,684	56,670	11 6	7 9
	Received	5,026	8,619	13,338	18,860	31,642	47,676	53,662	10 7	8 4

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	a	a	1,500	2,121	3,000	3,000	3,000	149.0	2.7
Great Lakes and Seaway	Shipped	19,145	26,276	25,497	36,053	31,635	35,804	38,615	5.0	0.5
	Received	22,615	30,716	29,835	42,188	36,780	41,497	44,677	4.9	0.4
Washington/Oregon Coast	Shipped	37	37	37	52	37	37	37	2.7	-2.6
	Received	1	1	1	2	1	1	1	2.7	2.6
Columbia-Snake Willamette River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
California Coast	Shipped	a	a	a	a	a	a	a	2.7	-2.6
	Received	1	1	1	1	1	1	1	2.7	2.6
Alaska	Shipped	11	11	11	16	11	11	11	2.7	2.6
	Received	46	46	46	65	46	46	46	2.7	2.6
Hawaii and Pacific Territories	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	a	a	a	a	a	a	a	2.7	2.6
Domestic Caribbean	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	a	a	a	a	a	a	a	2.7	2.6
Total	Shipped	156,296	176,017	222,720	314,928	364,496	453,878	483,733	5.5	3.4
	Received	156,296	176,017	222,720	314,928	364,496	453,878	483,733	5.5	3.4

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Coal
ALTERNATIVE: Defense

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77 90	90 03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0 0	0 0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0 0	0 0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0 0	0 0
Baton Rouge to Gulf	Exports	1,313	3,470	5,256	5,433	10,120	13,159	13,706	11 5	7 4
	Imports	142	252	260	195	277	287	287	2 5	3 0
Illinois River	Exports	12	21	25	25	35	42	43	5 9	4 1
	Imports	0	0	0	0	0	0	0	0 0	0 0
Missouri River	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0 0	0 0
Ohio River	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0 0	0 0
Tennessee River	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0 0	0 0
Arkansas River	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0 0	0 0
Gulf Coast West	Exports	18	1,205	2,187	2,261	4,862	6,533	6,834	44 8	8 9
	Imports	0	0	0	0	0	0	0	0 0	0 0
Gulf Coast East	Exports	125	125	125	129	125	125	125	0 3	0 3
	Imports	219	385	398	299	425	439	439	2 4	3 0
Warrior River System	Exports	3,612	5,661	7,357	7,606	11,978	14,865	15,385	5 9	5 6
	Imports	866	1,526	1,580	1,186	1,684	1,741	1,741	2 4	3 0
South Atlantic Coast	Exports	1	1	1	1	1	1	1	0 3	0 3
	Imports	a	1	1	a	1	1	1	2 4	3 0
Middle Atlantic Coast	Exports	31,986	37,378	41,843	43,254	54,003	61,599	62,967	2 3	2 9
	Imports	306	536	555	417	592	612	612	2 4	3 0

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Great Lakes and Seaway	Exports	16,868	27,479	32,608	33,708	46,577	55,303	56,875	5.5	4.1
	Imports	19	33	35	26	37	38	38	2.4	3.0
Washington/Oregon Coast	Exports	a	a	a	a	a	a	a	0.3	0.3
	Imports	13	21	22	16	23	24	24	2.0	3.0
Columbia-Snake Willamette River	Exports	a	a	a	a	a	a	a	0.3	0.3
	Imports	a	a	a	a	a	a	a	2.1	3.0
California Coast	Exports	1	1	1	2	1	1	1	0.3	0.3
	Imports	0	0	0	0	0	0	0	0.0	0.0
Alaska	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Hawaii and Pacific Territories	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Domestic Caribbean	Exports	a	a	a	a	a	a	a	0.3	0.3
	Imports	0	0	0	0	0	0	0	0.0	0.0
Total	Exports	53,938	75,343	89,404	92,420	127,705	151,630	155,938	4.2	4.1
	Imports	1,565	2,755	2,851	2,140	3,038	3,142	3,142	2.4	3.0

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: Coal
ALTERNATIVE: Defense

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	6,872	8,555	10,892	15,401	17,939	21,412	22,274	6.4	2.9
Lower Upper Mississippi	10,683	11,970	15,665	22,151	33,642	43,656	46,600	5.8	5.9
Lower Mississippi	11,936	12,260	17,757	15,948	35,557	48,311	52,269	2.3	9.6
Baton Rouge to Gulf	10,410	10,822	16,245	14,006	31,262	42,322	45,845	2.3	9.6
Illinois River	9,625	10,999	13,063	18,471	17,998	21,005	22,073	5.1	1.4
Missouri River	1	2	2	3	3	4	4	5.5	2.0
Ohio River	100,087	106,269	137,567	193,627	209,646	253,335	265,853	5.2	2.5
Tennessee River	10,085	10,379	10,690	23,383	37,530	52,208	56,918	6.7	7.1
Arkansas River	515	631	945	1,337	4,041	5,402	5,843	7.6	12.0
Gulf Coast West	261	291	529	748	3,844	5,028	5,390	8.4	16.4
Gulf Coast East	8,446	7,972	14,742	20,473	33,462	42,647	45,375	7.0	6.3
Warrior River System	8,178	8,177	10,130	22,917	35,815	48,431	53,559	8.2	6.7
Great Lakes	25,718	34,203	33,281	47,060	40,545	45,479	48,806	4.8	0.3

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Coal
ALTERNATIVE: Defense

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	2,259	2,554	2,983	4,218	4,528	5,250	5,440	4.9	2.0
Lower Upper Mississippi	1,351	1,575	1,987	2,810	3,929	5,019	5,353	5.8	5.1
Lower Mississippi	5,417	5,745	8,908	6,515	18,011	24,919	27,103	1.4	11.6
Baton Rouge to Gulf	1,533	1,640	2,401	1,892	4,079	5,710	6,219	1.6	9.6
Illinois River	1,260	1,540	1,838	2,598	2,632	3,121	3,308	5.7	1.9
Missouri River	1	1	1	1	1	1	1	5.5	2.0
Ohio River	20,080	21,811	29,695	41,933	50,990	63,909	67,717	5.8	3.8
Tennessee River	1,184	1,265	1,279	3,587	6,099	8,489	9,291	8.9	7.6
Arkansas River	189	232	348	491	1,486	1,986	2,148	7.6	12.0
Gulf Coast West	121	126	165	234	713	908	968	5.2	11.6
Gulf Coast East	446	405	840	1,138	2,078	2,688	2,869	7.5	7.4
Warrior River System	2,134	2,167	2,529	6,555	10,400	14,174	15,732	9.0	7.0
Great Lakes	10,593	14,469	14,054	19,872	17,332	19,559	21,060	5.0	0.4
Total	46,566	53,531	67,025	91,842	122,278	155,732	167,209	5.4	4.7

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Coal
ALTERNATIVE: High Coal Export

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	2,314	3,580	5,353	8,936	10,927	13,639	14,322	11.0	3.7
	Received	6,840	8,510	10,766	14,664	16,657	19,701	20,418	6.0	2.6
Lower Upper Mississippi	Shipped	7,446	7,915	10,296	16,403	21,252	27,902	29,818	6.3	4.7
	Received	2,018	2,110	3,835	10,004	14,425	20,130	21,732	13.1	6.1
Lower Mississippi	Shipped	5	5	6	7	8	9	9	3.6	1.9
	Received	4,244	3,993	4,699	6,153	7,667	9,638	10,162	2.9	3.9
Baton Rouge to Gulf	Shipped	2,911	2,792	3,500	4,435	3,510	3,727	3,791	3.3	-1.2
	Received	3,445	4,610	6,207	18,077	29,541	44,834	49,831	13.6	8.1
Illinois River	Shipped	7,457	8,127	9,618	11,596	12,856	14,811	15,451	3.5	2.2
	Received	6,138	6,535	8,697	11,314	12,822	15,278	15,975	4.8	2.7
Missouri River	Shipped	1	2	2	3	3	4	4	4.8	2.7
	Received	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Shipped	98,828	105,114	136,027	179,753	213,481	262,371	276,769	4.7	3.4
	Received	83,040	88,402	113,809	137,333	150,868	174,215	180,480	3.9	2.1
Tennessee River	Shipped	4,079	4,235	4,645	6,711	14,484	22,167	25,150	3.9	10.7
	Received	7,435	7,476	7,402	10,037	12,715	17,520	18,678	2.3	4.9
Arkansas River	Shipped	515	640	978	2,865	4,402	6,107	6,663	14.1	6.7
	Received	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Shipped	a	a	a	a	a	a	a	12.3	7.0
	Received	261	296	638	2,962	4,944	6,985	7,624	20.6	7.5
Gulf Coast East	Shipped	692	1,022	2,887	6,344	11,243	15,049	16,178	18.6	7.5
	Received	8,063	7,574	14,290	24,136	33,046	42,059	44,734	8.8	4.9
Warrior River System	Shipped	7,821	8,272	11,302	19,232	18,468	25,521	28,621	7.2	3.1
	Received	7,118	7,762	9,936	16,950	22,810	35,261	41,084	6.9	7.0
South Atlantic Coast	Shipped	a	a	a	a	a	a	a	3.4	3.9
	Received	2	2	2	2	2	2	2	0.0	0.0
Middle Atlantic Coast	Shipped	5,034	8,626	14,845	25,275	34,649	50,684	56,670	13.2	6.4
	Received	5,026	8,619	13,338	22,267	31,642	47,676	53,662	12.1	7.0

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SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	a	a	1,500	3,000	3,000	3,000	3,000	155.7	0.0
Great Lakes and Seaway	Shipped	19,145	26,276	25,497	27,946	31,635	35,804	38,615	3.0	2.5
	Received	22,615	30,716	29,835	32,606	36,780	41,497	44,677	2.9	2.5
Washington/Oregon Coast	Shipped	37	37	37	37	37	37	37	0.0	0.0
	Received	1	1	1	1	1	1	1	0.0	0.0
Columbia-Snake Willamette River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
California Coast	Shipped	a	a	a	a	a	a	a	0.0	0.0
	Received	1	1	1	1	1	1	1	0.0	0.0
Alaska	Shipped	11	11	11	11	11	11	11	0.0	0.0
	Received	46	46	46	46	46	46	46	0.0	0.0
Hawaii and Pacific Territories	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	a	a	a	a	a	a	a	0.0	0.0
Domestic Caribbean	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	a	a	a	a	a	a	a	0.0	0.0
Total	Shipped	156,296	176,653	225,003	309,553	376,967	477,844	512,108	5.4	3.9
	Received	156,296	176,653	225,003	309,553	376,967	477,844	512,108	5.4	3.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Coal
ALTERNATIVE: High Coal Export

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	1,313	3,357	8,504	18,065	25,579	37,833	40,518	22.3	6.4
	Imports	142	252	260	284	277	287	287	5.5	0.1
Illinois River	Exports	12	21	25	29	35	42	43	7.2	2.9
	Imports	0	0	0	0	0	0	0	0.0	0.0
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	18	1,041	4,443	8,394	12,151	18,278	19,621	60.1	6.7
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast East	Exports	125	125	125	125	125	125	125	0.0	0.0
	Imports	219	385	398	434	425	439	439	5.4	0.1
Warrior River System	Exports	3,612	5,656	11,908	20,364	27,878	40,131	42,817	14.2	5.9
	Imports	866	1,526	1,580	1,722	1,684	1,741	1,741	5.4	0.1
South Atlantic Coast	Exports	1	1	1	1	1	1	1	0.0	0.0
	Imports	0	1	1	1	1	1	1	5.4	0.1
Middle Atlantic Coast	Exports	31,986	47,297	66,831	68,840	79,304	103,199	108,435	6.1	3.6
	Imports	306	536	555	605	592	612	612	5.4	0.1

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SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Great Lakes and Seaway	Exports	16,868	27,479	32,608	39,152	46,577	55,303	56,875	6.7	2.9
	Imports	19	33	35	38	37	38	38	5.4	0.1
Washington/Oregon Coast	Exports	a	a	a	838	7,280	10,956	11,762	77.9	22.5
	Imports	13	0	0	0	0	0	0	-100.0	0.0
Columbia-Snake Willamette River	Exports	a	a	a	a	a	a	a	0.0	0.0
	Imports	a	0	0	0	0	0	0	-100.0	0.0
California Coast	Exports	1	22	555	4,190	6,068	9,131	9,803	84.2	6.8
	Imports	0	0	0	0	0	0	0	0.0	0.0
Alaska	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Hawaii and Pacific Territories	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Domestic Caribbean	Exports	a	a	a	a	a	a	a	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Total	Exports	53,938	85,000	125,000	160,000	205,000	275,000	290,000	8.7	4.7
	Imports	1,565	2,733	2,829	3,082	3,015	3,118	3,118	5.4	0.1

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: Coal
ALTERNATIVE: High Coal Export

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77 90	90 03
Upper Mississippi	6,872	8,555	10,892	15,450	17,939	21,412	22,274	6 4	2 9
Lower Upper Mississippi	10,683	11,992	15,752	26,455	34,654	45,613	48,875	7 2	4 8
Lower Mississippi	11,936	12,436	18,453	27,590	42,500	61,685	67,796	6.7	7.2
Baton Rouge to Gulf	10,410	10,999	16,942	25,766	38,374	56,025	61,755	7.2	7.0
Illinois River	9,625	10,999	13,063	16,003	17,998	21,005	22,073	4 0	2 5
Missouri River	1	2	2	3	3	4	4	4 8	2 7
Ohio River	100,087	106,414	138,145	181,845	216,058	265,657	280,241	4.7	3.4
Tennessee River	10,085	10,384	10,706	25,017	40,521	57,945	63,869	7.2	7.5
Arkansas River	515	640	978	2,865	4,402	6,107	6,663	14 1	6.7
Gulf Coast West	261	296	638	2,962	4,944	6,985	7,624	20.6	7 5
Gulf Coast East	8,446	7,997	14,826	24,526	33,630	42,976	45,758	8 5	4 9
Warrior River System	8,178	8,662	11,801	30,434	41,342	59,023	66,407	10 6	6 2
Great Lakes	25,718	34,203	33,281	36,179	40,545	45,479	48,806	2 7	2 3

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Coal
ALTERNATIVE: High Coal Export

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	2,259	2,554	2,983	3,958	4,528	5,250	5,440	4.4	2.5
Lower Upper Mississippi	1,351	1,577	1,994	3,144	4,012	5,179	5,539	6.7	4.5
Lower Mississippi	5,417	5,859	9,359	13,971	22,491	33,544	37,116	7.6	7.8
Baton Rouge to Gulf	1,533	1,675	2,537	3,491	5,480	8,416	9,361	6.5	7.9
Illinois River	1,260	1,540	1,838	2,299	2,632	3,121	3,308	4.7	2.8
Missouri River	1	1	1	1	1	1	1	4.8	2.7
Ohio River	20,080	21,862	29,910	42,61	53,471	68,659	73,262	6.0	4.2
Tennessee River	1,184	1,266	1,283	3,956	6,665	9,575	10,606	9.7	7.9
Arkansas River	189	235	359	1,053	1,618	2,245	2,450	14.1	6.7
Gulf Coast West	121	127	183	567	895	1,232	1,337	12.6	6.8
Gulf Coast East	446	409	851	1,441	2,100	2,732	2,920	9.4	5.6
Warrior River System	2,134	2,306	3,009	8,755	12,154	17,535	19,808	11.5	6.5
Great Lakes	10,593	14,469	14,054	15,362	17,332	19,559	21,060	2.9	2.5
Total	46,566	53,881	68,360	100,646	133,380	177,047	192,210	6.1	5.1

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Coal
ALTERNATIVE: Misc. Sensitivity

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	2,317	3,582	5,355	8,940	10,931	13,645	14,328	10 9	3 7
	Received	6,938	8,617	10,922	14,895	16,963	20,138	20,945	6 1	2 7
Lower Upper Mississippi	Shipped	7,477	7,924	10,276	16,083	20,340	26,073	27,678	6 1	4 3
	Received	2,135	2,231	4,052	10,537	15,187	21,210	22,908	13 1	6 2
Lower Mississippi	Shipped	5	5	7	8	8	9	10	3 5	1 8
	Received	4,515	4,248	5,001	6,550	8,165	10,269	10,833	2 9	3 9
Baton Rouge to Gulf	Shipped	2,911	2,792	3,500	4,435	3,510	3,728	3,792	3 3	-1 2
	Received	3,763	4,855	6,254	17,443	26,532	38,122	42,477	12 5	7 1
Illinois River	Shipped	7,459	8,130	9,621	11,600	12,859	14,815	15,455	3 5	2 2
	Received	6,192	6,593	8,778	11,423	12,951	15,440	16,153	4 8	2 7
Missouri River	Shipped	1	2	2	3	3	4	4	4 8	2 7
	Received	0	0	0	0	0	0	0	0 0	0 0
Ohio River	Shipped	110,133	116,878	150,649	197,261	230,127	277,624	291,255	4 6	3 0
	Received	92,768	98,645	126,830	153,274	168,323	194,242	201,215	3 9	2 1
Tennessee River	Shipped	4,181	4,344	4,786	6,892	13,041	19,122	21,400	3 9	9 1
	Received	7,873	7,915	7,836	10,626	13,462	18,549	19,775	2 3	4 9
Arkansas River	Shipped	518	625	1,072	3,379	5,570	8,489	10,175	15 5	8 8
	Received	0	0	0	0	0	0	0	0 0	0 0
Gulf Coast West	Shipped	a	a	a	a	a	a	a	12 3	7 0
	Received	284	318	579	2,649	4,197	5,491	5,889	18 7	6 3
Gulf Coast East	Shipped	693	1,024	2,889	6,346	11,245	15,051	16,180	18 6	7 5
	Received	8,397	7,856	14,893	25,168	34,482	43,931	46,764	8 8	4 9
Warrior River System	Shipped	7,821	7,812	9,715	16,038	15,933	20,666	22,724	5 7	2 7
	Received	7,152	7,313	8,307	13,657	18,034	25,981	29,794	5 1	6 2
South Atlantic Coast	Shipped	a	a	a	a	a	a	a	3 4	3 9
	Received	2	2	2	2	2	2	2	0 0	0 0
Middle Atlantic Coast	Shipped	5,034	8,626	14,845	25,275	34,649	50,684	56,670	13 2	6 4
	Received	5,026	8,619	13,338	22,267	31,642	47,676	53,662	12 1	7 0

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	a	a	1,500	3,000	3,000	3,000	3,000	155.7	0.0
Great Lakes and Seaway	Shipped	19,145	26,276	25,497	27,946	31,635	35,804	38,615	3.0	2.5
	Received	22,648	30,808	29,921	32,711	36,914	41,665	44,867	2.9	2.5
Washington/Oregon Coast	Shipped	37	37	37	37	37	37	37	0.0	0.0
	Received	1	1	1	1	1	1	1	0.0	0.0
Columbia-Snake Willamette River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
California Coast	Shipped	a	a	a	a	a	a	a	0.0	0.0
	Received	1	1	1	1	1	1	1	0.0	0.0
Alaska	Shipped	11	11	11	11	11	11	11	0.0	0.0
	Received	46	46	46	46	46	46	46	0.0	0.0
Hawaii and Pacific Territories	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	a	a	a	a	a	a	a	0.0	0.0
Domestic Caribbean	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	a	a	a	a	a	a	a	0.0	0.0
Total	Shipped	167,742	188,068	238,262	324,252	389,903	485,762	518,333	5.2	3.7
	Received	167,742	188,068	238,262	324,252	389,903	485,762	518,333	5.2	3.7

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Coal
ALTERNATIVE: Misc. Sensitivity

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77 90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	1,313	3,470	5,256	7,535	10,120	13,159	13,706	14.4	4.7
	Imports	142	252	260	284	277	287	287	5.5	0.1
Illinois River	Exports	12	21	25	29	35	42	43	7.2	2.9
	Imports	0	0	0	0	0	0	0	0.0	0.0
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	18	1,205	2,187	3,440	4,862	6,533	6,834	49.5	5.4
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast East	Exports	125	125	125	125	125	125	125	0.0	0.0
	Imports	219	385	398	434	425	439	439	5.4	0.1
Warrior River System	Exports	3,612	5,661	7,357	9,522	11,978	14,865	15,385	7.7	3.8
	Imports	866	1,526	1,580	1,722	1,684	1,741	1,741	5.4	0.1
South Atlantic Coast	Exports	1	1	1	1	1	1	1	0.0	0.0
	Imports	a	1	1	1	1	1	1	5.4	0.1
Middle Atlantic Coast	Exports	31,986	37,378	41,843	47,540	54,003	61,599	62,967	3.1	2.2
	Imports	306	536	555	605	592	612	612	5.4	0.1

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SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-81	% GROWTH 90-03
North Atlantic Coast	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Great Lakes and Seaway	Exports	16,868	27,479	32,608	39,152	46,577	55,303	56,875	6.7	2.9
	Imports	19	33	35	38	37	38	38	5.4	0.1
Washington/Oregon Coast	Exports	a	a	a	a	a	a	a	0.0	0.0
	Imports	13	21	22	24	23	24	24	4.9	0.1
Columbia-Snake Willamette River	Exports	a	a	a	a	a	a	a	0.0	0.0
	Imports	a	a	a	a	a	a	a	5.0	0.1
California Coast	Exports	1	1	1	1	1	1	1	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Alaska	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Hawaii and Pacific Territories	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Domestic Caribbean	Exports	a	a	a	a	a	a	a	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Total	Exports	53,938	75,343	89,404	107,348	127,705	151,630	155,938	5.4	2.9
	Imports	1,565	2,755	2,851	3,106	3,038	3,142	3,142	5.4	0.1

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: Coal
ALTERNATIVE: Misc. Sensitivity

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	6,972	8,664	11,051	15,684	18,249	21,854	22,807	6.4	2.9
Lower Upper Mississippi	11,020	12,384	16,277	27,120	35,081	45,640	48,816	7.2	4.6
Lower Mississippi	12,922	13,252	19,352	27,222	39,641	54,874	60,363	5.9	6.3
Baton Rouge to Gulf	11,121	11,560	17,493	24,851	34,690	47,954	52,852	6.4	6.0
Illinois River	9,714	11,151	13,232	16,220	18,265	21,339	22,444	4.0	2.5
Missouri River	1	2	2	3	3	4	4	4.8	2.7
Ohio River	111,519	118,303	152,968	199,576	232,986	281,283	295,135	4.6	3.1
Tennessee River	10,107	10,371	10,735	25,864	39,453	54,764	59,762	7.5	6.7
Arkansas River	518	625	1,072	3,379	5,570	8,489	10,175	15.5	8.8
Gulf Coast West	284	318	579	2,649	4,197	5,491	5,889	18.7	6.3
Gulf Coast East	8,815	8,291	15,388	25,521	34,941	44,581	47,474	8.5	4.9
Warrior River System	8,213	8,213	10,172	28,105	37,806	51,213	56,649	9.9	5.5
Great Lakes	25,751	34,295	33,387	36,285	40,680	45,647	48,996	2.7	2.3

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Coal
ALTERNATIVE: Misc. Sensitivity

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	2,304	2,604	3,054	4,063	4,668	5,450	5,680	4.5	2.6
Lower Upper Mississippi	1,408	1,648	2,088	3,268	4,135	5,301	5,674	6.7	4.3
Lower Mississippi	5,918	6,262	9,767	13,357	19,963	27,941	30,719	6.5	6.6
Baton Rouge to Gulf	1,666	1,779	2,620	3,201	4,516	6,409	7,065	5.2	6.3
Illinois River	1,275	1,575	1,872	2,341	2,686	3,188	3,384	4.8	2.9
Missouri River	1	1	1	1	1	1	1	4.8	2.7
Ohio River	22,299	24,207	32,919	46,242	56,463	70,723	74,934	5.8	3.8
Tennessee River	1,146	1,223	1,243	4,070	6,412	8,898	9,749	10.2	6.9
Arkansas River	190	230	394	1,242	2,048	3,121	3,741	15.5	8.8
Gulf Coast West	133	138	181	523	778	992	1,057	11.1	5.6
Gulf Coast East	483	438	904	1,535	2,219	2,871	3,065	9.3	5.5
Warrior River System	2,137	2,170	2,532	8,085	11,058	15,093	16,754	10.8	5.8
Great Lakes	10,606	14,507	14,089	15,405	17,388	19,628	21,139	2.9	2.5
Total	49,566	56,782	71,663	103,333	132,335	169,616	182,961	5.8	4.5

s = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Crude Petroleum
ALTERNATIVE: Baseline

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	1	1	1	1	1	1	1	-0.4	0.7
	Received	597	1,182	546	537	542	531	532	-0.8	-0.1
Lower Upper Mississippi	Shipped	14	14	13	13	13	14	14	-0.4	0.6
	Received	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Shipped	36	36	34	33	34	33	33	-0.7	0.0
	Received	2,750	2,714	2,531	2,507	2,524	2,465	2,470	-0.7	-0.1
Baton Rouge to Gulf	Shipped	11,066	11,427	10,326	10,408	10,695	10,759	11,024	-0.5	0.4
	Received	12,168	19,823	14,118	12,991	12,089	12,901	14,073	0.5	0.6
Illinois River	Shipped	95	94	87	86	87	86	87	-0.8	0.1
	Received	65	65	60	59	59	58	59	-0.8	0.0
Missouri River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Shipped	38	74	34	34	34	33	34	-0.8	-0.1
	Received	357	354	329	324	327	321	322	-0.7	0.0
Tennessee River	Shipped	3	6	3	3	3	3	3	-0.8	-0.1
	Received	9	9	8	8	8	8	8	-0.7	-0.1
Arkansas River	Shipped	4	4	4	4	4	4	4	-0.7	-0.2
	Received	21	20	19	19	19	19	19	-0.7	-0.2
Gulf Coast West	Shipped	22,737	21,626	19,685	19,923	20,513	20,689	21,241	-1.0	0.5
	Received	20,527	31,149	23,039	21,463	20,192	21,156	22,725	0.3	0.4
Gulf Coast East	Shipped	1,028	884	710	721	747	761	786	-2.7	0.7
	Received	347	202	55	55	57	59	61	-13.2	0.7
Warrior River System	Shipped	3,807	3,807	3,521	3,564	3,682	3,732	3,845	-0.5	0.6
	Received	768	760	722	734	761	775	801	-0.4	0.7
South Atlantic Coast	Shipped	666	659	620	620	631	630	642	-0.5	0.3
	Received	0	0	0	0	0	0	0	0.0	0.0
Middle Atlantic Coast	Shipped	13,967	13,703	12,901	12,904	12,986	12,675	12,697	-0.6	-0.1
	Received	15,937	14,730	13,030	13,030	13,110	12,792	12,813	-1.5	-0.1

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SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
Great Lakes and Seaway	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
Washington/Oregon Coast	Shipped	526	518	477	468	470	459	460	-0.9	-0.1
	Received	4,767	16,877	34,951	36,286	38,319	35,577	34,395	16.9	-0.4
Columbia-Snake Willamette River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	253	1,542	1,450	1,342	1,279	1,176	1,118	13.7	-1.4
California Coast	Shipped	12,618	12,143	11,099	10,825	10,699	10,346	10,330	-1.2	-0.4
	Received	22,209	57,687	54,172	50,264	47,987	44,201	42,122	6.5	-1.4
Alaska	Shipped	14,897	84,097	87,317	81,733	78,346	73,402	71,886	14.0	-1.0
	Received	645	912	833	812	802	774	773	1.8	-0.4
Hawaii and Pacific Territories	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	17	1,000	910	851	815	763	747	35.4	-1.0
Domestic Caribbean	Shipped	54	54	49	46	44	41	41	-1.2	-1.0
	Received	122	122	111	104	99	93	91	-1.2	-1.0
Total	Shipped	81,557	149,148	146,882	141,386	138,990	133,669	133,127	4.3	-0.5
	Received	81,557	149,148	146,882	141,386	138,990	133,669	133,127	4.3	-0.5

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Crude Petroleum
ALTERNATIVE: Baseline

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	78,668	89,451	87,916	73,187	74,280	65,131	65,633	-0.6	-0.8
Illinois River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	53	0	0	0	0	0	0	-100.0	0.0
	Imports	118,939	135,242	132,921	110,653	112,305	98,472	99,231	-0.6	-0.8
Gulf Coast East	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	9,270	10,420	10,314	8,550	8,645	7,539	7,563	-0.6	-0.9
Warrior River System	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	42	48	47	39	40	35	35	-0.6	-0.8
South Atlantic Coast	Exports	a	0	0	0	0	0	0	-100.0	0.0
	Imports	1,300	849	936	729	894	551	507	-4.3	-2.8
Middle Atlantic Coast	Exports	200	0	0	0	0	0	0	-100.0	0.0
	Imports	80,458	81,093	73,472	63,763	62,534	52,781	51,914	-1.8	-1.6

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SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	12,910	8,425	13,232	14,419	14,824	13,105	13,654	0.9	-0.4
Great Lakes and Seaway	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	38	5	4	4	4	3	3	-16.4	-1.4
Washington/Oregon Coast	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	10,801	2,803	19,860	19,332	20,942	16,984	16,349	4.6	-1.3
Columbia-Snake Willamette River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	317	82	71	58	55	44	43	-12.2	-2.4
California Coast	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	46,790	12,141	10,520	8,619	8,061	6,537	6,293	-12.7	-2.4
Alaska	Exports	1,711	0	0	0	0	0	0	-100.0	0.0
	Imports	303	0	0	0	0	0	0	-100.0	0.0
Hawaii and Pacific Territories	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	2,480	1,388	1,211	1,064	1,045	892	886	-6.3	-1.4
Domestic Caribbean	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	42,834	43,387	39,143	37,285	34,992	29,088	28,377	-1.1	-2.1
Total	Exports	1,964	0	0	0	0	0	0	-100.0	0.0
	Imports	405,151	385,333	389,649	337,704	338,419	291,162	290,488	-1.4	-1.2

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: Crude Petroleum
ALTERNATIVE: Baseline

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	598	1,183	547	538	543	532	534	-0.8	-0.1
Lower Upper Mississippi	752	1,335	688	678	685	672	675	-0.8	0.0
Lower Mississippi	3,688	4,194	3,392	3,291	3,315	3,241	3,249	-0.9	-0.1
Baton Rouge to Gulf	18,415	26,544	19,902	18,708	17,910	18,682	19,938	0.1	0.5
Illinois River	150	149	137	135	137	135	137	-0.8	0.1
Missouri River	0	0	0	0	0	0	0	0.0	0.0
Ohio River	406	443	374	419	423	415	416	0.2	-0.1
Tennessee River	12	15	11	69	69	68	68	14.5	-0.1
Arkansas River	21	20	19	19	19	19	19	-0.7	-0.2
Gulf Coast West	26,705	36,420	27,227	25,715	24,599	25,644	27,364	-0.3	0.5
Gulf Coast East	4,857	4,731	4,288	4,292	4,438	4,504	4,644	-0.9	0.6
Warrior River System	4,505	4,498	4,177	4,238	4,381	4,444	4,581	-0.5	0.6
Great Lakes	0	0	0	0	0	0	0	0.0	0.0

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Crude Petroleum
ALTERNATIVE: Baseline

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	371	735	340	334	337	330	331	-0.8	-0.1
Lower Upper Mississippi	164	291	150	147	149	146	147	-0.8	0.0
Lower Mississippi	1,419	1,768	1,304	1,245	1,255	1,228	1,231	-1.0	-0.1
Baton Rouge to Gulf	2,472	3,013	2,488	2,418	2,402	2,465	2,582	-0.2	0.5
Illinois River	45	45	41	41	41	41	41	-0.8	0.1
Missouri River	0	0	0	0	0	0	0	0.0	0.0
Ohio River	151	159	139	140	141	139	139	-0.6	0.0
Tennessee River	5	6	4	17	17	16	17	10.4	-0.1
Arkansas River	3	3	3	3	3	3	3	-0.7	-0.2
Gulf Coast West	3,174	3,416	3,050	3,031	3,055	3,084	3,179	-0.4	0.4
Gulf Coast East	563	537	473	472	488	495	510	-1.3	0.6
Warrior River System	235	233	215	235	242	245	252	0.0	0.6
Great Lakes	0	0	0	0	0	0	0	0.0	0.0
Total	8,603	10,206	8,207	8,082	8,131	8,192	8,432	-0.5	0.3

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Crude Petroleum
ALTERNATIVE: Low Use

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	1	1	1	1	1	1	1	-0.6	0.3
	Received	597	1,180	533	521	512	492	490	-1.0	-0.5
Lower Upper Mississippi	Shipped	14	14	13	13	13	13	13	-0.6	0.2
	Received	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Shipped	36	36	33	32	32	31	31	-0.9	0.4
	Received	2,750	2,711	2,471	2,430	2,382	2,283	2,273	-0.9	-0.5
Baton Rouge to Gulf	Shipped	11,066	11,413	10,082	10,089	10,095	9,963	10,145	-0.7	0.0
	Received	12,168	25,321	20,959	20,935	22,281	25,399	28,298	4.3	2.3
Illinois River	Shipped	95	94	85	83	82	80	80	-1.0	-0.3
	Received	65	64	58	57	56	54	54	-1.1	-0.4
Missouri River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Shipped	38	74	34	33	32	31	31	-1.0	-0.5
	Received	357	354	321	314	309	297	297	-1.0	0.4
Tennessee River	Shipped	3	6	3	3	3	3	3	-1.0	-0.5
	Received	9	8	8	8	7	7	7	-1.0	-0.5
Arkansas River	Shipped	4	4	4	4	4	3	3	-0.9	-0.6
	Received	21	20	19	19	18	17	17	-0.9	-0.6
Gulf Coast West	Shipped	22,737	21,600	19,219	19,312	19,364	19,160	19,549	-1.2	0.1
	Received	20,527	38,736	32,403	32,325	34,071	38,168	42,106	3.6	2.1
Gulf Coast East	Shipped	1,028	883	693	699	705	704	723	-2.9	0.3
	Received	347	202	53	54	54	54	56	-13.4	0.3
Warrior River System	Shipped	3,807	3,802	3,437	3,455	3,476	3,456	3,538	-0.7	0.2
	Received	768	759	705	711	718	717	737	-0.6	0.3
South Atlantic Coast	Shipped	666	658	608	604	601	590	598	-0.8	-0.1
	Received	0	0	0	0	0	0	0	0.0	0.0
Middle Atlantic Coast	Shipped	13,967	13,687	12,595	12,508	12,259	11,738	11,686	-0.8	-0.5
	Received	15,937	14,713	12,722	12,631	12,377	11,849	11,795	-1.8	-0.5

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SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90 03
North Atlantic Coast	Shipped	0	0	0	0	0	0	0	0 0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
Great Lakes and Seaway	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
Washington/Oregon Coast	Shipped	526	517	466	454	444	425	423	-1.1	-0.5
	Received	4,787	13,704	30,835	31,479	32,010	27,791	25,550	15.6	-1.6
Columbia-Snake Willamette River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	253	1,279	1,106	941	750	522	376	10.6	-6.8
California Coast	Shipped	12,618	12,127	10,836	10,493	10,100	9,581	9,507	-1.4	-0.8
	Received	22,209	48,279	41,812	35,818	28,925	20,664	15,413	3.7	-6.3
Alaska	Shipped	14,897	84,395	87,701	82,181	78,932	74,126	72,708	14.0	-0.9
	Received	645	912	833	812	802	774	773	1.8	-0.4
Hawaii and Pacific Territories	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	17	1,000	910	851	815	763	747	35.4	-1.0
Domestic Caribbean	Shipped	54	54	49	46	44	41	41	-1.2	-1 0
	Received	122	122	111	104	99	93	91	-1.2	-1.0
Total	Shipped	81,557	149,367	145,859	140,009	136,187	129,945	129,081	4.2	-0.6
	Received	81,557	149,367	145,859	140,009	136,187	129,945	129,081	4.2	-0.6

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Crude Petroleum
ALTERNATIVE: Low Use

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	78,668	92,512	87,817	69,481	67,423	57,965	58,003	-1.0	-1.4
Illinois River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	53	0	0	0	0	0	0	-100.0	0.0
	Imports	118,939	139,870	132,771	105,049	101,938	87,639	87,696	-1.0	-1.4
Gulf Coast East	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	9,270	10,587	10,115	7,940	7,634	6,476	6,415	-1.2	-1.6
Warrior River System	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	42	50	47	37	36	31	31	-1.0	-1.4
South Atlantic Coast	Exports	a	0	0	0	0	0	0	-100.0	0.0
	Imports	1,300	612	673	444	331	163	72	-7.9	-13.1
Middle Atlantic Coast	Exports	200	0	0	0	0	0	0	100.0	0.0
	Imports	80,458	78,444	69,319	59,430	56,363	46,241	44,904	-2.3	-2.1

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SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	12,910	8,421	13,223	14,409	14,808	13,089	13,637	0.8	-0.4
Great Lakes and Seaway	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	38	5	4	4	3	3	3	16.6	1.8
Washington/Oregon Coast	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	10,801	2,803	19,860	19,332	20,942	16,984	16,349	4.6	-1.3
Columbia-Snake Willamette River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	317	82	71	58	55	44	43	-12.2	-2.4
California Coast	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	46,790	12,141	10,520	8,619	8,061	6,537	6,293	-12.2	-2.4
Alaska	Exports	1,711	0	0	0	0	0	0	-100.0	0.0
	Imports	303	0	0	0	0	0	0	-100.0	0.0
Hawaii and Pacific Territories	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	2,480	1,388	1,211	1,064	1,045	892	886	-6.3	1.4
Domestic Caribbean	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	72,834	31,059	23,025	22,396	14,275	7,657	5,855	-4.9	-9.8
Total	Exports	1,964	0	0	0	0	0	0	-100.0	0.0
	Imports	405,151	377,973	368,657	308,263	292,914	243,720	240,186	-2.1	-1.9

0 = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: Crude Petroleum
ALTERNATIVE: Low Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	598	1,182	534	522	513	493	491	-1.0	-0.5
Lower Upper Mississippi	752	1,334	672	657	647	622	621	-1.0	-0.4
Lower Mississippi	3,688	4,189	3,311	3,190	3,129	3,001	2,990	-1.1	-0.5
Baton Rouge to Gulf	18,415	32,033	26,606	26,477	27,776	30,752	33,696	2.8	1.9
Illinois River	150	148	134	131	130	125	126	-1.0	-0.3
Missouri River	0	0	0	0	0	0	0	0.0	0.0
Ohio River	406	443	365	406	399	384	383	0.0	-0.5
Tennessee River	12	15	11	67	65	63	63	14.3	-0.5
Arkansas River	21	20	19	19	18	17	17	-0.9	0.6
Gulf Coast West	26,705	44,003	36,491	36,447	38,231	42,324	46,376	2.4	1.9
Gulf Coast East	4,857	4,726	4,186	4,161	4,190	4,171	4,274	-1.2	0.2
Warrior River System	4,505	4,492	4,078	4,108	4,136	4,115	4,216	-0.7	0.2
Great Lakes	0	0	0	0	0	0	0	0.0	0.0

0 = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Crude Petroleum
ALTERNATIVE: Low Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77 90	90 03
Upper Mississippi	371	734	332	324	319	306	305	-1.0	-0.5
Lower Upper Mississippi	164	290	146	143	141	135	135	-1.0	-0.4
Lower Mississippi	1,419	1,766	1,273	1,207	1,185	1,137	1,133	-1.2	0.5
Baton Rouge to Gulf	2,472	3,370	2,898	2,888	2,977	3,162	3,379	1.2	1.2
Illinois River	45	45	40	39	39	38	38	-1.0	-0.3
Missouri River	0	0	0	0	0	0	0	0.0	0.0
Ohio River	151	159	135	136	133	128	128	-0.8	-0.4
Tennessee River	5	6	4	16	16	15	15	10.1	0.5
Arkansas River	3	3	3	3	3	3	3	-0.9	-0.6
Gulf Coast West	3,174	3,618	3,246	3,249	3,290	3,358	3,499	0.2	0.6
Gulf Coast East	563	537	462	458	461	458	469	-1.6	0.2
Warrior River System	235	233	210	227	229	227	232	-0.3	0.2
Great Lakes	0	0	0	0	0	0	0	0.0	0.0
Total	8,603	10,760	8,749	8,690	8,791	8,967	9,335	0.1	0.6

0 = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Crude Petroleum
ALTERNATIVE: High Use

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	1	1	1	1	1	1	1	-0.4	0.7
	Received	597	1,182	546	537	542	531	532	-0.8	-0.1
Lower Upper Mississippi	Shipped	14	14	13	13	13	14	14	-0.4	0.6
	Received	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Shipped	36	36	34	33	34	33	33	-0.7	0.0
	Received	2,750	2,714	2,531	2,507	2,524	2,465	2,470	-0.7	-0.1
Baton Rouge to Gulf	Shipped	11,066	11,427	10,326	10,408	10,695	10,759	11,024	-0.5	0.4
	Received	12,168	19,823	14,118	12,991	12,089	12,901	14,073	0.5	0.6
Illinois River	Shipped	95	94	87	86	87	86	87	-0.8	0.1
	Received	65	65	60	59	59	58	59	-0.8	0.0
Missouri River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Shipped	38	74	34	34	34	33	34	-0.8	-0.1
	Received	357	354	329	324	327	321	322	-0.7	0.0
Tennessee River	Shipped	3	6	3	3	3	3	3	0.8	-0.1
	Received	9	9	8	8	8	8	8	-0.7	-0.1
Arkansas River	Shipped	4	4	4	4	4	4	4	-0.7	-0.2
	Received	21	20	19	19	19	19	19	-0.7	-0.2
Gulf Coast West	Shipped	22,737	21,626	19,685	19,923	20,513	20,689	21,241	-1.0	0.5
	Received	20,527	31,149	23,039	21,463	20,192	21,156	22,725	0.3	0.4
Gulf Coast East	Shipped	1,028	884	710	721	747	761	786	-2.7	0.7
	Received	347	202	55	55	57	59	61	-13.2	0.7
Warrior River System	Shipped	3,807	3,807	3,521	3,564	3,682	3,732	3,845	-0.5	0.6
	Received	768	760	722	734	761	775	801	-0.4	0.7
South Atlantic Coast	Shipped	666	659	620	620	631	630	642	-0.5	0.3
	Received	0	0	0	0	0	0	0	0.0	0.0
Middle Atlantic Coast	Shipped	13,967	13,703	12,901	12,904	12,986	12,675	12,697	-0.6	-0.1
	Received	15,937	14,730	13,030	13,030	13,110	12,792	12,813	-1.5	-0.1

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	0	0	0	0	0	0	0	0 0	0 0
	Received	0	0	0	0	0	0	0	0 0	0 0
Great Lakes and Seaway	Shipped	0	0	0	0	0	0	0	0 0	0 0
	Received	0	0	0	0	0	0	0	0.0	0 0
Washington/Oregon Coast	Shipped	526	518	477	468	470	459	460	-0 9	0 1
	Received	4,767	16,877	34,951	36,286	38,319	35,577	34,395	16 9	0 4
Columbia-Snake Willamette River	Shipped	0	0	0	0	0	0	0	0 0	0.0
	Received	253	1,542	1,450	1,342	1,279	1,176	1,118	13.7	-1.4
California Coast	Shipped	12,618	12,143	11,099	10,825	10,699	10,346	10,330	-1 2	-0 4
	Received	22,209	57,687	54,172	50,264	47,987	44,201	42,122	6 5	1 4
Alaska	Shipped	14,897	84,097	87,317	81,733	78,346	73,402	71,886	14 0	-1 0
	Received	645	912	833	812	802	774	773	1 8	-0 4
Hawaii and Pacific Territories	Shipped	0	0	0	0	0	0	0	0 0	0 0
	Received	17	1,000	910	851	815	763	747	35 4	-1 0
Domestic Caribbean	Shipped	54	54	49	46	44	41	41	-1 2	-1 0
	Received	122	122	111	104	99	93	91	-1 2	-1.0
Total	Shipped	81,557	149,148	146,882	141,386	138,990	133,669	133,127	4 3	-0 5
	Received	81,557	149,148	146,882	141,386	138,990	133,669	133,127	4 3	0 5

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Crude Petroleum
ALTERNATIVE: High Use

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	78,668	89,451	87,916	73,187	74,280	65,131	65,633	-0.6	-0.8
Illinois River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	53	0	0	0	0	0	0	-100.0	0.0
	Imports	118,939	135,242	132,921	110,653	112,305	98,472	99,231	-0.6	-0.8
Gulf Coast East	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	9,270	10,420	10,314	8,550	8,645	7,539	7,563	-0.6	-0.9
Warrior River System	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	42	48	47	39	40	35	35	-0.6	-0.8
South Atlantic Coast	Exports	a	0	0	0	0	0	0	-100.0	0.0
	Imports	1,300	849	936	729	694	551	507	-4.3	-2.8
Middle Atlantic Coast	Exports	200	0	0	0	0	0	0	-100.0	0.0
	Imports	80,458	81,093	73,472	63,763	62,534	52,781	51,914	-1.8	-1.6

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	12,910	8,425	13,232	14,419	14,824	13,105	13,654	0.9	-0.4
Great Lakes and Seaway	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	38	5	4	4	4	3	3	-16.4	-1.4
Washington/Oregon Coast	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	10,801	2,803	19,860	19,332	20,942	16,984	16,349	4.6	-1.3
Columbia-Snake Willamette River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	317	82	71	58	55	44	43	-12.2	-2.4
California Coast	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	46,790	12,141	10,520	8,619	8,061	6,537	6,293	-12.2	-2.4
Alaska	Exports	1,711	0	0	0	0	0	0	-100.0	0.0
	Imports	303	0	0	0	0	0	0	-100.0	0.0
Hawaii and Pacific Territories	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	2,480	1,388	1,211	1,064	1,045	892	886	-6.3	-1.4
Domestic Caribbean	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	42,834	43,387	39,143	37,285	34,992	29,088	28,377	-1.1	-2.1
Total	Exports	1,964	0	0	0	0	0	0	-100.0	0.0
	Imports	405,151	385,333	389,649	337,704	338,419	291,162	290,488	-1.4	-1.2

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: Crude Petroleum
ALTERNATIVE: High Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	598	1,183	547	538	543	532	534	-0.8	-0.1
Lower Upper Mississippi	752	1,335	688	678	685	672	675	-0.8	0.0
Lower Mississippi	3,688	4,194	3,392	3,291	3,315	3,241	3,249	-0.9	-0.1
Baton Rouge to Gulf	18,415	26,544	19,902	18,708	17,910	18,682	19,938	0.1	0.5
Illinois River	150	149	137	135	137	135	137	-0.8	0.1
Missouri River	0	0	0	0	0	0	0	0.0	0.0
Ohio River	406	443	374	419	423	415	416	0.2	-0.1
Tennessee River	12	15	11	69	69	68	68	14.5	-0.1
Arkansas River	21	20	19	19	19	19	19	-0.7	-0.2
Gulf Coast West	26,705	36,420	27,227	25,715	24,599	25,644	27,364	-0.3	0.5
Gulf Coast East	4,857	4,731	4,288	4,292	4,438	4,504	4,644	-0.9	0.6
Warrior River System	4,505	4,498	4,177	4,238	4,381	4,444	4,581	-0.5	0.6
Great Lakes	0	0	0	0	0	0	0	0.0	0.0

n = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Crude Petroleum
ALTERNATIVE: High Use

SEGMENT	YEARS							% GROWTH	
	1977	1980	1985	1990	1995	2000	2003	77-90	90-03
Upper Mississippi	371	735	340	334	337	330	331	-0.8	0.1
Lower Upper Mississippi	164	291	150	147	149	146	147	-0.8	0.0
Lower Mississippi	1,419	1,768	1,304	1,245	1,255	1,228	1,231	-1.0	-0.1
Baton Rouge to Gulf	2,472	3,013	2,488	2,418	2,402	2,465	2,582	-0.2	0.5
Illinois River	45	45	41	41	41	41	41	-0.8	0.1
Missouri River	0	0	0	0	0	0	0	0.0	0.0
Ohio River	151	159	139	140	141	139	139	-0.6	0.0
Tennessee River	5	6	4	17	17	16	17	10.4	-0.1
Arkansas River	3	3	3	3	3	3	3	-0.7	-0.2
Gulf Coast West	3,174	3,410	3,050	3,031	3,055	3,084	3,179	-0.4	0.4
Gulf Coast East	563	537	473	472	488	495	510	-1.3	0.6
Warrior River System	235	233	215	235	242	245	252	0.0	0.6
Great Lakes	0	0	0	0	0	0	0	0.0	0.0
Total	8,603	10,206	8,207	8,082	8,131	8,192	8,432	-0.5	0.3

0 = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Crude Petroleum
ALTERNATIVE: Bad Energy

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	1	1	1	1	1	1	1	-0.7	0.3
	Received	597	1,180	530	515	505	485	483	-1.1	-0.5
Lower Upper Mississippi	Shipped	14	14	13	13	13	12	13	-0.7	0.1
	Received	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Shipped	36	36	33	32	31	30	30	-1.0	-0.4
	Received	2,750	2,709	2,459	2,402	2,352	2,251	2,240	-1.0	-0.5
Baton Rouge to Gulf	Shipped	11,066	11,407	10,034	9,972	9,969	9,821	9,999	-0.8	0.0
	Received	12,168	25,344	21,142	25,637	26,816	29,698	32,513	5.9	1.8
Illinois River	Shipped	95	94	85	82	81	79	79	-1.1	-0.3
	Received	65	64	58	56	55	53	53	-1.2	-0.4
Missouri River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Shipped	38	74	33	32	32	31	30	-1.1	0.5
	Received	357	353	319	311	305	293	292	-1.1	-0.5
Tennessee River	Shipped	3	6	3	3	3	3	3	-1.1	0.5
	Received	9	8	8	7	7	7	7	-1.0	-0.5
Arkansas River	Shipped	4	4	4	4	4	3	3	-1.0	0.7
	Received	21	20	19	18	18	17	17	-1.0	0.7
Gulf Coast West	Shipped	22,737	21,590	19,129	19,089	19,121	18,887	19,266	-1.3	0.1
	Received	20,527	38,765	32,640	38,779	40,291	44,061	47,883	5.0	1.6
Gulf Coast East	Shipped	1,028	883	690	691	697	694	713	-3.0	0.2
	Received	347	202	53	53	54	53	55	-13.4	0.3
Warrior River System	Shipped	3,807	3,800	3,421	3,415	3,432	3,407	3,487	0.8	0.2
	Received	768	759	702	703	709	707	727	0.7	0.3
South Atlantic Coast	Shipped	666	658	606	598	595	592	591	-0.8	0.1
	Received	0	0	0	0	0	0	0	0.0	0.0
Middle Atlantic Coast	Shipped	13,967	13,680	12,536	12,363	12,105	11,570	11,517	-0.9	-0.5
	Received	15,937	14,706	12,663	12,486	12,223	11,681	11,625	-1.9	0.5

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
Great Lakes and Seaway	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
Washington/Oregon Coast	Shipped	526	517	463	449	439	419	417	-1.2	-0.6
	Received	4,767	13,687	30,695	31,145	31,661	27,414	25,171	15.5	-1.6
Columbia-Snake Willamette River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	253	1,278	1,094	911	720	490	343	10.4	-7.2
California Coast	Shipped	12,618	12,121	10,785	10,372	9,973	9,444	9,369	-1.5	-0.8
	Received	22,209	48,225	41,364	34,751	27,812	19,466	14,206	3.5	-6.6
Alaska	Shipped	14,897	84,395	87,690	92,346	88,651	83,213	81,595	15.1	-0.9
	Received	645	911	810	778	747	707	701	1.5	-0.8
Hawaii and Pacific Territories	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	17	1,000	910	851	815	763	747	35.4	-1.0
Domestic Caribbean	Shipped	54	54	49	46	44	41	41	-1.2	-1.0
	Received	122	122	111	104	99	93	91	-1.2	-1.0
Total	Shipped	81,557	149,334	145,575	149,507	145,189	138,239	137,153	4.8	-0.7
	Received	81,557	149,334	145,575	149,507	145,189	138,239	137,153	4.8	-0.7

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Crude Petroleum
ALTERNATIVE: Bad Energy

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	78,668	90,669	86,040	81,774	53,844	39,545	35,177	-1.8	-4.2
Illinois River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	53	0	0	0	0	0	0	-100.0	0.0
	Imports	118,939	137,085	130,085	93,397	81,407	59,789	53,185	-1.8	-4.2
Gulf Coast East	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	9,270	10,384	9,915	7,083	6,132	4,443	3,899	-2.0	-4.5
Warrior River System	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	42	49	46	33	29	21	19	-1.8	-4.2
South Atlantic Coast	Exports	a	0	0	0	0	0	0	-100.0	0.0
	Imports	1,300	611	666	428	314	147	56	-8.2	-14.5
Middle Atlantic Coast	Exports	200	0	0	0	0	0	0	-100.0	0.0
	Imports	80,458	78,400	68,967	58,679	55,583	45,505	44,171	-2.4	-2.2

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	12,910	8,421	13,222	14,407	14,806	13,086	13,635	0.8	-0.4
Great Lakes and Seaway	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	38	5	4	4	3	3	3	-16.6	-1.8
Washington/Oregon Coast	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	10,801	2,803	19,860	19,332	20,942	16,984	16,349	4.6	-1.3
Columbia-Snake Willamette River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	317	82	71	58	55	44	43	-12.2	-2.4
California Coast	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	46,790	12,141	10,520	8,619	8,061	6,537	6,293	-12.2	-2.4
Alaska	Exports	1,711	0	0	0	0	0	0	-100.0	0.0
	Imports	303	0	0	0	0	0	0	-100.0	0.0
Hawaii and Pacific *Territories*	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	*2,480*	*1,384*	*1,152*	990	929	767	755	-6.8	-2.1
Domestic Caribbean	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	42,834	43,394	38,128	34,847	31,812	25,817	24,907	-1.6	-2.6
Total	Exports	1,964	0	0	0	0	0	0	-100.0	0.0
	Imports	405,151	385,429	378,678	299,651	273,917	212,690	198,491	-2.3	-3.1

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: Crude Petroleum
ALTERNATIVE: Bad Energy

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77 90	90 03
Upper Mississippi	598	1,181	532	516	507	486	484	-1.1	-0.5
Lower Upper Mississippi	752	1,333	669	649	639	614	612	-1.1	-0.5
Lower Mississippi	3,688	4,187	3,296	3,153	3,090	2,959	2,947	-1.2	-0.5
Baton Rouge to Gulf	18,415	32,052	26,763	31,114	32,242	34,975	37,833	4.1	1.5
Illinois River	150	148	134	130	128	124	124	-1.1	-0.4
Missouri River	0	0	0	0	0	0	0	0.0	0.0
Ohio River	406	442	363	402	394	379	378	-0.1	-0.5
Tennessee River	12	15	11	66	65	62	62	14.2	-0.5
Arkansas River	21	20	19	18	18	17	17	-1.0	-0.7
Gulf Coast West	26,705	44,029	36,709	42,852	44,399	48,158	52,091	3.7	1.5
Gulf Coast East	4,857	4,723	4,166	4,113	4,137	4,111	4,212	-1.3	0.2
Warrior River System	4,505	4,490	4,059	4,061	4,084	4,057	4,155	-0.8	0.2
Great Lakes	0	0	0	0	0	0	0	0.0	0.0

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Crude Petroleum
ALTERNATIVE: Bad Energy

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	371	733	330	320	315	302	300	-1.1	-0.5
Lower Upper Mississippi	164	290	146	141	139	133	133	-1.1	-0.5
Lower Mississippi	1,419	1,765	1,267	1,193	1,170	1,121	1,117	-1.3	-0.5
Baton Rouge to Gulf	2,472	3,371	2,903	3,178	3,254	3,421	3,632	1.9	1.0
Illinois River	45	45	40	39	38	37	37	-1.1	-0.4
Missouri River	0	0	0	0	0	0	0	0.0	0.0
Ohio River	151	159	135	134	132	127	126	-0.9	-0.4
Tennessee River	5	6	4	16	16	15	15	10.0	-0.5
Arkansas River	3	3	3	3	3	3	3	-1.0	-0.7
Gulf Coast West	3,174	3,617	3,241	3,396	3,428	3,484	3,620	0.5	0.5
Gulf Coast East	563	536	460	452	455	452	462	-1.7	0.2
Warrior River System	235	233	209	225	226	224	229	-0.4	0.1
Great Lakes	0	0	0	0	0	0	0	0.0	0.0
Total	8,603	10,758	8,737	9,097	9,175	9,317	9,675	0.4	0.5

a = less than 500,000 ton-miles

7/20/81

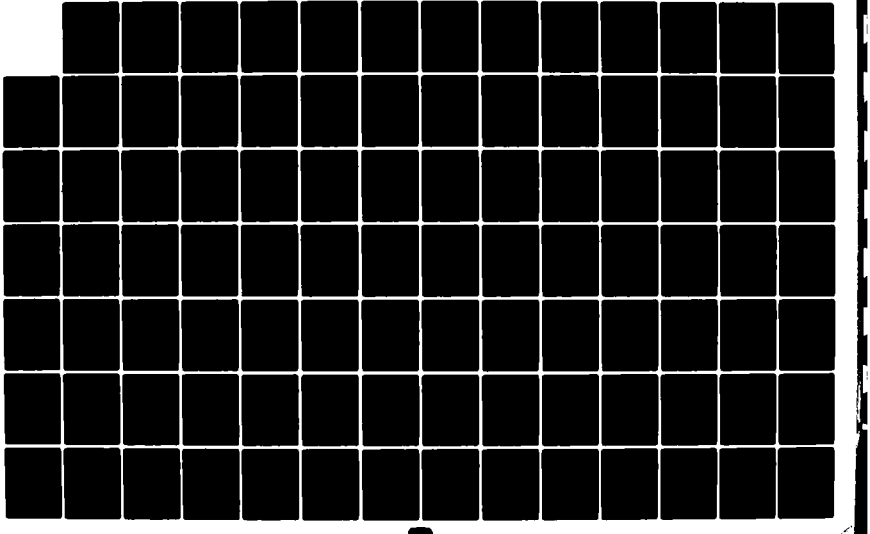
WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

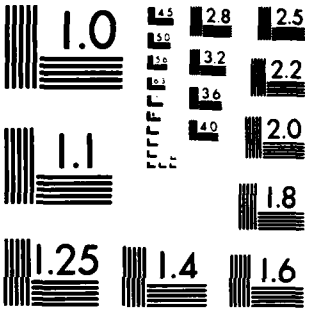
COMMODITY: Crude Petroleum
ALTERNATIVE: Defense

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	1	1	1	2	1	1	1	2.8	-2.4
	Received	597	1,182	546	829	542	531	532	2.6	-3.4
Lower Upper Mississippi	Shipped	14	14	13	20	13	14	14	2.8	-2.5
	Received	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Shipped	36	36	34	51	34	33	33	2.6	-3.2
	Received	2,750	2,714	2,531	3,845	2,524	2,465	2,470	2.6	-3.3
Baton Rouge to Gulf	Shipped	11,066	11,427	10,326	15,688	10,695	10,759	11,024	2.7	-2.7
	Received	12,168	19,823	14,118	21,449	12,089	12,901	14,073	4.5	-3.2
Illinois River	Shipped	95	94	87	132	87	86	87	2.6	-3.2
	Received	65	65	60	90	59	58	59	2.5	-3.2
Missouri River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Shipped	38	74	34	52	34	33	34	2.6	-3.4
	Received	357	354	329	499	327	321	322	2.6	-3.3
Tennessee River	Shipped	3	6	3	4	3	3	3	2.6	-3.4
	Received	9	9	8	12	8	8	8	2.6	-3.3
Arkansas River	Shipped	4	4	4	6	4	4	4	2.6	-3.4
	Received	21	20	19	29	19	19	19	2.6	-3.4
Gulf Coast West	Shipped	22,737	21,626	19,685	29,908	20,313	20,689	21,241	2.1	-2.6
	Received	20,527	31,149	23,039	35,003	20,192	21,156	22,725	4.2	-3.3
Gulf Coast East	Shipped	1,028	884	710	1,079	747	761	786	0.4	-2.4
	Received	347	202	55	83	57	59	61	-10.4	-2.4
Warrior River System	Shipped	3,807	3,807	3,521	5,349	3,682	3,732	3,845	2.7	-2.5
	Received	768	760	722	1,097	761	775	801	2.8	-2.4
South Atlantic Coast	Shipped	666	659	620	942	631	630	642	2.7	-2.9
	Received	0	0	0	0	0	0	0	0.0	0.0
Middle Atlantic Coast	Shipped	13,967	13,703	12,901	19,600	12,986	12,675	12,697	2.6	-3.3
	Received	15,937	14,730	13,030	19,796	13,110	12,792	12,813	1.7	-3.3

AD-A129 641 EVALUATION OF THE PRESENT NAVIGATION SYSTEM APPENDIX A (U) KEARNEY (A T) INC CHICAGO ILL MAR 82 DACW72-79-C-0003 4/9

UNCLASSIFIED F/G 13/3 NL





MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
Great Lakes and Seaway	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
Washington/Oregon Coast	Shipped	526	518	477	725	470	459	460	2.5	-3.4
	Received	4,767	16,877	34,951	53,101	38,319	35,577	34,395	20.4	-3.3
Columbia-Snake Willamette River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	253	1,542	1,450	2,203	1,279	1,176	1,118	18.1	-5.1
California Coast	Shipped	12,618	12,143	11,099	16,862	10,699	10,346	10,330	2.3	-3.7
	Received	22,209	57,687	54,172	82,302	47,987	44,201	42,122	10.6	-5.0
Alaska	Shipped	14,897	84,097	87,317	132,660	78,346	73,402	71,886	18.3	-4.6
	Received	645	912	833	1,266	802	774	773	5.3	-3.7
Hawaii and Pacific Territories	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	17	1,000	910	1,382	815	763	747	40.5	-4.6
Domestic Caribbean	Shipped	54	54	49	75	44	41	41	2.5	-4.6
	Received	122	122	111	168	99	93	91	2.5	-4.6
Total	Shipped	81,557	149,148	146,882	223,155	138,990	133,669	133,127	8.1	-3.9
	Received	81,557	149,148	146,882	223,155	138,990	133,669	133,127	8.1	-3.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Crude Petroleum
ALTERNATIVE: Defense

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	78,668	89,451	87,916	65,937	74,280	65,131	65,633	-1.3	0.0
Illinois River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	53	0	0	0	0	0	0	-100.0	0.0
	Imports	118,939	135,242	132,921	99,691	112,305	98,472	99,231	-1.3	0.0
Gulf Coast East	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	9,270	10,420	10,314	7,735	8,645	7,539	7,563	-1.4	-0.2
Warrior River System	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	42	48	47	36	40	35	35	-1.3	0.0
South Atlantic Coast	Exports	a	0	0	0	0	0	0	-100.0	0.0
	Imports	1,300	849	936	702	694	551	507	-4.6	-2.5
Middle Atlantic Coast	Exports	200	0	0	0	0	0	0	-100.0	0.0
	Imports	80,458	81,093	73,472	55,104	62,534	52,781	51,914	-2.9	-0.5

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	12,910	8,425	13,232	9,924	14,824	13,105	13,654	-2.0	2.5
Great Lakes and Seaway	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	38	5	4	3	4	3	3	-17.3	-0.3
Washington/Oregon Coast	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	10,801	2,803	19,860	14,895	20,942	16,984	16,349	2.5	0.7
Columbia-Snake Willamette River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	317	82	71	53	55	44	43	-12.8	-1.7
California Coast	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	46,790	12,141	10,520	7,890	8,061	6,537	6,293	-12.8	-1.7
Alaska	Exports	1,711	0	0	0	0	0	0	-100.0	0.0
	Imports	303	0	0	0	0	0	0	-100.0	0.0
Hawaii and Pacific Territories	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	2,480	1,388	1,211	908	1,045	892	886	-7.4	-0.2
Domestic Caribbean	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	42,834	43,387	39,143	29,358	34,992	29,088	28,377	-2.9	-0.3
Total	Exports	1,964	0	0	0	0	0	0	-100.0	0.0
	Imports	405,151	385,333	389,649	292,236	338,419	291,162	290,488	-2.5	0.0

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: Crude Petroleum
ALTERNATIVE: Defense

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	598	1,183	547	831	543	532	534	2.6	-3.4
Lower Upper Mississippi	752	1,335	686	1,046	685	[b]672	675	2.6	-3.3
Lower Mississippi	3,688	4,194	3,392	5,051	3,315	3,241	3,249	2.4	-3.3
Baton Rouge to Gulf	18,415	26,544	19,902	30,135	17,910	18,682	19,938	3.9	-3.1
Illinois River	150	149	137	209	137	135	137	2.6	-3.2
Missouri River	0	0	0	0	0	0	0	0.0	0.0
Ohio River	406	443	374	645	423	415	416	3.6	-3.3
Tennessee River	12	15	11	106	69	68	68	18.4	-3.4
Arkansas River	21	20	19	29	19	19	19	2.6	-3.4
Gulf Coast West	26,705	36,420	27,227	41,365	24,599	25,644	27,364	3.4	-3.1
Gulf Coast East	4,857	4,731	4,288	6,436	4,438	4,504	4,644	2.2	-2.5
Warrior River System	4,505	4,498	4,177	6,358	4,381	4,444	4,581	2.7	-2.5
Great Lakes	0	0	0	0	0	0	0	0.0	0.0

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Crude Petroleum
ALTERNATIVE: Defense

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	371	735	340	516	337	330	331	2.6	-3.4
Lower Upper Mississippi	164	291	150	228	149	146	147	2.6	-3.3
Lower Mississippi	1,419	1,768	1,304	1,914	1,255	1,228	1,231	2.3	-3.3
Baton Rouge to Gulf	2,472	3,013	2,488	3,764	2,402	2,465	2,582	3.3	-2.9
Illinois River	45	45	41	63	41	41	41	2.6	-3.2
Missouri River	0	0	0	0	0	0	0	0.0	0.0
Ohio River	151	159	139	216	141	139	139	2.8	-3.3
Tennessee River	5	6	4	26	17	16	17	14.1	-3.4
Arkansas River	3	3	3	4	3	3	3	2.6	-3.4
Gulf Coast West	3,174	3,416	3,050	4,634	3,055	3,084	3,179	3.0	-2.9
Gulf Coast East	563	537	473	708	488	495	510	1.8	-2.5
Warrior River System	235	233	215	353	242	245	252	3.2	-2.6
Great Lakes	0	0	0	0	0	0	0	0.0	0.0
Total	8,603	10,206	8,207	12,425	8,131	8,192	8,432	2.9	-2.9

n = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Crude Petroleum
ALTERNATIVE: High Coal Export

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	1	1	1	1	1	1	1	-0.4	0.7
	Received	597	1,182	546	537	542	531	532	-0.8	-0.1
Lower Upper Mississippi	Shipped	14	14	13	13	13	14	14	0.4	0.6
	Received	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Shipped	36	36	34	33	34	33	33	-0.7	0.0
	Received	2,750	2,714	2,531	2,507	2,524	2,465	2,470	-0.7	-0.1
Baton Rouge to Gulf	Shipped	11,066	11,427	10,326	10,408	10,695	10,759	11,024	-0.5	0.4
	Received	12,168	19,823	14,118	12,991	12,089	12,901	14,073	0.5	0.6
Illinois River	Shipped	95	94	87	86	87	86	87	-0.8	0.1
	Received	65	65	60	59	59	58	59	-0.8	0.0
Missouri River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Shipped	38	74	34	34	34	33	34	-0.8	-0.1
	Received	357	354	329	324	327	321	322	-0.7	0.0
Tennessee River	Shipped	3	6	3	3	3	3	3	-0.8	-0.1
	Received	9	9	8	8	8	8	8	-0.7	-0.1
Arkansas River	Shipped	4	4	4	4	4	4	4	-0.7	-0.2
	Received	21	20	19	19	19	19	19	-0.7	-0.2
Gulf Coast West	Shipped	22,737	21,626	19,685	19,923	20,513	20,689	21,241	-1.0	0.5
	Received	20,527	31,149	23,039	21,463	20,192	21,156	22,725	0.3	0.4
Gulf Coast East	Shipped	1,028	884	710	721	747	761	786	-2.7	0.7
	Received	347	202	55	55	57	59	61	-13.2	0.7
Warrior River System	Shipped	3,807	3,807	3,521	3,564	3,682	3,732	3,845	-0.5	0.6
	Received	768	760	722	734	761	775	801	-0.4	0.7
South Atlantic Coast	Shipped	666	659	620	620	631	630	642	-0.5	0.3
	Received	0	0	0	0	0	0	0	0.0	0.0
Middle Atlantic Coast	Shipped	13,967	13,703	12,901	12,904	12,986	12,675	12,697	-0.6	-0.1
	Received	15,937	14,730	13,030	13,030	13,110	12,792	12,813	-1.5	-0.1

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SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
Great Lakes and Seaway	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
Washington/Oregon Coast	Shipped	526	518	477	468	470	459	460	-0.9	-0.1
	Received	4,767	16,877	34,951	36,286	38,319	35,577	34,395	16.9	-0.4
Columbia-Snake Willamette River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	253	1,542	1,450	1,342	1,279	1,176	1,118	13.7	-1.4
California Coast	Shipped	12,618	12,143	11,099	10,825	10,699	10,346	10,330	-1.2	-0.4
	Received	22,209	57,687	54,172	50,264	47,987	44,201	42,122	6.5	-1.4
Alaska	Shipped	14,897	84,097	87,317	81,733	78,346	73,402	71,886	14.0	-1.0
	Received	645	912	833	812	802	774	773	1.8	-0.4
Hawaii and Pacific Territories	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	17	1,000	910	851	815	763	747	35.4	-1.0
Domestic Caribbean	Shipped	54	54	49	46	44	41	41	-1.2	-1.0
	Received	122	122	111	104	99	93	91	-1.2	-1.0
Total	Shipped	81,557	149,148	146,882	141,386	138,990	133,669	133,127	4.3	-0.5
	Received	81,557	149,148	146,882	141,386	138,990	133,669	133,127	4.3	-0.5

A = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Crude Petroleum
ALTERNATIVE: *High Coal Export*

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	78,668	89,451	87,916	73,187	74,280	65,131	65,633	-0.6	-0.8
Illinois River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	53	0	0	0	0	0	0	-100.0	0.0
	Imports	118,939	135,242	132,921	110,653	112,305	98,472	99,231	-0.6	-0.8
Gulf Coast East	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	9,270	10,420	10,314	8,550	8,645	7,539	7,563	-0.6	-0.9
Warrior River System	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	42	48	47	39	40	35	35	-0.6	-0.8
South Atlantic Coast	Exports	8	0	0	0	0	0	0	-100.0	0.0
	Imports	1,300	849	936	729	694	551	507	-4.3	-2.8
Middle Atlantic Coast	Exports	200	0	0	0	0	0	0	-100.0	0.0
	Imports	80,458	81,093	73,472	63,763	62,534	52,781	51,914	-1.8	-1.6

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SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	12,910	8,425	13,232	14,419	14,824	13,105	13,654	0.9	-0.4
Great Lakes and Seaway	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	38	5	4	4	4	3	3	-16.4	-1.4
Washington/Oregon Coast	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	10,801	2,803	19,860	19,332	20,942	16,984	16,349	4.6	-1.3
Columbia-Snake Willamette River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	317	82	71	58	55	44	43	-12.2	-2.4
California Coast	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	48,790	12,141	10,520	8,819	8,061	6,537	6,293	-12.2	-2.4
Alaska	Exports	1,711	0	0	0	0	0	0	-100.0	0.0
	Imports	303	0	0	0	0	0	0	-100.0	0.0
Hawaii and Pacific Territories	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	2,480	1,388	1,211	1,064	1,045	892	886	-6.3	-1.4
Domestic Caribbean	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	42,834	43,387	39,143	37,285	34,992	29,088	28,377	-1.1	-2.1
Total	Exports	1,964	0	0	0	0	0	0	-100.0	0.0
	Imports	405,151	385,333	389,649	337,704	338,419	291,162	290,488	-1.4	-1.2

e = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Crude Petroleum
ALTERNATIVE: High Coal Export

SEGMENT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	598	1,183	547	538	543	532	534	-0.8	-0.1
Lower Upper Mississippi	752	1,335	688	678	685	672	675	-0.8	0.0
Lower Mississippi	3,688	4,194	3,392	3,291	3,315	3,241	3,249	-0.9	-0.1
Baton Rouge to Gulf	18,415	26,544	19,902	18,708	17,910	18,682	19,938	0.1	0.5
Illinois River	150	149	137	135	137	135	137	-0.8	0.1
Missouri River	0	0	0	0	0	0	0	0.0	0.0
Ohio River	406	443	374	419	423	415	416	0.2	-0.1
Tennessee River	12	15	11	69	69	68	68	14.5	-0.1
Arkansas River	21	20	19	19	19	19	19	-0.7	-0.2
Gulf Coast West	26,705	36,420	27,227	25,715	24,599	25,644	27,364	-0.3	0.5
Gulf Coast East	4,857	4,731	4,288	4,292	4,438	4,504	4,644	-0.9	0.6
Warrior River System	4,505	4,498	4,177	4,238	4,381	4,444	4,581	-0.5	0.6
Great Lakes	0	0	0	0	0	0	0	0.0	0.0

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Crude Petroleum
ALTERNATIVE: High Coal Export

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	371	735	340	334	337	330	331	-0.8	-0.1
Lower Upper Mississippi	164	291	150	147	149	146	147	-0.8	0.0
Lower Mississippi	1,419	1,768	1,304	1,245	1,255	1,228	1,231	-1.0	-0.1
Baton Rouge to Gulf	2,472	3,013	2,488	2,418	2,402	2,465	2,582	-0.2	0.5
Illinois River	45	45	41	41	41	41	41	-0.8	0.1
Missouri River	0	0	0	0	0	0	0	0.0	0.0
Ohio River	151	159	139	140	141	139	139	-0.6	0.0
Tennessee River	5	6	4	17	17	16	17	10.4	-0.1
Arkansas River	3	3	3	3	3	3	3	-0.7	-0.2
Gulf Coast West	3,174	3,416	3,050	3,031	3,055	3,084	3,179	-0.4	0.4
Gulf Coast East	563	537	473	472	488	495	510	-1.3	0.6
Warrior River System	235	233	215	235	242	245	252	0.0	0.6
Great Lakes	0	0	0	0	0	0	0	0.0	0.0
Total	8,603	10,206	8,207	8,082	8,131	8,192	8,432	-0.5	0.3

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Crude Petroleum
ALTERNATIVE: Misc. Sensitivity

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	1	1	1	1	1	1	1	-0.4	0.7
	Received	601	1,190	550	541	546	534	536	-0.8	-0.1
Lower Upper Mississippi	Shipped	14	14	13	13	13	14	14	-0.4	0.6
	Received	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Shipped	36	36	34	33	34	33	33	-0.7	0.0
	Received	2,750	2,714	2,531	2,507	2,524	2,465	2,470	-0.7	-0.1
Baton Rouge to Gulf	Shipped	11,095	11,456	10,355	10,438	10,728	10,794	11,061	-0.5	0.4
	Received	12,168	19,823	14,118	12,991	12,089	12,901	14,073	0.5	0.6
Illinois River	Shipped	103	102	94	93	94	93	94	-0.8	0.1
	Received	65	65	60	59	59	58	59	-0.8	0.0
Missouri River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Shipped	41	82	38	37	38	37	37	-0.8	0.1
	Received	396	392	364	359	363	356	357	-0.7	0.0
Tennessee River	Shipped	4	7	3	3	3	3	3	-0.8	-0.1
	Received	9	9	9	9	9	8	9	-0.7	0.1
Arkansas River	Shipped	4	4	4	5	5	6	6	1.0	2.4
	Received	21	20	22	24	26	29	32	1.0	2.4
Gulf Coast West	Shipped	22,738	21,628	19,687	19,925	20,515	20,691	21,243	-1.0	0.5
	Received	20,527	31,149	23,039	21,463	20,192	21,156	22,725	0.3	0.4
Gulf Coast East	Shipped	1,028	884	710	721	747	761	786	-2.7	0.7
	Received	347	202	55	55	57	59	61	-13.2	0.7
Warrior River System	Shipped	3,807	3,807	3,521	3,564	3,682	3,732	3,845	0.5	0.6
	Received	768	760	722	734	761	775	801	-0.4	0.7
South Atlantic Coast	Shipped	666	659	620	620	631	630	642	-0.5	0.3
	Received	0	0	0	0	0	0	0	0.0	0.0
Middle Atlantic Coast	Shipped	13,967	13,703	12,901	12,904	12,986	12,675	12,697	0.6	0.1
	Received	15,937	14,730	13,030	13,030	13,110	12,792	12,813	1.5	-0.1

7/20/81

SEGMENT	IN/OUT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
North Atlantic Coast	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
Great Lakes and Seaway	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	0	0	0	0	0	0	0	0.0	0.0
Washington/Oregon Coast	Shipped	526	518	477	468	470	459	460	-0.9	-0.1
	Received	4,767	16,877	34,951	36,286	38,319	35,577	34,395	16.9	-0.4
Columbia-Snake Willamette River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	253	1,542	1,450	1,342	1,279	1,176	1,118	13.7	-1.4
California Coast	Shipped	12,618	12,143	11,099	10,825	10,699	10,346	10,330	-1.2	-0.4
	Received	22,209	57,687	54,172	50,264	47,987	44,201	42,122	6.5	-1.4
Alaska	Shipped	14,897	84,097	87,317	81,733	78,346	73,402	71,886	14.0	-1.0
	Received	645	912	833	812	802	774	773	1.8	-0.4
Hawaii and Pacific Territories	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	17	1,000	910	851	815	763	747	35.4	-1.0
Domestic Caribbean	Shipped	54	54	49	46	44	41	41	-1.2	-1.0
	Received	122	122	111	104	99	93	91	-1.2	-1.0
Total	Shipped	81,601	149,195	146,924	141,430	139,037	133,719	133,180	4.3	-0.5
	Received	81,601	149,195	146,924	141,430	139,037	133,719	133,180	4.3	-0.5

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Crude Petroleum
ALTERNATIVE: Misc. Sensitivity

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	78,668	89,451	87,916	73,187	74,280	65,131	65,633	-0.6	-0.8
Illinois River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	53	0	0	0	0	0	0	-100.0	0.0
	Imports	118,939	135,242	132,921	110,653	112,305	98,472	99,231	-0.6	-0.8
Gulf Coast East	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	9,270	10,420	10,314	8,550	8,645	7,539	7,563	-0.6	-0.9
Warrior River System	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	42	48	47	39	40	35	35	-0.6	-0.8
South Atlantic Coast	Exports	a	0	0	0	0	0	0	-100.0	0.0
	Imports	1,300	849	936	729	694	551	507	-4.3	-2.8
Middle Atlantic Coast	Exports	200	0	0	0	0	0	0	-100.0	0.0
	Imports	80,458	81,093	73,472	63,763	62,534	52,781	51,914	-1.8	-1.6

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	12,910	8,425	13,232	14,419	14,824	13,105	13,654	0.9	-0.4
Great Lakes and Seaway	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	38	5	4	4	4	3	3	-16.4	-1.4
Washington/Oregon Coast	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	10,801	2,803	19,860	19,332	20,942	16,984	16,349	4.6	-1.3
Columbia-Snake Willamette River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	317	82	71	58	55	44	43	-12.2	-2.4
California Coast	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	46,790	12,141	10,520	8,619	8,061	6,537	6,293	-12.2	-2.4
Alaska	Exports	1,711	0	0	0	0	0	0	-100.0	0.0
	Imports	303	0	0	0	0	0	0	-100.0	0.0
Hawaii and Pacific Territories	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	2,480	1,388	1,211	1,064	1,045	892	886	-6.3	-1.4
Domestic Caribbean	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	*42,834*	*43,387*	*39,143*	*37,285*	*34,992*	*29,088*	*28,377*	*-1.1*	*-2.1*
Total	Exports	1,964	0	0	0	0	0	0	100.0	0.0
	Imports	405,151	385,333	389,649	337,704	338,419	291,162	290,488	-1.4	-1.2

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Crude Petroleum
ALTERNATIVE: Misc. Sensitivity

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	602	1,191	551	542	547	536	537	-0.8	-0.1
Lower Upper Mississipp'	764	1,351	699	689	696	683	686	-0.8	0.0
Lower Mississippi	3,720	4,225	3,423	3,322	3,349	3,277	3,288	-0.9	-0.1
Baton Rouge to Gulf	18,446	26,575	19,933	18,739	17,944	18,718	19,977	0.1	0.5
Illinois River	158	156	145	143	144	142	144	-0.8	0.1
Missouri River	0	0	0	0	0	0	0	0.0	0.0
Ohio River	450	490	414	458	462	453	455	0.1	-0.1
Tennessee River	13	16	12	70	70	69	69	13.8	-0.1
Arkansas River	21	20	22	24	26	29	32	1.0	2.4
Gulf Coast West	26,707	36,422	27,228	25,717	24,601	25,646	27,366	-0.3	0.5
Gulf Coast East	4,857	4,731	4,288	4,293	4,439	4,505	4,645	-0.9	0.6
Warrior River System	4,505	4,498	4,177	4,239	4,382	4,445	4,581	-0.5	0.6
Great Lakes	0	0	0	0	0	0	0	0.0	0.0

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Crude Petroleum
ALTERNATIVE: Misc. Sensitivity

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	374	740	342	337	340	333	334	-0.8	-0.1
Lower Upper Mississippi	166	294	152	150	151	149	149	-0.8	0.0
Lower Mississippi	1,440	1,789	1,324	1,265	1,276	1,250	1,254	-1.0	-0.1
Baton Rouge to Gulf	2,477	3,018	2,493	2,422	2,407	2,470	2,587	-0.2	0.5
Illinois River	48	47	44	43	43	43	43	-0.8	0.1
Missouri River	0	0	0	0	0	0	0	0.0	0.0
Ohio River	169	178	155	156	158	155	156	-0.6	0.0
Tennessee River	5	6	5	17	17	17	17	9.8	-0.1
Arkansas River	3	3	3	4	4	4	5	1.0	2.4
Gulf Coast West	3,174	3,417	3,051	3,031	3,056	3,085	3,180	-0.4	0.4
Gulf Coast East	563	537	473	472	488	495	510	-1.3	0.6
Warrior River System	235	233	215	235	242	245	252	0.0	0.6
Great Lakes	0	0	0	0	0	0	0	0.0	0.0
Total	8,655	10,262	8,257	8,132	8,183	8,245	8,487	-0.5	0.3

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Nonmetallic Minerals
ALTERNATIVE: Baseline

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	1,970	1,918	1,764	1,491	1,360	1,284	1,141	-2 1	-2 0
	Received	2,997	2,853	2,575	2,184	2,003	1,985	1,882	-2 4	-1 1
Lower Upper Mississippi	Shipped	1,136	1,104	1,016	864	789	746	668	-2 1	-2 0
	Received	1,383	1,358	1,290	1,159	1,114	1,106	1,049	-1 3	-0 8
Lower Mississippi	Shipped	661	644	593	500	457	432	383	-2 1	2 0
	Received	1,876	1,834	1,726	1,527	1,447	1,417	1,325	-1 6	-1 1
Baton Rouge to Gulf	Shipped	4,721	4,981	5,579	5,613	5,747	6,043	6,244	1 3	0 8
	Received	10,398	10,748	13,440	15,139	17,501	22,003	19,928	2 9	2 1
Illinois River	Shipped	3,571	3,492	3,245	2,777	2,562	2,445	2,204	-1 9	-1 8
	Received	6,450	6,193	5,686	5,034	4,659	4,493	4,272	-1 9	-1 3
Missouri River	Shipped	3,049	2,970	2,734	2,306	2,104	1,989	1,765	2 1	2 0
	Received	3,166	3,090	2,864	2,451	2,263	2,165	1,955	2 0	1 7
Ohio River	Shipped	19,451	18,924	17,415	14,758	13,473	12,726	11,344	2 1	-2 0
	Received	19,352	18,890	17,603	15,303	14,273	13,764	12,630	-1 8	-1 5
Tennessee River	Shipped	2,551	2,485	2,287	1,930	1,761	1,664	1,477	2 1	-2 0
	Received	2,927	2,871	2,722	2,437	2,334	2,311	2,186	1 4	0 8
Arkansas River	Shipped	2,989	2,911	2,680	2,261	2,062	1,949	1,730	2 1	-2 0
	Received	3,017	2,939	2,707	2,288	2,089	1,976	1,757	-2 1	2 0
Gulf Coast West	Shipped	12,268	12,654	13,490	13,770	14,356	15,154	15,562	0 9	0 9
	Received	6,705	6,747	6,744	6,492	6,502	6,629	6,570	-0 2	0 1
Gulf Coast East	Shipped	9,985	10,175	12,512	14,114	16,302	20,650	18,515	2 7	2 1
	Received	5,202	5,688	6,644	6,783	6,957	7,175	7,283	2 1	0 5
Warrior River System	Shipped	2,465	2,382	2,193	1,906	1,751	1,651	1,509	-2 0	-1 8
	Received	1,792	1,757	1,655	1,464	1,390	1,365	1,276	1 5	-1 1
South Atlantic Coast	Shipped	758	788	813	799	772	750	736	0 4	-0 6
	Received	1,132	1,173	1,217	1,280	1,327	1,380	1,412	0 9	0 8
Middle Atlantic Coast	Shipped	9,018	10,133	8,928	8,322	6,626	5,182	4,132	0 6	-5 2
	Received	10,129	11,340	10,070	9,448	7,652	6,128	5,017	-0 5	-4 8

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	950	1,069	940	874	692	537	425	-0.6	-5.4
	Received	342	380	344	327	275	231	199	-0.3	-3.7
Great Lakes and Seaway	Shipped	31,236	37,329	44,236	51,854	57,758	64,182	67,893	4.0	2.1
	Received	29,710	35,887	42,920	50,649	56,651	63,162	66,919	4.2	2.2
Washington/Oregon Coast	Shipped	2,551	2,591	2,378	2,103	1,877	1,722	1,530	-1.5	-2.4
	Received	2,719	2,785	2,543	2,254	1,987	1,797	1,581	-1.4	-2.7
Columbia-Snake Willamette River	Shipped	4,842	4,760	4,369	3,714	3,359	3,143	2,778	-2.0	-2.2
	Received	4,597	4,484	4,127	3,489	3,181	3,005	2,668	-2.1	-2.0
California Coast	Shipped	714	786	706	663	553	458	390	-0.6	-4.0
	Received	853	930	862	780	632	499	408	-0.7	-4.9
Alaska	Shipped	24	26	23	22	18	14	12	-0.6	-4.8
	Received	100	108	100	96	86	77	70	-0.3	-2.4
Hawaii and Pacific Territories	Shipped	49	55	49	45	36	28	23	-0.6	-5.2
	Received	68	75	68	63	53	43	37	-0.6	-4.1
Domestic Caribbean	Shipped	2	1	1	1	1	1	1	-3.3	-2.7
	Received	45	46	44	42	40	37	36	-0.4	-1.2
Total	Shipped	114,959	122,179	127,951	130,689	134,415	142,749	140,460	1.0	0.6
	Received	114,959	122,179	127,951	130,689	134,415	142,749	140,460	1.0	0.6

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Nonmetallic Minerals
ALTERNATIVE: Baseline

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	562	580	614	654	700	752	787	1.2	1.4
	Imports	1,230	1,286	1,582	1,779	1,977	2,247	2,430	2.9	2.4
Illinois River	Exports	282	306	352	405	466	536	584	2.8	2.8
	Imports	164	171	211	250	292	343	378	3.3	3.2
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	985	976	998	1,023	1,051	1,084	1,106	0.5	0.6
	Imports	1,667	1,751	2,203	2,565	2,945	3,428	3,763	3.4	3.0
Gulf Coast East	Exports	12,499	12,987	13,804	10,784	7,769	4,760	2,958	-1.1	-9.5
	Imports	2,551	2,786	3,533	3,872	4,229	4,681	4,995	3.3	2.0
Warrior River System	Exports	4	4	5	5	6	7	8	2.8	2.8
	Imports	1	1	2	2	2	3	3	3.0	3.1
South Atlantic Coast	Exports	2,730	2,887	3,168	2,959	2,779	2,634	2,566	0.6	-1.1
	Imports	2,273	2,276	2,660	2,736	2,791	2,954	3,066	1.4	0.9
Middle Atlantic Coast	Exports	109	119	136	156	179	206	223	2.8	2.8
	Imports	5,258	5,308	6,315	6,703	7,069	7,701	8,142	1.9	1.5

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	3	3	3	4	4	5	5	2.7	2.7
	Imports	1,044	1,074	1,307	1,479	1,662	1,899	2,065	2.7	2.6
Great Lakes and Seaway	Exports	3,500	3,807	4,379	5,037	5,794	6,665	7,249	2.8	2.8
	Imports	2,208	2,262	2,501	2,729	2,978	3,278	3,489	1.6	1.9
Washington/Oregon Coast	Exports	1,107	1,204	1,384	1,593	1,832	2,107	2,292	2.8	2.8
	Imports	1,902	1,967	2,258	2,454	2,650	2,916	3,098	2.0	1.8
Columbia-Snake Willamette River	Exports	111	121	139	160	184	211	230	2.8	2.8
	Imports	1,021	1,050	1,182	1,284	1,388	1,524	1,617	1.8	1.8
California Coast	Exports	858	933	1,073	1,234	1,419	1,632	1,775	2.8	2.8
	Imports	1,323	1,414	1,864	2,080	2,273	2,583	2,786	3.5	2.3
Alaska	Exports	166	181	208	239	275	316	344	2.8	2.8
	Imports	24	25	27	29	32	34	36	1.5	1.6
Hawaii and Pacific Territories	Exports	19	21	24	28	32	37	40	2.8	2.8
	Imports	45	46	50	52	53	55	57	1.0	0.7
Domestic Caribbean	Exports	118	120	122	124	127	130	132	0.4	0.5
	Imports	273	286	356	410	466	538	588	3.2	2.8
Total	Exports	23,031	24,247	26,410	24,404	22,617	21,083	20,299	0.4	-1.4
	Imports	20,985	21,705	26,051	28,425	30,807	34,182	36,514	2.4	1.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Nonmetallic Minerals
ALTERNATIVE: Baseline

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	2,997	2,853	2,575	2,184	2,003	1,985	1,882	-2.4	-1.1
Lower Upper Mississippi	4,276	4,082	3,782	3,469	3,334	3,447	3,512	-1.6	0.1
Lower Mississippi	8,263	8,058	7,782	6,709	6,648	6,913	7,017	-1.6	0.3
Baton Rouge to Gulf	17,576	18,004	21,068	22,200	24,772	29,748	28,023	1.8	1.8
Illinois River	6,635	6,388	5,895	5,246	4,879	4,723	4,507	-1.8	-1.2
Missouri River	3,218	3,140	2,910	2,490	2,298	2,199	1,985	-2.0	-1.7
Ohio River	22,144	21,629	20,207	16,930	15,761	15,174	13,889	-2.0	-1.5
Tennessee River	3,956	3,874	3,647	3,231	3,061	3,000	2,801	-1.5	-1.1
Arkansas River	3,018	2,940	2,708	2,289	2,090	1,977	1,758	-2.1	-2.0
Gulf Coast West	13,681	14,066	14,906	15,179	15,778	16,599	17,014	0.8	0.9
Gulf Coast East	14,058	14,685	17,957	20,461	22,894	27,533	25,578	2.9	1.7
Warrior River System	2,661	2,580	2,403	2,861	2,771	2,756	2,670	0.6	-0.5
Great Lakes	32,883	38,890	45,671	53,176	58,983	65,325	68,990	3.8	2.0

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Nonmetallic Minerals
ALTERNATIVE: Baseline

SEGMENT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	410	377	329	281	260	278	288	-2.9	0.2
Lower Upper Mississippi	691	654	603	561	543	573	599	-1.6	0.5
Lower Mississippi	6,018	5,863	5,623	4,804	4,706	4,841	4,848	-1.7	0.1
Baton Rouge to Gulf	1,947	1,959	2,191	2,211	2,425	2,863	2,748	1.0	1.7
Illinois River	605	579	536	488	458	448	440	-1.6	-0.8
Missouri River	394	386	363	320	303	297	277	-1.6	-1.1
Ohio River	2,885	2,851	2,775	2,570	2,547	2,594	2,550	-0.9	-0.1
Tennessee River	356	351	337	311	303	304	294	-1.0	-0.4
Arkansas River	45	44	41	35	32	31	28	-1.9	-1.8
Gulf Coast West	1,036	1,054	1,098	1,112	1,156	1,220	1,251	0.5	0.9
Gulf Coast East	169	172	177	273	283	298	309	3.8	1.0
Warrior River System	238	231	214	427	429	442	442	4.6	0.3
Great Lakes	10,015	12,013	14,299	16,804	18,756	20,879	22,109	4.1	2.1
Total	24,809	26,533	28,585	30,197	32,202	35,067	36,182	1.5	1.4

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Nonmetallic Minerals
ALTERNATIVE: Low Use

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	1,970	1,918	1,736	1,434	1,322	1,274	1,142	-2.4	-1.7
	Received	2,997	2,853	2,546	2,127	1,965	1,975	1,883	-2.6	-0.9
Lower Upper Mississippi	Shipped	1,136	1,104	1,000	833	769	740	668	-2.4	-1.7
	Received	1,383	1,358	1,274	1,127	1,092	1,100	1,050	-1.6	-0.5
Lower Mississippi	Shipped	661	644	583	481	444	428	384	-2.4	-1.7
	Received	1,876	1,834	1,704	1,482	1,417	1,409	1,326	-1.8	-0.9
Baton Rouge to Gulf	Shipped	4,721	4,981	5,579	5,612	5,746	6,042	6,244	1.3	0.8
	Received	10,398	10,667	13,411	15,220	17,410	22,654	20,337	3.0	2.3
Illinois River	Shipped	3,571	3,492	3,195	2,678	2,496	2,427	2,206	-2.2	-1.5
	Received	6,450	6,193	5,637	4,935	4,594	4,475	4,274	-2.0	-1.1
Missouri River	Shipped	3,049	2,970	2,689	2,216	2,044	1,972	1,767	-2.4	-1.7
	Received	3,186	3,090	2,820	2,361	2,204	2,149	1,956	-2.2	-1.4
Ohio River	Shipped	19,451	18,924	17,145	14,212	13,111	12,627	11,355	-2.4	-1.7
	Received	19,352	18,890	17,358	14,808	13,945	13,674	12,639	-2.0	-1.2
Tennessee River	Shipped	2,551	2,485	2,250	1,855	1,711	1,650	1,479	-2.4	-1.7
	Received	2,927	2,871	2,688	2,368	2,289	2,299	2,187	-1.6	-0.6
Arkansas River	Shipped	2,989	2,911	2,636	2,172	2,004	1,933	1,732	-2.4	-1.7
	Received	3,017	2,939	2,663	2,199	2,030	1,960	1,759	-2.4	-1.7
Gulf Coast West	Shipped	12,268	12,654	13,450	13,687	14,302	15,139	15,563	0.8	1.0
	Received	6,705	6,747	6,700	6,404	6,444	6,613	6,572	-0.4	0.2
Gulf Coast East	Shipped	9,985	10,094	12,489	14,207	16,218	21,302	18,924	2.7	2.2
	Received	5,202	5,688	6,634	6,763	6,944	7,171	7,284	2.0	0.6
Warrior River System	Shipped	2,465	2,382	2,168	1,856	1,718	1,642	1,509	-2.2	-1.6
	Received	1,792	1,757	1,633	1,420	1,360	1,357	1,277	-1.8	-0.8
South Atlantic Coast	Shipped	758	788	813	788	757	740	727	0.3	-0.6
	Received	1,132	1,173	1,218	1,269	1,312	1,371	1,404	0.9	0.8
Middle Atlantic Coast	Shipped	9,018	10,133	8,992	6,954	4,647	3,956	3,074	-2.0	-6.1
	Received	10,129	11,340	10,138	7,978	5,526	4,810	3,880	1.8	-5.4

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	950	1,069	947	728	481	406	312	-2.0	-6.3
	Received	342	380	346	283	211	192	165	-1.5	-4.1
Great Lakes and Seaway	Shipped	31,236	36,618	43,423	47,530	50,555	56,482	59,381	3.3	1.7
	Received	29,710	35,176	42,107	46,324	49,448	55,462	58,407	3.5	1.8
Washington/Oregon Coast	Shipped	2,551	2,591	2,357	1,952	1,699	1,623	1,454	-2.0	-2.2
	Received	2,719	2,785	2,524	2,070	1,761	1,669	1,478	-2.1	-2.6
Columbia-Snake Willamette River	Shipped	4,842	4,760	4,305	3,536	3,208	3,080	2,747	-2.4	-1.9
	Received	4,597	4,484	4,061	3,349	3,084	2,976	2,666	-2.4	-1.7
California Coast	Shipped	714	786	710	579	431	383	325	-1.6	-4.3
	Received	853	930	866	697	511	424	343	-1.5	-5.3
Alaska	Shipped	24	26	24	19	13	11	9	-1.9	-5.5
	Received	100	108	101	88	74	70	64	-1.0	-2.4
Hawaii and Pacific Territories	Shipped	49	55	49	38	26	22	17	-2.0	-6.0
	Received	68	75	68	55	41	36	30	-1.6	-4.5
Domestic Caribbean	Shipped	2	1	1	1	1	1	1	-3.3	-2.7
	Received	45	46	44	41	38	36	35	-0.6	-1.2
Total	Shipped	114,959	121,387	126,542	123,369	123,700	133,881	131,018	-0.5	-0.5
	Received	114,959	121,387	126,542	123,369	123,700	133,881	131,018	-0.5	-0.5

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Nonmetallic Minerals
ALTERNATIVE: Low Use

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	562	580	614	654	700	752	787	1.2	1.4
	Imports	1,230	1,286	1,582	1,779	1,977	2,247	2,430	2.9	2.4
Illinois River	Exports	282	306	352	405	466	536	584	2.8	2.8
	Imports	164	171	211	250	292	343	378	3.3	3.2
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	*Exports*	*0*	*0*	*0*	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	965	976	998	1,023	1,051	1,084	1,106	0.5	0.6
	Imports	1,667	1,751	2,203	2,565	2,945	3,428	3,763	3.4	3.0
Gulf Coast East	Exports	12,499	12,987	13,804	10,784	7,769	4,760	2,958	-1.1	-9.5
	Imports	2,551	2,786	3,533	3,872	4,229	4,681	4,995	3.3	2.0
Warrior River System	Exports	4	4	5	5	6	7	8	2.8	2.8
	Imports	1	1	2	2	2	3	3	3.0	3.1
South Atlantic Coast	Exports	2,730	2,887	3,168	2,959	2,779	2,634	2,566	0.6	-1.1
	Imports	2,273	2,276	2,660	2,736	2,791	2,954	3,066	1.4	0.9
Middle Atlantic Coast	Exports	109	119	136	156	179	206	223	2.8	2.8
	Imports	5,258	5,308	6,315	6,703	7,069	7,701	8,142	1.9	1.5

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	3	3	3	4	4	5	5	2 7	2 7
	Imports	1,044	1,074	1,307	1,479	1,662	1,899	2,065	2 7	2 6
Great Lakes and Seaway	Exports	3,500	3,807	4,379	5,037	5,794	6,665	7,249	2 8	2 8
	Imports	2,208	2,262	2,501	2,729	2,978	3,278	3,489	1 6	1 9
Washington/Oregon Coast	Exports	1,107	1,204	1,384	1,593	1,832	2,107	2,292	2 8	2 8
	Imports	1,902	1,967	2,258	2,454	2,650	2,916	3,098	2 0	1 8
Columbia-Snake Willamette River	Exports	111	121	139	160	184	211	230	2 8	2 8
	Imports	1,021	1,050	1,182	1,284	1,383	1,524	1,617	1 8	1 8
California Coast	Exports	858	933	1,073	1,234	1,419	1,632	1,775	2 8	2 8
	Imports	1,323	1,414	1,864	2,080	2,273	2,583	2,786	3 5	2 3
Alaska	Exports	166	181	208	239	275	316	344	2 8	2 8
	Imports	24	25	27	29	32	34	36	1 5	1 6
Hawaii and Pacific Territories	Exports	19	21	24	28	32	37	40	2 8	2 8
	Imports	45	46	50	52	53	55	57	1 0	0 7
Domestic Caribbean	Exports	118	120	122	124	127	130	132	0 4	0 5
	Imports	273	286	356	410	466	538	588	3 2	2 8
Total	Exports	23,031	24,247	26,410	24,404	22,617	21,083	20,299	0 4	-1 4
	Imports	20,985	21,705	26,051	28,425	30,807	34,182	36,514	2 4	1 9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Nonmetallic Minerals
ALTERNATIVE: Low Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	2,997	2,853	2,547	2,127	1,965	1,975	1,883	-2.6	0.9
Lower Upper Mississippi	4,276	4,082	3,766	3,436	3,312	3,441	3,513	-1.7	0.2
Lower Mississippi	8,263	8,058	7,744	6,633	6,598	6,900	7,019	-1.7	0.4
Baton Rouge to Gulf	17,576	17,924	21,036	22,275	24,677	30,397	28,433	1.8	1.9
Illinois River	6,635	6,388	5,845	5,146	4,813	4,705	4,509	-1.9	-1.0
Missouri River	3,218	3,140	2,865	2,399	2,238	2,182	1,986	-2.2	-1.4
Ohio River	22,144	21,629	19,931	16,374	15,393	15,073	13,899	-2.3	-1.3
Tennessee River	3,724	3,649	3,396	2,945	2,822	2,815	2,652	1.8	-0.8
Arkansas River	3,018	2,940	2,664	2,200	2,031	1,961	1,759	-2.4	-1.7
Gulf Coast West	13,681	14,066	14,862	15,091	15,720	16,583	17,016	0.8	0.9
Gulf Coast East	14,058	14,605	17,931	20,546	22,806	28,184	25,987	3.0	1.6
Warrior River System	2,661	2,580	2,378	2,808	2,736	2,747	2,671	0.4	-0.4
Great Lakes	32,883	38,179	44,857	48,850	51,779	57,625	60,479	3.1	1.7

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Nonmetallic Minerals
ALTERNATIVE: Low Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	410	377	328	279	259	278	288	-2.9	0.2
Lower Upper Mississippi	691	654	602	560	542	572	599	-1.6	0.5
Lower Mississippi	6,018	5,863	5,588	4,733	4,659	4,828	4,850	-1.8	0.2
Baton Rouge to Gulf	1,947	1,952	2,188	2,217	2,417	2,916	2,782	1.0	1.8
Illinois River	605	579	533	483	455	448	440	-1.7	-0.7
Missouri River	394	386	358	310	297	295	277	-1.8	-0.9
Ohio River	2,885	2,851	2,751	2,521	2,515	2,585	2,551	-1.0	0.1
Tennessee River	306	302	290	263	260	267	261	-1.2	-0.1
Arkansas River	45	44	40	34	32	31	28	-2.2	-1.5
Gulf Coast West	1,036	1,054	1,094	1,105	1,151	1,218	1,251	0.5	1.0
Gulf Coast East	169	172	177	272	283	298	309	3.7	1.0
Warrior River System	238	231	212	421	425	441	442	4.5	0.4
Great Lakes	10,015	11,785	14,036	15,399	16,414	18,375	19,342	3.4	1.8
Total	24,759	26,250	28,197	28,597	29,708	32,551	33,418	1.1	1.2

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Nonmetallic Minerals
ALTERNATIVE: High Use

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	1,970	1,918	1,764	1,491	1,360	1,284	1,141	-2.1	-2.0
	Received	2,997	2,853	2,575	2,184	2,003	1,985	1,882	-2.4	-1.1
Lower Upper Mississippi	Shipped	1,136	1,104	1,016	864	789	746	668	-2.1	2.0
	Received	1,383	1,358	1,290	1,159	1,114	1,106	1,049	-1.3	-0.8
Lower Mississippi	Shipped	661	644	593	500	457	432	383	-2.1	-2.0
	Received	1,876	1,834	1,726	1,527	1,447	1,417	1,325	-1.6	-1.1
Baton Rouge to Gulf	Shipped	4,721	4,981	5,677	5,731	5,747	6,043	6,244	1.5	0.7
	Received	10,398	10,748	13,538	15,257	17,501	22,003	19,928	3.0	2.1
Illinois River	Shipped	3,571	3,492	3,245	2,777	2,562	2,445	2,204	-1.9	-1.8
	Received	6,450	6,193	5,686	5,034	4,659	4,493	4,272	-1.9	-1.3
Missouri River	Shipped	3,049	2,970	2,734	2,306	2,104	1,989	1,765	-2.1	-2.0
	Received	3,166	3,090	2,864	2,451	2,263	2,165	1,955	-2.0	-1.7
Ohio River	Shipped	19,451	18,924	17,415	14,758	13,473	12,726	11,344	-2.1	-2.0
	Received	19,352	18,890	17,603	15,303	14,273	13,764	12,630	-1.8	-1.5
Tennessee River	Shipped	2,551	2,485	2,287	1,930	1,761	1,664	1,477	-2.1	-2.0
	Received	2,927	2,871	2,722	2,437	2,334	2,311	2,186	-1.4	-0.8
Arkansas River	Shipped	2,989	2,911	2,680	2,261	2,062	1,949	1,730	-2.1	-2.0
	Received	3,017	2,939	2,707	2,288	2,089	1,976	1,757	-2.1	-2.0
Gulf Coast West	Shipped	12,268	12,654	13,490	13,770	14,356	15,154	15,562	0.9	0.9
	Received	6,705	6,747	6,744	6,492	6,502	6,629	6,570	0.2	0.1
Gulf Coast East	Shipped	9,985	10,175	12,512	14,114	16,302	20,650	18,515	2.7	2.1
	Received	5,202	5,688	6,644	6,783	6,957	7,175	7,283	2.1	0.5
Warrior River System	Shipped	2,465	2,382	2,193	1,906	1,751	1,651	1,509	-2.0	-1.8
	Received	1,792	1,757	1,655	1,464	1,390	1,365	1,276	-1.5	-1.1
South Atlantic Coast	Shipped	758	788	813	799	772	750	736	0.4	-0.6
	Received	1,132	1,173	1,217	1,280	1,327	1,380	1,412	0.9	0.8
Middle Atlantic Coast	Shipped	9,018	10,133	8,928	8,322	6,626	5,182	4,132	-0.6	-5.2
	Received	10,129	11,340	10,070	9,448	7,652	6,128	5,017	-0.5	-4.8

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77 90	90 03
North Atlantic Coast	Shipped	950	1,069	940	874	692	537	425	-0 6	-5 4
	Received	342	380	344	327	275	231	199	-0 3	-3 7
Great Lakes and Seaway	Shipped	31,236	37,329	44,236	51,854	57,758	64,182	67,893	4 0	2 1
	Received	29,710	35,887	42,920	50,649	56,651	63,162	66,919	4 2	2 2
Washington/Oregon Coast	Shipped	2,551	2,591	2,378	2,103	1,877	1,722	1,530	-1 5	-2 4
	Received	2,719	2,785	2,543	2,254	1,987	1,797	1,581	-1 4	-2 7
Columbia-Snake Willamette River	Shipped	4,842	4,760	4,369	3,714	3,359	3,143	2,778	-2 0	-2 2
	Received	4,597	4,484	4,127	3,489	3,181	3,005	2,668	-2 1	-2 0
California Coast	Shipped	714	786	706	663	553	458	390	-0 6	-4 0
	Received	853	930	862	780	632	499	408	-0 7	-4 9
Alaska	Shipped	24	26	23	22	18	14	12	-0 6	-4 8
	Received	100	108	100	96	86	77	70	-0 3	-2 4
Hawaii and Pacific Territories	Shipped	49	55	49	45	36	28	23	-0 6	-5 2
	Received	68	75	68	63	53	43	37	-0 6	-4 1
Domestic Caribbean	Shipped	2	1	1	1	1	1	1	-3 3	-2 7
	Received	45	46	44	42	40	37	36	-0 4	-1 2
Total	Shipped	114,959	122,179	128,049	130,807	134,415	142,749	140,460	1 0	0 5
	Received	114,959	122,179	128,049	130,807	134,415	142,749	140,460	1 0	0 5

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Nonmetallic Minerals
ALTERNATIVE: High Use

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	562	580	614	654	700	752	787	1.2	1.4
	Imports	1,230	1,286	1,582	1,779	1,977	2,247	2,430	2.9	2.4
Illinois River	Exports	282	306	352	405	466	536	584	2.8	2.8
	Imports	164	171	211	250	292	343	378	3.3	3.2
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	965	976	998	1,023	1,051	1,084	1,106	0.5	0.6
	Imports	1,667	1,751	2,203	2,565	2,945	3,428	3,763	3.4	3.0
Gulf Coast East	Exports	12,499	12,987	13,804	13,839	13,879	13,925	13,956	0.8	0.1
	Imports	2,551	2,786	3,533	3,872	4,229	4,681	4,995	3.3	2.0
Warrior River System	Exports	4	4	5	5	6	7	8	2.8	2.8
	Imports	1	1	2	2	2	3	3	3.0	3.1
South Atlantic Coast	Exports	2,730	2,887	3,168	3,370	3,602	3,868	4,047	1.6	1.4
	Imports	2,273	2,276	2,660	2,736	2,791	2,954	3,066	1.4	0.9
Middle Atlantic Coast	Exports	109	119	136	156	179	206	224	2.8	2.8
	Imports	5,258	5,308	6,315	6,703	7,069	7,701	8,142	1.9	1.5

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	3	3	3	4	4	5	5	2.7	2.7
	Imports	1,044	1,074	1,307	1,479	1,662	1,899	2,065	2.7	2.6
Great Lakes and *Seaway*	Exports	3,500	3,807	4,379	5,037	5,794	6,665	7,249	2.8	2.8
	Imports	*2,208*	*2,262*	*2,501*	*2,729*	*2,978*	*3,278*	*3,489*	*1.6*	*1.9*
Washington/Oregon Coast	Exports	1,107	1,204	1,384	1,593	1,832	2,107	2,292	2.8	2.8
	Imports	1,902	1,967	2,258	2,454	2,650	2,916	3,098	2.0	1.8
Columbia-Snake Willamette River	Exports	111	121	139	160	184	211	230	2.8	2.8
	Imports	1,021	1,050	1,182	1,284	1,388	1,524	1,617	1.8	1.8
California Coast	Exports	858	933	1,073	1,234	1,419	1,632	1,775	2.8	2.8
	Imports	1,323	1,414	1,864	2,080	2,273	2,583	2,786	3.5	2.3
Alaska	Exports	166	181	208	239	275	316	344	2.8	2.8
	Imports	24	25	27	29	32	34	36	1.5	1.6
Hawaii and Pacific Territories	Exports	19	21	24	28	32	37	40	2.8	2.8
	Imports	45	46	50	52	53	55	57	1.0	0.7
Domestic Caribbean	Exports	118	120	122	124	127	130	132	0.4	0.5
	Imports	273	286	356	410	466	538	588	3.2	2.8
Total	Exports	23,031	24,247	26,410	27,870	29,550	31,483	32,779	1.5	1.3
	Imports	20,985	21,705	26,051	28,425	30,807	34,182	36,514	2.4	1.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: Nonmetallic Minerals
ALTERNATIVE: High Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	2,997	2,853	2,575	2,184	2,003	1,985	1,882	-2.4	-1.1
Lower Upper Mississippi	4,276	4,082	3,782	3,469	3,334	3,447	3,512	-1.6	0.1
Lower Mississippi	8,263	8,058	7,782	6,709	6,648	6,913	7,017	-1.6	0.3
Baton Rouge to Gulf	17,576	18,004	21,166	22,318	24,772	29,748	28,023	1.9	1.8
Illinois River	6,635	6,388	5,895	5,246	4,879	4,723	4,507	-1.8	-1.2
Missouri River	3,218	3,140	2,910	2,490	2,298	2,199	1,985	-2.0	-1.7
Ohio River	22,144	21,629	20,207	16,930	15,761	15,174	13,889	-2.0	-1.5
Tennessee River	3,956	3,874	3,647	3,231	3,061	3,000	2,801	-1.5	-1.1
Arkansas River	3,018	2,940	2,708	2,289	2,090	1,977	1,758	-2.1	-2.0
Gulf Coast West	13,681	14,066	14,906	15,179	15,778	16,599	17,014	0.8	0.9
Gulf Coast East	14,058	14,685	17,957	20,461	22,894	27,533	25,578	2.9	1.7
Warrior River System	2,661	2,580	2,403	2,861	2,771	2,756	2,670	0.6	-0.5
Great Lakes	32,883	38,890	45,671	53,176	58,983	65,325	68,990	3.8	2.0

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Nonmetallic Minerals
ALTERNATIVE: High Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	410	377	329	281	260	278	288	-2.9	0.2
Lower Upper Mississippi	691	654	603	561	543	573	599	-1.6	0.5
Lower Mississippi	6,018	5,863	5,628	4,810	4,706	4,841	4,848	-1.7	0.1
Baton Rouge to Gulf	1,947	1,959	2,207	2,230	2,425	2,863	2,748	1.1	1.6
Illinois River	605	579	536	488	458	448	440	-1.6	-0.8
Missouri River	394	386	363	320	303	297	277	-1.6	-1.1
Ohio River	2,885	2,851	2,775	2,570	2,547	2,594	2,550	-0.9	-0.1
Tennessee River	356	351	337	311	303	304	294	-1.0	-0.4
Arkansas River	45	44	41	35	32	31	28	-1.9	-1.8
Gulf Coast West	1,036	1,054	1,098	1,112	1,156	1,220	1,251	0.5	0.9
Gulf Coast East	169	172	177	273	283	298	309	3.8	1.0
Warrior River System	238	231	214	427	429	442	442	4.6	0.3
Great Lakes	10,015	12,013	14,299	16,804	18,756	20,879	22,109	4.1	2.1
Total	24,809	26,533	28,606	30,222	32,202	35,067	36,182	1.5	1.4

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Nonmetallic Minerals
ALTERNATIVE: Bad Energy

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	1,970	1,918	1,758	1,482	1,351	1,280	1,142	-2.2	-2.0
	Received	2,997	2,853	2,568	2,175	1,995	1,981	1,883	-2.4	-1.1
Lower Upper Mississippi	Shipped	1,136	1,104	1,012	859	785	743	668	2.1	-1.9
	Received	1,383	1,358	1,287	1,154	1,109	1,103	1,050	1.4	-0.7
Lower Mississippi	Shipped	661	644	591	497	454	430	384	-2.2	2.0
	Received	1,876	1,834	1,721	1,520	1,440	1,414	1,326	-1.6	1.0
Baton Rouge to Gulf	Shipped	4,721	4,981	5,579	5,613	5,747	6,043	6,244	1.3	0.8
	Received	10,398	10,667	15,357	16,858	18,204	20,648	21,942	3.8	2.0
Illinois River	Shipped	3,571	3,492	3,234	2,761	2,547	2,437	2,205	-2.0	-1.7
	Received	6,450	6,193	5,676	5,018	4,645	4,486	4,273	-1.9	-1.2
Missouri River	Shipped	3,049	2,970	2,724	2,292	2,090	1,982	1,766	-2.2	-2.0
	Received	3,166	3,090	2,854	2,436	2,250	2,159	1,955	-2.0	-1.7
Ohio River	Shipped	19,451	18,923	17,355	14,669	13,392	12,686	11,349	-2.1	-2.0
	Received	19,352	18,889	17,549	15,223	14,200	13,728	12,634	-1.8	-1.4
Tennessee River	Shipped	2,551	2,485	2,279	1,918	1,750	1,659	1,478	-2.2	2.0
	Received	2,927	2,871	2,715	2,426	2,324	2,306	2,187	1.4	-0.8
Arkansas River	Shipped	2,989	2,911	2,670	2,246	2,049	1,943	1,731	-2.2	-2.0
	Received	3,017	2,939	2,697	2,273	2,076	1,970	1,758	2.2	-2.0
Gulf Coast West	Shipped	12,268	12,654	13,481	13,757	14,344	15,148	15,563	0.9	1.0
	Received	6,705	6,747	6,734	6,478	6,489	6,622	6,571	-0.3	0.1
Gulf Coast East	Shipped	9,985	10,093	14,430	15,835	17,007	19,295	20,529	3.6	2.0
	Received	5,202	5,688	6,642	6,780	6,954	7,173	7,283	2.1	0.6
Warrior River System	Shipped	2,465	2,382	2,188	1,898	1,744	1,647	1,509	-2.0	-1.7
	Received	1,792	1,757	1,651	1,457	1,383	1,361	1,277	-1.6	-1.0
South Atlantic Coast	Shipped	758	788	812	796	768	744	729	0.4	-0.7
	Received	1,132	1,173	1,216	1,277	1,323	1,374	1,406	0.9	0.7
Middle Atlantic Coast	Shipped	9,018	10,133	8,758	7,971	6,092	4,450	3,306	-0.9	-6.5
	Received	10,129	11,340	9,887	9,071	7,078	5,342	4,130	-0.8	-5.9

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	950	1,069	921	837	635	459	336	-1.0	-6.8
	Received	342	380	338	316	258	208	172	-0.6	-4.5
Great Lakes and Seaway	Shipped	31,236	36,617	43,021	49,941	55,147	60,758	64,021	3.7	1.9
	Received	29,710	35,176	41,705	48,735	54,040	59,738	63,047	3.9	2.0
Washington/Oregon Coast	Shipped	2,551	2,591	2,360	2,069	1,831	1,665	1,470	-1.6	-2.6
	Received	2,719	2,785	2,521	2,211	1,928	1,722	1,500	-1.6	-2.9
Columbia-Snake Willamette River	Shipped	4,842	4,759	4,349	3,681	3,322	3,110	2,753	-2.1	-2.2
	Received	4,597	4,484	4,112	3,465	3,159	2,992	2,666	-2.2	-2.0
California Coast	Shipped	714	786	696	642	520	413	339	-0.8	-4.8
	Received	853	930	852	759	599	454	357	0.9	-5.6
Alaska	Shipped	24	26	23	21	16	12	9	-0.9	-5.9
	Received	100	108	99	94	83	73	66	-0.5	-2.7
Hawaii and Pacific Territories	Shipped	49	55	48	43	33	25	18	-0.9	-6.4
	Received	68	75	66	61	49	39	32	-0.8	4.9
Domestic Caribbean	Shipped	2	1	1	1	1	1	1	-3.3	-2.7
	Received	45	46	44	42	39	37	35	-0.5	1.3
Total	Shipped	114,959	121,384	128,290	129,828	131,625	136,931	137,549	0.9	0.4
	Received	114,959	121,384	128,290	129,828	131,625	136,931	137,549	0.9	0.4

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Nonmetallic Minerals
ALTERNATIVE: Bad Energy

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	562	580	614	654	700	752	787	1.2	1.4
	Imports	1,230	1,286	1,582	1,779	1,977	2,247	2,430	2.9	2.4
Illinois River	Exports	282	306	352	405	466	536	584	2.8	2.8
	Imports	164	171	211	250	292	343	378	3.3	3.2
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	965	976	998	1,023	1,051	1,084	1,106	0.5	0.6
	Imports	1,667	1,751	2,203	2,565	2,945	3,428	3,763	3.4	3.0
Gulf Coast East	Exports	12,499	12,987	13,804	10,784	7,769	4,760	2,958	1.1	9.5
	Imports	2,551	2,786	3,533	3,872	4,229	4,681	4,995	3.3	2.0
Warrior River System	Exports	4	4	5	5	6	7	8	2.8	2.8
	Imports	1	1	2	2	2	3	3	3.0	3.1
South Atlantic Coast	Exports	2,730	2,887	3,168	2,959	2,779	2,634	2,566	0.6	1.1
	Imports	2,273	2,276	2,660	2,736	2,791	2,954	3,066	1.4	0.9
Middle Atlantic Coast	Exports	109	119	136	156	179	206	223	2.8	2.8
	Imports	5,258	5,308	6,315	6,703	7,069	7,701	8,142	1.9	1.5

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	3	3	3	4	4	5	5	2.7	2.7
	Imports	1,044	1,074	1,307	1,479	1,662	1,899	2,065	2.7	2.6
Great Lakes and Seaway	Exports	3,500	3,807	4,379	5,037	5,794	6,665	7,249	2.8	2.8
	Imports	2,208	2,262	2,501	2,729	2,978	3,278	3,489	1.6	1.9
Washington/Oregon Coast	Exports	1,107	1,204	1,384	1,593	1,832	2,107	2,292	2.8	2.8
	Imports	1,902	1,967	2,258	2,454	2,650	2,916	3,098	2.0	1.8
Columbia-Snake Willamette River	Exports	111	121	139	160	184	211	230	2.8	2.8
	Imports	1,021	1,050	1,182	1,284	1,388	1,524	1,617	1.8	1.8
California Coast	Exports	858	933	1,073	1,234	1,419	1,632	1,775	2.8	2.8
	Imports	1,323	1,414	1,864	2,080	2,273	2,583	2,786	3.5	2.3
Alaska	Exports	166	181	208	239	275	316	344	2.8	2.8
	Imports	24	25	27	29	32	34	36	1.5	1.6
Hawaii and Pacific Territories	Exports	19	21	24	28	32	37	40	2.8	2.8
	Imports	45	46	50	52	53	55	57	1.0	0.7
Domestic Caribbean	Exports	118	120	122	124	127	130	132	0.4	0.5
	Imports	273	286	356	410	466	538	588	3.2	2.8
Total	Exports	23,031	24,247	26,410	24,404	22,617	21,083	20,299	0.4	-1.4
	Imports	20,985	21,705	26,051	28,425	30,807	34,182	36,514	2.4	1.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Nonmetallic Minerals
ALTERNATIVE: Bad Energy

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	2,997	2,853	2,569	2,175	1,995	1,981	1,883	-2.4	-1.1
Lower Upper Mississippi	4,276	4,082	3,779	3,463	3,329	3,445	3,512	-1.6	0.1
Lower Mississippi	8,263	8,058	7,774	6,696	6,637	6,908	7,018	-1.6	0.4
Baton Rouge to Gulf	17,576	17,923	22,983	23,918	25,474	28,393	30,038	2.4	1.8
Illinois River	6,635	6,388	5,884	5,229	4,864	4,716	4,508	-1.8	-1.1
Missouri River	3,218	3,140	2,900	2,475	2,285	2,192	1,985	-2.0	-1.7
Ohio River	22,144	21,629	20,147	16,840	15,679	15,134	13,893	-2.1	-1.5
Tennessee River	3,956	3,874	3,636	3,215	3,046	2,993	2,802	-1.6	-1.1
Arkansas River	3,018	2,940	2,698	2,274	2,077	1,970	1,758	-2.2	-2.0
Gulf Coast West	13,681	14,066	14,896	15,165	15,765	16,593	17,015	0.8	0.9
Gulf Coast East	14,058	14,604	19,874	22,180	23,598	26,178	27,593	3.6	1.7
Warrior River System	2,661	2,580	2,398	2,852	2,763	2,752	2,671	0.5	-0.5
Great Lakes	32,883	38,179	44,456	51,262	56,371	61,900	65,119	3.5	1.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Nonmetallic Minerals
ALTERNATIVE: Bad Energy

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	410	377	329	281	260	278	288	-2.9	0.2
Lower Upper Mississippi	691	654	603	561	543	573	599	-1.6	0.5
Lower Mississippi	6,018	5,863	5,615	4,792	4,695	4,836	4,849	-1.7	0.1
Baton Rouge to Gulf	1,947	1,952	2,347	2,351	2,482	2,752	2,913	1.5	1.7
Illinois River	605	579	535	487	458	448	440	-1.6	-0.8
Missouri River	394	386	362	319	302	296	277	-1.6	-1.1
Ohio River	2,885	2,851	2,770	2,562	2,540	2,590	2,550	-0.9	0.0
Tennessee River	356	351	336	309	302	304	294	-1.1	-0.4
Arkansas River	45	44	41	35	32	31	28	-2.0	-1.7
Gulf Coast West	1,036	1,054	1,097	1,111	1,155	1,219	1,251	0.5	0.9
Gulf Coast East	169	172	177	272	283	298	309	3.8	1.0
Warrior River System	238	231	214	426	428	441	442	4.6	0.3
Great Lakes	10,015	11,784	13,906	16,184	17,911	19,770	20,856	3.8	2.0
Total	24,809	26,298	28,331	29,692	31,390	33,837	35,095	1.4	1.3

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Nonmetallic Minerals
ALTERNATIVE: Defense

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	1,970	1,918	1,764	1,450	1,360	1,284	1,141	-2.3	-1.8
	Received	2,997	2,853	2,575	2,116	2,003	1,985	1,882	-2.6	-0.9
Lower Upper Mississippi	Shipped	1,136	1,104	1,016	835	789	746	668	-2.3	-1.7
	Received	1,383	1,358	1,290	1,060	1,114	1,106	1,049	-2.0	-0.1
Lower Mississippi	Shipped	661	644	593	487	457	432	383	-2.3	-1.8
	Received	1,876	1,834	1,726	1,419	1,447	1,417	1,325	-2.1	-0.5
Baton Rouge to Gulf	Shipped	4,721	4,981	5,579	4,623	5,747	6,043	6,244	0.2	2.3
	Received	10,398	10,748	13,440	11,083	17,501	22,003	19,928	0.5	4.6
Illinois River	Shipped	3,571	3,492	3,245	2,666	2,562	2,445	2,204	-2.2	-1.5
	Received	6,450	6,193	5,686	4,673	4,659	4,493	4,272	-2.4	0.7
Missouri River	Shipped	3,049	2,970	2,734	2,246	2,104	1,989	1,765	-2.3	-1.8
	Received	3,166	3,090	2,864	2,353	2,263	2,165	1,955	-2.3	-1.4
Ohio River	Shipped	19,451	18,924	17,415	14,311	13,473	12,726	11,344	-2.3	-1.8
	Received	19,352	18,890	17,603	14,466	14,273	13,764	12,630	-2.2	-1.0
Tennessee River	Shipped	2,551	2,485	2,287	1,879	1,761	1,664	1,477	-2.3	-1.8
	Received	2,927	2,871	2,722	2,237	2,334	2,311	2,186	-2.0	-0.2
Arkansas River	Shipped	2,989	2,911	2,680	2,202	2,062	1,949	1,730	-2.3	-1.8
	Received	3,017	2,939	2,707	2,224	2,089	1,976	1,757	-2.3	-1.8
Gulf Coast West	Shipped	12,268	12,654	13,490	11,086	14,356	15,154	15,562	-0.8	2.6
	Received	6,705	6,747	6,744	5,542	6,502	6,629	6,570	-1.5	1.3
Gulf Coast East	Shipped	9,985	10,175	12,512	10,282	16,302	20,650	18,515	0.2	4.6
	Received	5,202	5,688	6,644	5,460	6,957	7,175	7,283	0.4	2.2
Warrior River System	Shipped	2,465	2,382	2,193	1,802	1,751	1,651	1,509	-2.4	-1.4
	Received	1,792	1,757	1,655	1,360	1,390	1,365	1,276	-2.1	-0.5
South Atlantic Coast	Shipped	758	788	813	668	772	750	736	-1.0	0.7
	Received	1,132	1,173	1,217	1,000	1,327	1,380	1,412	-0.9	2.7
Middle Atlantic Coast	Shipped	9,018	10,133	8,928	7,337	6,626	5,182	4,132	-1.6	-4.3
	Received	10,129	11,340	10,070	8,275	7,652	6,128	5,017	-1.5	-3.8

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	950	1,069	940	772	692	537	425	-1.6	-4.5
	Received	342	380	344	282	275	231	199	-1.5	-2.6
Great Lakes and Seaway	Shipped	31,236	37,329	44,236	36,353	57,758	64,182	67,893	1.2	4.9
	Received	29,710	35,887	42,920	35,271	56,651	63,162	66,919	1.3	5.0
Washington/Oregon Coast	Shipped	2,551	2,591	2,378	1,954	1,877	1,722	1,530	-2.0	-1.9
	Received	2,719	2,785	2,543	2,090	1,987	1,797	1,581	-2.0	-2.1
Columbia-Snake Willamette River	Shipped	4,842	4,760	4,369	3,591	3,359	3,143	2,778	-2.3	-2.0
	Received	4,597	4,484	4,127	3,392	3,181	3,005	2,668	-2.3	-1.8
California Coast	Shipped	714	786	706	580	553	458	390	-1.6	-3.0
	Received	853	930	862	708	632	499	408	-1.4	-4.2
Alaska	Shipped	24	26	23	19	18	14	12	-1.6	-3.9
	Received	100	108	100	82	86	77	70	-1.5	-1.2
Hawaii and Pacific Territories	Shipped	49	55	49	40	36	28	23	-1.6	-4.2
	Received	68	75	68	55	53	43	37	-1.6	-3.1
Domestic Caribbean	Shipped	2	1	1	1	1	1	1	-3.6	-2.4
	Received	45	46	44	36	40	37	36	-1.6	-0.1
Total	*Shipped*	114,959	122,179	127,951	105,186	134,415	142,749	140,460	-0.7	2.2
	Received	114,959	122,179	127,951	105,186	134,415	142,749	140,460	-0.7	2.2

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Nonmetallic Minerals
ALTERNATIVE: Defense

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	562	580	614	635	700	752	787	1.0	1.7
	Imports	1,230	1,286	1,582	1,256	1,977	2,247	2,430	0.2	5.2
Illinois River	Exports	282	306	352	365	466	536	584	2.0	3.7
	Imports	164	171	211	168	292	343	378	0.2	6.5
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	985	976	998	1,032	1,051	1,084	1,106	0.5	0.5
	Imports	1,667	1,751	2,203	1,750	2,945	3,428	3,763	0.4	6.1
Gulf Coast East	Exports	12,499	12,987	13,804	14,276	13,879	13,925	13,956	1.0	-0.2
	Imports	2,551	2,786	3,533	2,805	4,229	4,681	4,995	0.7	4.5
Warrior River System	Exports	4	4	5	5	6	7	8	2.0	3.7
	Imports	1	1	2	1	2	3	3	0.0	6.2
South Atlantic Coast	Exports	2,730	2,887	3,168	3,277	3,602	3,868	4,047	1.4	1.6
	Imports	2,273	2,276	2,660	2,112	2,791	2,954	3,066	-0.6	2.9
Middle Atlantic Coast	Exports	109	119	136	141	179	206	224	2.0	3.6
	Imports	5,258	5,308	6,315	5,015	7,069	7,701	8,142	-0.4	3.8

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	3	3	3	3	4	5	5	1.9	3.5
	Imports	1,044	1,074	1,307	1,038	1,662	1,899	2,065	0.0	5.4
Great Lakes and Seaway	Exports	3,500	3,807	4,379	4,529	5,794	6,665	7,249	2.0	3.7
	Imports	2,208	2,262	2,501	1,986	2,978	3,278	3,489	-0.8	4.4
Washington/Oregon Coast	Exports	1,107	1,204	1,384	1,432	1,832	2,107	2,292	2.0	3.7
	Imports	1,902	1,967	2,258	1,793	2,650	2,916	3,098	-0.5	4.3
Columbia-Snake Willamette River	Exports	111	121	139	144	184	211	230	2.0	3.7
	Imports	1,021	1,050	1,182	939	1,388	1,524	1,617	-0.6	4.3
California Coast	Exports	858	933	1,073	1,109	1,419	1,632	1,775	2.0	3.7
	Imports	1,323	1,414	1,864	1,480	2,273	2,583	2,786	0.9	5.0
Alaska	Exports	166	181	208	215	275	316	344	2.0	3.7
	Imports	24	25	27	22	32	34	36	-0.9	4.0
Hawaii and Pacific Territories	Exports	19	21	24	25	32	37	40	2.0	3.7
	Imports	45	46	50	40	53	55	57	-1.0	2.8
Domestic Caribbean	Exports	118	120	122	126	127	130	132	0.5	0.4
	Imports	273	286	358	283	466	538	588	0.3	5.8
Total	Exports	23,031	24,247	26,410	27,314	29,550	31,483	32,779	1.3	1.4
	Imports	20,985	21,705	26,051	20,687	30,807	34,182	36,514	-0.1	4.5

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Nonmetallic Minerals
ALTERNATIVE: Defense

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	2,997	2,853	2,575	2,116	2,003	1,985	1,882	-2.6	-0.9
Lower Upper Mississippi	4,276	4,082	3,782	3,108	3,334	3,447	3,512	-2.4	0.9
Lower Mississippi	8,263	8,058	7,782	5,821	6,648	6,913	7,017	-2.7	1.4
Baton Rouge to Gulf	17,576	18,004	21,068	16,817	24,772	29,748	28,023	-0.3	4.0
Illinois River	6,635	6,388	5,895	4,844	4,879	4,723	4,507	-2.4	-0.6
Missouri River	3,218	3,140	2,910	2,391	2,298	2,199	1,985	-2.3	-1.4
Ohio River	22,144	21,629	20,207	16,043	15,761	15,174	13,889	-2.4	-1.1
Tennessee River	3,956	3,874	3,647	3,008	3,061	3,000	2,801	-2.1	-0.5
Arkansas River	3,018	2,940	2,708	2,225	2,090	1,977	1,758	-2.3	-1.8
Gulf Coast West	13,681	14,066	14,906	12,249	15,778	16,599	17,014	-0.8	2.6
Gulf Coast East	14,058	14,685	17,957	15,310	22,894	27,533	25,578	0.7	4.0
Warrior River System	2,661	2,580	2,403	2,549	2,771	2,756	2,670	-0.3	0.4
Great Lakes	32,883	38,890	45,671	37,532	58,983	65,325	68,990	1.0	4.8

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Nonmetallic Minerals
ALTERNATIVE: Defense

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	410	377	329	271	260	278	288	-3.1	0.5
Lower Upper Mississippi	691	654	603	496	543	573	599	-2.5	1.5
Lower Mississippi	6,018	5,863	5,623	4,242	4,706	4,841	4,848	-2.7	1.0
Baton Rouge to Gulf	1,947	1,959	2,191	1,712	2,425	2,863	2,748	-1.0	3.7
Illinois River	605	579	536	440	458	448	440	-2.4	0.0
Missouri River	394	386	363	298	303	297	277	-2.1	-0.6
Ohio River	2,885	2,851	2,775	2,245	2,547	2,594	2,550	-1.9	1.0
Tennessee River	356	351	337	279	303	304	294	-1.9	0.4
Arkansas River	45	44	41	34	32	31	28	-2.3	-1.4
Gulf Coast West	1,036	1,054	1,098	902	1,156	1,220	1,251	-1.1	2.5
Gulf Coast East	169	172	177	219	283	298	309	2.0	2.7
Warrior River System	238	231	214	366	429	442	442	3.4	1.5
Great Lakes	10,015	12,013	14,299	11,751	18,756	20,879	22,109	1.2	5.0
Total	24,809	26,533	28,585	23,254	32,202	35,067	36,182	-0.5	3.5

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Nonmetallic Minerals
ALTERNATIVE: High Coal Export

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	1,970	1,918	1,764	1,491	1,360	1,284	1,141	2.1	-2.0
	Received	2,997	2,853	2,575	2,184	2,003	1,985	1,882	-2.4	-1.1
Lower Upper Mississippi	Shipped	1,136	1,104	1,016	864	789	746	668	-2.1	-2.0
	Received	1,383	1,358	1,290	1,159	1,114	1,106	1,049	-1.3	-0.8
Lower Mississippi	Shipped	661	644	593	500	457	432	383	-2.1	-2.0
	Received	1,876	1,834	1,726	1,527	1,447	1,417	1,325	-1.6	-1.1
Baton Rouge to Gulf	Shipped	4,721	4,981	5,677	5,731	5,747	6,043	6,244	1.5	0.7
	Received	10,398	10,748	13,538	15,257	17,501	22,003	19,928	3.0	2.1
Illinois River	Shipped	3,571	3,492	3,245	2,777	2,562	2,445	2,204	-1.9	-1.8
	Received	6,450	6,193	5,686	5,034	4,659	4,493	4,272	-1.9	-1.3
Missouri River	Shipped	3,049	2,970	2,734	2,306	2,104	1,989	1,765	-2.1	-2.0
	Received	3,166	3,090	2,864	2,451	2,263	2,165	1,955	-2.0	-1.7
Ohio River	Shipped	19,451	18,924	17,415	14,758	13,473	12,726	11,344	-2.1	-2.0
	Received	19,352	18,890	17,603	15,303	14,273	13,764	12,630	-1.8	-1.5
Tennessee River	Shipped	2,551	2,485	2,287	1,930	1,761	1,664	1,477	-2.1	-2.0
	Received	2,927	2,871	2,722	2,437	2,334	2,311	2,186	-1.4	-0.8
Arkansas River	Shipped	2,989	2,911	2,680	2,261	2,062	1,949	1,730	-2.1	-2.0
	Received	3,017	2,939	2,707	2,288	2,089	1,976	1,757	-2.1	-2.0
Gulf Coast West	Shipped	12,268	12,654	13,490	13,770	14,356	15,154	15,562	0.9	0.9
	Received	6,705	6,747	6,744	6,492	6,502	6,629	6,570	-0.2	0.1
Gulf Coast East	Shipped	9,985	10,175	12,512	14,114	16,302	20,650	18,515	2.7	2.1
	Received	5,202	5,688	6,644	6,783	6,957	7,175	7,283	2.1	0.5
Warrior River System	Shipped	2,465	2,382	2,193	1,906	1,751	1,651	1,509	-2.0	-1.8
	Received	1,792	1,757	1,655	1,464	1,390	1,365	1,276	-1.5	-1.1
South Atlantic Coast	Shipped	758	788	813	799	772	750	736	0.4	-0.6
	Received	1,132	1,173	1,217	1,280	1,327	1,380	1,412	0.9	0.8
Middle Atlantic Coast	Shipped	9,018	10,133	8,928	8,322	6,626	5,182	4,132	0.6	-5.2
	Received	10,129	11,340	10,070	9,448	7,652	6,128	5,017	-0.5	-4.8

7/20/81

SEGMENT	IN/OUT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
North Atlantic Coast	Shipped	950	1,069	940	874	692	537	425	-0.6	-5.4
	Received	342	380	344	327	275	231	199	-0.3	-3.7
Great Lakes and Seaway	Shipped	31,236	37,329	44,236	51,854	57,758	64,182	67,893	4.0	2.1
	Received	29,710	35,887	42,920	50,649	56,651	63,162	66,919	4.2	2.2
Washington/Oregon Coast	Shipped	2,551	2,591	2,378	2,103	1,877	1,722	1,530	-1.5	-2.4
	Received	2,719	2,785	2,543	2,254	1,987	1,797	1,581	-1.4	-2.7
Columbia-Snake Willamette River	Shipped	4,842	4,760	4,369	3,714	3,359	3,143	2,778	2.0	-2.2
	Received	4,597	4,484	4,127	3,489	3,181	3,005	2,668	-2.1	-2.0
California Coast	Shipped	714	786	706	663	553	458	390	-0.6	-4.0
	Received	853	930	862	780	632	499	408	-0.7	-4.9
Alaska	Shipped	24	26	23	22	18	14	12	-0.6	-4.8
	Received	100	108	100	96	86	77	70	-0.3	-2.4
Hawaii and Pacific Territories	Shipped	49	55	49	45	36	28	23	-0.6	-5.2
	Received	68	75	68	63	53	43	37	-0.6	-4.1
Domestic Caribbean	Shipped	2	1	1	1	1	1	1	-3.3	-2.7
	Received	45	46	44	42	40	37	36	-0.4	-1.2
Total	Shipped	114,959	122,179	128,049	130,807	134,415	142,749	140,460	1.0	0.5
	Received	114,959	122,179	128,049	130,807	134,415	142,749	140,460	1.0	0.5

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Nonmetallic Minerals
ALTERNATIVE: High Coal Export

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	562	580	614	654	700	752	787	1.2	1.4
	Imports	1,230	1,286	1,582	1,779	1,977	2,247	2,430	2.9	2.4
Illinois River	Exports	282	306	352	405	466	536	584	2.8	2.8
	Imports	164	171	211	250	292	343	378	3.3	3.2
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	965	976	998	1,023	1,051	1,084	1,106	0.5	0.6
	Imports	1,667	1,751	2,203	2,565	2,945	3,428	3,763	3.4	3.0
Gulf Coast East	Exports	12,499	12,987	13,804	13,839	13,879	13,925	13,956	0.8	0.1
	Imports	2,551	2,786	3,533	3,872	4,229	4,681	4,995	3.3	2.0
Warrior River System	Exports	4	4	5	5	6	7	8	2.8	2.8
	Imports	1	1	2	2	2	3	3	3.0	3.1
South Atlantic Coast	Exports	2,730	2,887	3,168	3,370	3,602	3,868	4,047	1.6	1.4
	Imports	2,273	2,276	2,660	2,736	2,791	2,954	3,066	1.4	0.9
Middle Atlantic Coast	Exports	109	119	136	156	179	206	224	2.8	2.8
	Imports	5,258	5,308	6,315	6,703	7,069	7,701	8,142	1.9	1.5

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	3	3	3	4	4	5	5	2.7	2.7
	Imports	1,044	1,074	1,307	1,479	1,662	1,899	2,065	2.7	2.6
Great Lakes and Seaway	Exports	3,500	3,807	4,379	5,037	5,794	6,665	7,249	2.8	2.8
	Imports	2,208	2,262	2,501	2,729	2,978	3,278	3,489	1.6	1.9
Washington/Oregon Coast	Exports	1,107	1,204	1,384	1,593	1,832	2,107	2,292	2.8	2.8
	Imports	1,902	1,967	2,258	2,454	2,650	2,916	3,098	2.0	1.8
Columbia-Snake Willamette River	Exports	111	121	139	160	184	211	230	2.8	2.8
	Imports	1,021	1,050	1,182	1,284	1,388	1,524	1,617	1.8	1.8
California Coast	Exports	858	933	1,073	1,234	1,419	1,632	1,775	2.8	2.8
	Imports	1,323	1,414	1,864	2,080	2,273	2,583	2,786	3.5	2.3
Alaska	Exports	166	181	208	239	275	316	344	2.8	2.8
	Imports	24	25	27	29	32	34	36	1.5	1.6
Hawaii and Pacific Territories	Exports	19	21	24	28	32	37	40	2.8	2.8
	Imports	45	46	50	52	53	55	57	1.0	0.7
Domestic Caribbean	Exports	118	120	122	124	127	130	132	0.4	0.5
	Imports	273	286	356	410	466	538	588	3.2	2.8
Total	Exports	23,031	24,247	26,410	27,870	29,550	31,483	32,779	1.5	1.3
	Imports	20,985	21,705	26,051	28,425	30,807	34,182	36,514	2.4	1.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Nonmetallic Minerals
ALTERNATIVE: High Coal Export

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	2,997	2,853	2,575	2,184	2,003	1,985	1,882	-2.4	-1.1
Lower Upper Mississippi	4,276	4,082	3,782	3,469	3,334	3,447	3,512	-1.6	0.1
Lower Mississippi	8,263	8,058	7,782	6,709	6,648	6,913	7,017	-1.6	0.3
Baton Rouge to Gulf	17,576	18,004	21,166	22,318	24,772	29,748	28,023	1.9	1.8
Illinois River	6,635	6,388	5,895	5,246	4,879	4,723	4,507	-1.8	-1.2
Missouri River	3,218	3,140	2,910	2,490	2,298	2,199	1,985	-2.0	-1.7
Ohio River	22,144	21,629	20,207	16,930	15,761	15,174	13,889	-2.0	-1.5
Tennessee River	3,956	3,874	3,647	3,231	3,061	3,000	2,801	-1.5	-1.1
Arkansas River	3,018	2,940	2,708	2,289	2,090	1,977	1,758	-2.1	-2.0
Gulf Coast West	13,681	14,066	14,906	15,179	15,778	16,599	17,014	0.8	0.9
Gulf Coast East	14,058	14,685	17,957	20,461	22,894	27,533	25,578	2.9	1.7
Warrior River System	2,661	2,580	2,403	2,861	2,771	2,756	2,670	0.6	-0.5
Great Lakes	32,883	38,890	45,671	53,176	58,983	65,325	68,990	3.8	2.0

e = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Nonmetallic Minerals
ALTERNATIVE: High Coal Export

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	410	377	329	281	260	278	288	-2.9	0.2
Lower Upper Mississippi	691	654	603	561	543	573	599	-1.6	0.5
Lower Mississippi	6,018	5,863	5,628	4,810	4,706	4,841	4,848	-1.7	0.1
Baton Rouge to Gulf	1,947	1,959	2,207	2,230	2,425	2,863	2,748	1.1	1.6
Illinois River	605	579	536	488	458	448	440	-1.6	-0.8
Missouri River	394	386	363	320	303	297	277	-1.6	-1.1
Ohio River	2,885	2,851	2,775	2,570	2,547	2,594	2,550	-0.9	-0.1
Tennessee River	356	351	337	311	303	304	294	-1.0	-0.4
Arkansas River	45	44	41	35	32	31	28	-1.9	1.8
Gulf Coast West	1,036	1,054	1,098	1,112	1,156	1,220	1,251	0.5	0.9
Gulf Coast East	169	172	177	273	283	298	309	3.8	1.0
Warrior River System	238	231	214	427	429	442	442	4.6	0.3
Great Lakes	10,015	12,013	14,299	16,804	18,756	20,879	22,109	4.1	2.1
Total	24,809	26,533	28,606	30,222	32,202	35,067	36,182	1.5	1.4

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Nonmetallic Minerals
ALTERNATIVE: Misc. Sensitivity

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	1,970	1,918	1,764	1,491	1,360	1,284	1,141	-2.1	-2.0
	Received	2,997	2,854	2,575	2,184	2,003	1,985	1,882	-2.4	-1.1
Lower Upper Mississippi	Shipped	1,142	1,109	1,022	871	797	754	677	-2.1	-1.9
	Received	1,383	1,358	1,291	1,160	1,114	1,107	1,050	-1.3	-0.8
Lower Mississippi	Shipped	661	644	593	501	457	432	384	-2.1	-2.0
	Received	1,970	1,927	1,811	1,599	1,512	1,479	1,380	-1.6	-1.1
Baton Rouge to Gulf	Shipped	4,741	5,001	5,601	5,638	5,774	6,073	6,277	1.3	0.8
	Received	10,486	10,834	13,519	15,205	17,562	22,061	19,979	2.9	2.1
Illinois River	Shipped	3,571	3,492	3,245	2,777	2,562	2,445	2,204	-1.9	-1.8
	Received	6,451	6,195	5,688	5,035	4,661	4,495	4,273	-1.9	-1.3
Missouri River	Shipped	3,049	2,970	2,734	2,306	2,104	1,989	1,765	-2.1	-2.0
	Received	3,167	3,090	2,864	2,451	2,263	2,165	1,955	-2.0	-1.7
Ohio River	Shipped	21,295	20,717	19,066	16,158	14,750	13,932	12,420	-2.1	-2.0
	Received	21,196	20,689	19,283	16,768	15,642	15,086	13,847	-1.8	-1.5
Tennessee River	Shipped	2,592	2,525	2,323	1,961	1,789	1,690	1,501	-2.1	-2.0
	Received	3,005	2,949	2,802	2,518	2,420	2,402	2,280	-1.3	0.8
Arkansas River	Shipped	2,989	2,871	3,025	2,802	2,838	3,059	3,009	-0.5	0.5
	Received	3,017	2,898	3,056	2,836	2,875	3,101	3,056	-0.5	0.6
Gulf Coast West	Shipped	12,479	12,866	13,715	14,010	14,615	15,437	15,861	0.9	1.0
	Received	6,720	6,762	6,757	6,504	6,512	6,638	6,579	-0.3	0.1
Gulf Coast East	Shipped	9,987	10,176	12,515	14,118	16,308	20,658	18,525	2.7	2.1
	Received	5,203	5,690	6,646	6,784	6,959	7,176	7,284	2.1	0.5
Warrior River System	Shipped	2,465	2,382	2,193	1,906	1,751	1,651	1,509	-2.0	-1.8
	Received	1,792	1,757	1,655	1,464	1,390	1,365	1,276	-1.5	-1.1
South Atlantic Coast	Shipped	758	788	813	799	772	750	736	0.4	0.6
	Received	1,132	1,173	1,217	1,280	1,327	1,380	1,412	0.9	0.8
Middle Atlantic Coast	Shipped	9,018	10,133	8,928	8,322	6,626	5,182	4,132	0.6	-5.2
	Received	10,129	11,340	10,070	9,448	7,652	6,128	5,017	-0.5	4.8

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	950	1,069	940	874	692	537	425	-0.6	-5.4
	Received	342	380	344	327	275	231	199	-0.3	-3.7
Great Lakes and Seaway	Shipped	31,236	37,329	44,236	51,854	57,758	64,182	67,893	4.0	2.1
	Received	29,711	35,888	42,920	50,649	56,652	63,163	66,919	4.2	2.2
Washington/Oregon Coast	Shipped	2,551	2,591	2,378	2,103	1,877	1,722	1,530	-1.5	-2.4
	Received	2,719	2,785	2,543	2,254	1,987	1,797	1,581	-1.4	-2.7
Columbia-Snake Willamette River	Shipped	4,842	4,760	4,369	5,514	6,459	7,443	7,878	1.0	2.8
	Received	4,597	4,484	4,127	5,289	6,281	7,305	7,768	1.1	3.0
California Coast	Shipped	714	786	706	663	553	458	390	-0.6	-4.0
	Received	853	930	862	780	632	499	408	-0.7	-4.9
Alaska	Shipped	24	26	23	22	18	14	12	-0.6	-4.8
	Received	100	108	100	96	86	77	70	-0.3	-2.4
Hawaii and Pacific Territories	Shipped	49	55	49	45	36	28	23	-0.6	-5.2
	Received	68	75	68	63	53	43	37	-0.6	-4.1
Domestic Caribbean	Shipped	2	1	1	1	1	1	1	-3.3	-2.7
	Received	45	46	44	42	40	37	36	-0.4	-1.2
Total	Shipped	117,082	124,211	130,240	134,736	139,896	149,721	148,289	1.1	0.7
	Received	117,082	124,211	130,240	134,736	139,896	149,721	148,289	1.1	0.7

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Nonmetallic Minerals
ALTERNATIVE: Misc. Sensitivity

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	562	580	614	654	700	752	787	1.2	1.4
	Imports	1,230	1,286	1,582	1,779	1,977	2,247	2,430	2.9	2.4
Illinois River	Exports	282	306	352	405	466	536	584	2.8	2.8
	Imports	164	171	211	250	292	343	378	3.3	3.2
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	965	976	998	1,023	1,051	1,084	1,106	0.5	0.6
	Imports	1,667	1,751	2,203	2,565	2,945	3,428	3,763	3.4	3.0
Gulf Coast East	Exports	12,499	12,987	13,804	13,839	13,879	13,925	13,956	0.8	0.1
	Imports	2,551	2,786	3,533	3,872	4,229	4,681	4,995	3.3	2.0
Warrior River System	Exports	4	4	5	5	6	7	8	2.8	2.8
	Imports	1	1	2	2	2	3	3	3.0	3.1
South Atlantic Coast	Exports	2,730	2,887	3,168	3,370	3,602	3,868	4,047	1.6	1.4
	Imports	2,273	2,276	2,660	2,736	2,791	2,954	3,066	1.4	0.9
Middle Atlantic Coast	Exports	109	119	136	156	179	206	224	2.8	2.8
	Imports	5,258	5,308	6,315	6,703	7,069	7,701	8,142	1.9	1.5

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	3	3	3	4	4	5	5	2.7	2.7
	Imports	1,044	1,074	1,307	1,479	1,662	1,899	2,065	2.7	2.6
Great Lakes and Seaway	Exports	3,500	3,807	4,379	5,037	5,794	6,665	7,249	2.8	2.8
	Imports	2,208	2,267	2,501	2,729	2,978	3,278	3,489	1.6	1.9
Washington/Oregon Coast	Exports	1,107	1,204	1,384	1,593	1,832	2,107	2,292	2.8	2.8
	Imports	1,902	1,967	2,258	2,454	2,650	2,916	3,098	2.0	1.8
Columbia-Snake Willamette River	Exports	111	121	139	160	184	211	230	2.8	2.8
	Imports	1,021	1,050	1,182	1,284	1,388	1,524	1,617	1.8	1.8
California Coast	Exports	858	933	1,073	1,234	1,419	1,632	1,775	2.8	2.8
	Imports	1,323	1,414	1,864	2,080	2,273	2,583	2,786	3.5	2.3
Alaska	Exports	166	181	208	239	275	316	344	2.8	2.8
	Imports	24	25	27	29	32	34	36	1.5	1.6
Hawaii and Pacific Territories	Exports	19	21	24	28	32	37	40	2.8	2.8
	Imports	45	46	50	52	53	55	57	1.0	0.7
Domestic Caribbean	Exports	118	120	122	124	127	130	132	0.4	0.5
	Imports	273	286	356	410	466	538	588	3.2	2.8
Total	Exports	23,031	24,247	26,410	27,870	29,550	31,483	32,779	1.5	1.3
	Imports	20,985	21,705	26,051	28,425	30,807	34,182	36,514	2.4	1.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Nonmetallic Minerals
ALTERNATIVE: Misc. Sensitivity

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	2,997	2,854	2,575	2,184	2,003	1,985	1,882	-2.4	-1.1
Lower Upper Mississippi	4,285	4,090	3,791	3,479	3,344	3,459	3,524	-1.6	0.1
Lower Mississippi	8,694	8,486	8,212	7,057	7,003	7,285	7,392	-1.6	0.4
Baton Rouge to Gulf	17,912	18,340	21,411	22,478	25,061	30,056	28,341	1.8	1.8
Illinois River	6,637	6,390	5,897	5,248	4,881	4,725	4,509	-1.8	-1.2
Missouri River	3,218	3,140	2,910	2,490	2,299	2,199	1,985	-2.0	-1.7
Ohio River	24,267	23,703	22,147	18,557	17,279	16,638	15,232	-2.0	-1.5
Tennessee River	3,842	3,766	3,558	3,147	2,994	2,947	2,766	-1.5	-1.0
Arkansas River	3,018	2,899	3,057	2,837	2,876	3,102	3,057	-0.5	0.6
Gulf Coast West	13,907	14,294	15,144	15,431	16,047	16,891	17,322	0.8	0.9
Gulf Coast East	14,061	14,688	17,962	20,537	22,977	27,624	25,676	3.0	1.7
Warrior River System	2,661	2,580	2,403	2,934	2,849	2,840	2,758	0.8	-0.5
Great Lakes	32,883	38,891	45,671	53,176	58,983	65,326	68,991	3.8	2.0

A = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Nonmetallic Minerals
ALTERNATIVE: Misc. Sensitivity

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	410	377	329	281	260	278	288	-2.9	0.2
Lower Upper Mississippi	692	655	604	563	545	574	601	-1.6	0.5
Lower Mississippi	6,254	6,078	6,043	5,277	5,307	5,627	5,726	-1.3	0.6
Baton Rouge to Gulf	1,995	2,007	2,241	2,251	2,467	2,908	2,795	0.9	1.7
Illinois River	605	580	536	489	459	449	441	-1.6	-0.8
Missouri River	394	386	363	320	303	297	277	-1.6	-1.1
Ohio River	3,183	3,145	3,063	2,837	2,813	2,865	2,818	-0.9	0.1
Tennessee River	319	315	305	282	278	282	276	-0.9	-0.2
Arkansas River	45	44	46	44	45	48	48	-0.3	0.8
Gulf Coast West	1,057	1,075	1,120	1,135	1,181	1,247	1,279	0.6	0.9
Gulf Coast East	169	172	177	282	293	310	321	4.0	1.0
Warrior River System	238	231	214	451	455	470	471	5.0	0.3
Great Lakes	10,016	12,014	14,299	16,804	18,756	20,879	22,110	4.1	2.1
Total	25,376	27,077	29,340	31,016	33,162	36,234	37,451	1.6	1.5

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Food and Kindred Products
ALTERNATIVE: Baseline

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	1,486	1,828	2,127	2,635	2,784	3,140	3,407	4.5	2.0
	Received	169	173	177	181	186	191	194	0.5	0.5
Lower Upper Mississippi	Shipped	1,818	2,272	2,659	3,386	3,585	4,087	4,465	4.9	2.2
	Received	156	160	165	171	178	186	191	0.7	0.9
Lower Mississippi	Shipped	1,304	1,636	1,924	2,424	2,567	2,915	3,176	4.9	2.1
	Received	128	130	135	140	146	155	161	0.7	1.1
Baton Rouge to Gulf	Shipped	1,310	1,370	1,442	1,528	1,609	1,716	1,791	1.2	1.2
	Received	7,017	8,715	10,189	12,781	13,538	15,356	16,718	4.7	2.1
Illinois River	Shipped	556	674	776	961	1,014	1,143	1,240	4.3	2.0
	Received	471	486	505	525	549	579	599	0.8	1.0
Missouri River	Shipped	559	676	778	948	999	1,119	1,208	4.1	1.9
	Received	180	185	189	194	199	204	207	0.5	0.5
Ohio River	Shipped	338	416	482	609	643	731	797	4.6	2.1
	Received	234	239	246	253	263	275	283	0.6	0.9
Tennessee River	Shipped	540	673	791	978	1,035	1,166	1,265	4.7	2.0
	Received	170	170	170	170	170	171	171	0.0	0.0
Arkansas River	Shipped	140	176	207	266	282	323	354	5.1	2.2
	Received	38	38	39	40	41	42	42	0.5	0.4
Gulf Coast West	Shipped	760	807	851	914	946	999	1,035	1.4	1.0
	Received	486	501	517	532	549	569	581	0.7	0.7
Gulf Coast East	Shipped	450	483	520	562	595	641	673	1.7	1.4
	Received	122	129	139	148	157	169	177	1.5	1.4
Warrior River System	Shipped	89	95	101	111	115	123	128	1.8	1.1
	Received	37	37	37	38	38	38	38	0.1	0.1
South Atlantic Coast	Shipped	328	357	393	428	464	509	540	2.1	1.8
	Received	290	319	354	387	422	466	496	2.2	1.9
Middle Atlantic Coast	Shipped	1,289	1,398	1,541	1,672	1,816	1,990	2,107	2.0	1.8
	Received	984	1,064	1,171	1,267	1,376	1,505	1,592	2.0	1.8

7/20/81

SEGMENT	IN/OUT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
North Atlantic Coast	Shipped	62	66	72	78	84	91	96	1.8	1.6
	Received	32	34	36	38	40	43	45	1.4	1.3
Great Lakes and Seaway	Shipped	322	322	322	322	322	322	322	0.0	0.0
	Received	322	322	322	322	322	322	322	0.0	0.0
Washington/Oregon Coast	Shipped	361	394	436	477	520	574	611	2.2	1.9
	Received	228	248	273	297	322	353	374	2.0	1.8
Columbia-Snake Willamette River	Shipped	60	63	69	75	83	92	98	1.8	2.1
	Received	85	91	98	104	111	119	125	1.5	1.4
California Coast	Shipped	1,135	1,251	1,405	1,559	1,726	1,935	2,078	2.5	2.2
	Received	1,826	2,010	2,238	2,454	2,682	2,967	3,162	2.3	2.0
Alaska	Shipped	167	184	205	225	245	272	289	2.3	2.0
	Received	309	340	377	413	451	498	531	2.3	1.9
Hawaii and Pacific Territories	Shipped	2,069	2,279	2,543	2,795	3,064	3,399	3,629	2.3	2.0
	Received	1,055	1,165	1,318	1,475	1,650	1,866	2,016	2.6	2.4
Domestic Caribbean	Shipped	494	528	568	606	646	696	730	1.6	1.4
	Received	1,295	1,393	1,515	1,630	1,755	1,910	2,017	1.8	1.7
Total	Shipped	15,634	17,948	20,209	23,558	25,142	27,981	30,040	3.2	1.9
	Received	15,634	17,948	20,209	23,558	25,142	27,981	30,040	3.2	1.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Food and Kindred Products
ALTERNATIVE: Baseline

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	8,246	9,919	11,410	13,961	14,709	16,501	17,844	4.1	1.9
	Imports	2,649	2,763	3,357	3,986	4,846	5,903	6,669	3.2	4.0
Illinois River	Exports	230	270	308	372	392	437	471	3.8	1.8
	Imports	23	24	29	34	41	50	56	3.0	3.9
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	1,094	1,235	1,393	1,586	1,663	1,813	1,922	2.9	1.5
	Imports	1,000	1,031	1,247	1,475	1,785	2,165	2,440	3.0	3.9
Gulf Coast East	Exports	712	837	955	1,161	1,223	1,370	1,480	3.8	1.9
	Imports	396	408	492	581	702	851	958	3.0	3.9
Warrior River System	Exports	113	132	151	183	193	216	233	3.8	1.9
	Imports	42	43	48	54	62	72	79	2.0	2.9
South Atlantic Coast	Exports	532	577	642	709	741	799	840	2.2	1.3
	Imports	554	570	689	814	985	1,194	1,345	3.0	3.9
Middle Atlantic Coast	Exports	1,394	1,532	1,709	1,924	2,018	2,190	2,317	2.5	1.4
	Imports	5,951	6,138	7,389	8,696	10,479	12,856	14,225	3.0	3.9

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	53	54	59	63	66	69	72	1.4	1.1
	Imports	720	742	898	1,063	1,287	1,562	1,760	3.0	4.0
Great Lakes and Seaway	Exports	470	525	588	682	716	788	841	2.9	1.6
	Imports	69	71	87	102	124	151	170	3.0	4.0
Washington/Oregon Coast	Exports	621	701	789	925	972	1,073	1,149	3.1	1.7
	Imports	130	134	163	192	233	282	318	3.0	4.0
Columbia-Snake Willamette River	Exports	150	157	172	185	193	206	216	1.6	1.2
	Imports	131	140	169	200	241	293	330	3.3	3.9
California Coast	Exports	1,604	1,724	1,908	2,091	2,187	2,348	2,464	2.1	1.3
	Imports	1,190	1,252	1,511	1,784	2,157	2,616	2,948	3.2	3.9
Alaska	Exports	11	12	13	13	14	15	15	1.2	1.0
	Imports	26	27	31	36	43	51	56	2.5	3.5
Hawaii and Pacific Territories	Exports	9	10	11	12	13	14	15	2.2	1.4
	Imports	33	34	39	45	53	63	70	2.5	3.4
Domestic Caribbean	Exports	103	116	130	151	159	175	187	3.0	1.6
	Imports	390	400	489	543	643	765	854	2.6	3.5
Total	Exports	15,344	17,802	20,238	24,019	25,256	28,012	30,065	3.5	1.7
	Imports	13,305	13,776	16,620	19,605	23,682	28,673	32,278	3.0	3.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Food and Kindred Products
ALTERNATIVE: Baseline

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	1,651	1,998	2,300	2,813	2,966	3,327	3,597	4.2	1.9
Lower Upper Mississippi	5,321	6,379	7,299	8,923	9,414	10,567	11,428	4.1	1.9
Lower Mississippi	7,691	9,335	10,770	12,220	12,921	14,570	15,804	3.6	2.0
Baton Rouge to Gulf	8,453	10,197	11,733	14,370	15,203	17,114	18,540	4.2	2.0
Illinois River	1,018	1,150	1,270	1,475	1,552	1,710	1,827	2.9	1.7
Missouri River	739	860	967	1,142	1,197	1,323	1,415	3.4	1.7
Ohio River	1,243	1,459	1,650	929	973	1,073	1,147	-2.2	1.6
Tennessee River	709	843	961	1,157	1,214	1,346	1,444	3.8	1.7
Arkansas River	*177*	*214*	*246*	*306*	*323*	*365*	*396*	*4.3*	*2.0*
Gulf Coast West	866	919	969	1,039	1,077	1,138	1,180	1.4	1.0
Gulf Coast East	582	625	671	1,769	1,866	2,057	2,196	8.9	1.7
Warrior River System	125	132	138	1,200	1,261	1,401	1,506	19.0	1.8
Great Lakes	322	322	322	322	322	322	322	0.0	0.0

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Food and Kindred Products
ALTERNATIVE: Baseline

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	582	704	811	992	1,046	1,173	1,269	4.2	1.9
Lower Upper Mississippi	1,091	1,309	1,498	1,831	1,932	2,169	2,346	4.1	1.9
Lower Mississippi	4,707	5,710	6,586	7,415	7,841	8,842	9,591	3.6	2.0
Baton Rouge to Gulf	1,008	1,205	1,378	1,501	1,586	1,778	1,922	3.1	1.9
Illinois River	253	285	315	366	386	425	454	2.9	1.7
Missouri River	451	525	590	696	730	807	863	3.4	1.7
Ohio River	258	293	325	315	330	363	388	1.5	1.6
Tennessee River	261	311	354	425	446	495	532	3.8	1.7
Arkansas River	62	75	86	107	113	128	139	4.3	2.0
Gulf Coast West	105	117	127	146	152	166	176	2.6	1.5
Gulf Coast East	13	15	16	157	165	184	198	20.8	1.8
Warrior River System	4	4	5	354	373	417	450	40.6	1.9
Great Lakes	88	88	88	88	88	88	88	0.0	0.0
Total	8,884	10,640	12,178	14,394	15,189	17,036	18,415	3.8	1.9

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Food and Kindred Products
ALTERNATIVE: Low Use

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	1,486	1,864	2,119	2,473	2,563	2,183	2,368	4.0	-0.3
	Received	169	173	177	180	183	188	190	0.5	0.4
Lower Upper Mississippi	Shipped	1,818	2,324	2,647	3,149	3,264	2,687	2,947	4.3	-0.5
	Received	156	160	165	170	175	182	187	0.7	0.7
Lower Mississippi	Shipped	1,304	1,671	1,916	2,263	2,349	1,968	2,149	4.3	0.4
	Received	128	130	135	139	144	151	157	0.7	0.9
Baton Rouge to Gulf	Shipped	1,310	1,372	1,441	1,513	1,573	1,627	1,694	1.1	0.9
	Received	7,017	8,896	10,149	11,952	12,410	10,468	11,416	4.2	-0.4
Illinois River	Shipped	556	687	773	901	932	789	856	3.8	-0.4
	Received	471	486	505	522	540	565	583	0.8	0.9
Missouri River	Shipped	559	687	775	894	925	800	863	3.7	-0.3
	Received	180	185	189	193	196	201	204	0.5	0.4
Ohio River	Shipped	338	425	480	567	587	485	530	4.1	-0.5
	Received	234	239	245	252	260	270	278	0.6	0.7
Tennessee River	Shipped	540	686	788	919	955	819	888	4.2	0.3
	Received	170	170	170	170	170	170	171	0.0	0.0
Arkansas River	Shipped	140	180	206	247	256	208	229	4.5	0.6
	Received	38	38	39	40	40	41	42	0.4	0.3
Gulf Coast West	Shipped	760	811	850	897	917	897	925	1.3	0.2
	Received	486	501	517	530	543	560	571	0.7	0.6
Gulf Coast East	Shipped	450	485	519	556	583	603	631	1.6	1.0
	Received	122	130	139	147	155	166	174	1.5	1.3
Warrior River System	Shipped	88	95	100	108	110	104	109	1.6	0.1
	Received	37	37	37	38	38	38	38	0.1	0.1
South Atlantic Coast	Shipped	328	358	393	426	459	502	532	2.0	1.7
	Received	290	319	354	386	417	459	488	2.2	1.8
Middle Atlantic Coast	Shipped	1,289	1,400	1,539	1,659	1,775	1,930	2,046	2.0	1.6
	Received	984	1,065	1,169	1,257	1,342	1,458	1,544	1.9	1.6

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SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	62	66	72	78	83	90	95	1.8	1.6
	Received	32	34	36	38	39	42	44	1.3	1.2
Great Lakes and Seaway	Shipped	322	322	322	322	322	322	322	0.0	0.0
	Received	322	322	322	322	322	322	322	0.0	0.0
Washington/Oregon Coast	Shipped	361	395	436	475	514	565	602	2.1	1.8
	Received	228	249	273	296	318	347	368	2.0	1.7
Columbia-Snake Willamette River	Shipped	60	63	69	75	82	91	98	1.7	2.1
	Received	85	91	98	104	109	117	123	1.5	1.3
California Coast	Shipped	1,135	1,253	1,405	1,554	1,708	1,909	2,051	2.4	2.2
	Received	1,826	2,013	2,238	2,445	2,649	2,921	3,113	2.3	1.9
Alaska	Shipped	167	184	205	224	242	267	285	2.3	1.9
	Received	309	340	378	412	446	491	523	2.2	1.9
Hawaii and Pacific Territories	Shipped	2,069	2,282	2,543	2,785	3,027	3,348	3,575	2.3	1.9
	Received	1,055	1,167	1,318	1,471	1,635	1,845	1,993	2.6	2.4
Domestic Caribbean	Shipped	494	529	568	604	640	688	721	1.6	1.4
	Received	1,295	1,395	1,514	1,625	1,735	1,882	1,987	1.8	1.6
Total	Shipped	15,634	18,137	20,166	22,687	23,866	22,883	24,514	2.9	0.6
	Received	15,634	18,137	20,166	22,687	23,866	22,883	24,514	2.9	0.6

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Food and Kindred Products
ALTERNATIVE: Low Use

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	8,246	10,096	11,371	13,151	13,612	11,721	12,659	3.7	-0.3
	Imports	2,649	2,763	3,354	3,975	4,807	5,843	6,602	3.2	4.0
Illinois River	Exports	230	275	307	352	365	321	345	3.3	-0.2
	Imports	23	24	29	34	41	49	56	3.0	3.9
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	1,094	1,246	1,391	1,535	1,594	1,511	1,595	2.6	0.3
	Imports	1,000	1,031	1,247	1,474	1,784	2,164	2,438	3.0	3.9
Gulf Coast East	Exports	712	851	952	1,096	1,135	988	1,066	3.4	-0.2
	Imports	396	408	492	581	702	851	958	3.0	3.9
Warrior River System	Exports	113	135	150	173	179	156	168	3.4	0.2
	Imports	42	43	48	54	62	72	79	2.0	2.9
South Atlantic Coast	Exports	532	580	641	694	722	712	746	2.1	0.6
	Imports	554	570	689	814	985	1,194	1,345	3.0	3.9
Middle Atlantic Coast	Exports	1,394	1,543	1,706	1,870	1,943	1,872	1,973	2.3	0.4
	Imports	5,951	6,138	7,387	8,687	10,455	12,623	14,192	3.0	3.8

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	53	54	59	63	65	68	70	1.3	0.9
	Imports	720	742	898	1,063	1,287	1,562	1,760	3.0	4.0
Great Lakes and Seaway	Exports	470	531	587	656	681	632	672	2.6	0.2
	Imports	69	71	87	102	124	151	170	3.0	4.0
Washington/Oregon Coast	Exports	621	710	787	885	918	841	897	2.8	0.1
	Imports	130	134	163	192	233	282	318	3.0	3.9
Columbia-Snake Willamette River	Exports	150	157	172	183	191	194	202	1.5	0.8
	Imports	131	140	169	197	234	281	318	3.2	3.7
California Coast	Exports	1,604	1,732	1,907	2,054	2,137	2,130	2,228	1.9	0.6
	Imports	1,190	1,252	1,508	1,774	2,123	2,564	2,892	3.1	3.8
Alaska	Exports	11	12	13	13	14	15	15	1.2	1.0
	Imports	26	27	31	36	43	51	56	2.5	3.5
Hawaii and Pacific Territories	Exports	9	10	11	12	12	12	13	2.0	0.5
	Imports	33	34	39	45	53	63	70	2.4	3.4
Domestic Caribbean	Exports	103	117	130	145	151	139	148	2.7	0.2
	Imports	390	400	469	543	643	765	853	2.6	3.5
Total	Exports	15,344	16,050	20,183	22,883	23,718	21,313	22,798	3.1	0.0
	Imports	13,305	13,776	16,611	19,572	23,575	28,514	32,107	3.0	3.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Food and Kindred Products
ALTERNATIVE: Low Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	1,651	2,033	2,293	2,650	2,743	2,367	2,555	3.7	-0.3
Lower Upper Mississippi	5,321	6,491	7,274	8,405	8,701	7,514	8,116	3.6	-0.3
Lower Mississippi	7,691	9,508	10,731	11,478	11,902	10,202	11,064	3.1	-0.3
Baton Rouge to Gulf	8,453	10,378	11,692	13,533	14,049	12,187	13,194	3.7	-0.2
Illinois River	1,018	1,163	1,267	1,413	1,461	1,343	1,428	2.6	0.1
Missouri River	739	872	964	1,087	1,122	1,001	1,066	3.0	-0.1
Ohio River	1,243	1,481	1,645	886	913	822	875	-2.6	-0.1
Tennessee River	709	855	958	1,098	1,134	999	1,068	3.4	-0.2
Arkansas River	177	219	245	286	296	249	271	3.8	-0.4
Gulf Coast West	866	922	968	1,021	1,047	1,034	1,067	1.3	0.3
Gulf Coast East	582	627	671	1,700	1,769	1,652	1,757	8.6	0.3
Warrior River System	125	132	138	1,138	1,177	1,036	1,109	18.5	-0.2
Great Lakes	322	322	322	322	322	322	322	0.0	0.0

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Food and Kindred Products
ALTERNATIVE: Low Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	582	717	808	934	968	835	901	3.7	-0.3
Lower Upper Mississippi	1,091	1,332	1,493	1,725	1,786	1,542	1,666	3.6	-0.3
Lower Mississippi	4,707	5,816	6,562	6,965	7,223	6,193	6,717	3.1	-0.3
Baton Rouge to Gulf	1,008	1,225	1,373	1,417	1,469	1,283	1,384	2.7	-0.2
Illinois River	253	289	315	351	363	333	354	2.6	0.1
Missouri River	451	532	588	663	684	611	650	3.0	-0.1
Ohio River	258	297	324	301	311	284	302	1.2	0.0
Tennessee River	261	315	353	404	417	367	392	3.4	-0.2
Arkansas River	62	76	86	100	104	87	95	3.8	-0.4
Gulf Coast West	105	118	127	140	144	132	140	2.3	0.0
Gulf Coast East	13	15	16	148	154	135	145	20.3	-0.2
Warrior River System	4	4	5	335	347	302	325	40.0	-0.2
Great Lakes	88	88	88	88	88	88	88	0.0	0.0
Total	8,884	10,824	12,136	13,571	14,056	12,192	13,158	3.3	-0.2

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Food and Kindred Products
ALTERNATIVE: High Use

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	1,486	1,828	2,127	2,635	2,784	3,140	3,407	4.5	2.0
	Received	169	173	177	181	186	191	194	0.5	0.5
Lower Upper Mississippi	Shipped	1,818	2,272	2,659	3,386	3,585	4,087	4,465	4.9	2.2
	Received	156	160	165	171	178	186	191	0.7	0.9
Lower Mississippi	Shipped	1,304	1,638	1,924	2,424	2,567	2,915	3,176	4.9	2.1
	Received	128	130	135	140	146	155	161	0.7	1.1
Baton Rouge to Gulf	Shipped	1,310	1,370	1,442	1,528	1,609	1,716	1,791	1.2	1.2
	Received	7,017	8,715	10,189	12,781	13,538	15,356	16,718	4.7	2.1
Illinois River	Shipped	556	674	776	961	1,014	1,143	1,240	4.3	2.0
	Received	471	486	505	525	549	579	599	0.8	1.0
Missouri River	Shipped	559	676	778	948	999	1,119	1,208	4.1	1.9
	Received	180	185	189	194	199	204	207	0.5	0.5
Ohio River	Shipped	338	416	482	609	643	731	797	4.6	2.1
	Received	234	239	246	253	263	275	283	0.6	0.9
Tennessee River	Shipped	540	673	791	978	1,035	1,166	1,265	4.7	2.0
	Received	170	170	170	170	170	171	171	0.0	0.0
Arkansas River	Shipped	140	176	207	266	282	323	354	5.1	2.2
	Received	38	38	39	40	41	42	42	0.5	0.4
Gulf Coast West	Shipped	760	807	851	914	946	999	1,035	1.4	1.0
	Received	486	501	517	532	549	569	581	0.7	0.7
Gulf Coast East	Shipped	450	483	520	562	595	641	673	1.7	1.4
	Received	122	129	139	148	157	169	177	1.5	1.4
Warrior River System	Shipped	88	95	101	111	115	123	128	1.8	1.1
	Received	37	37	37	38	38	38	38	0.1	0.1
South Atlantic Coast	Shipped	328	357	393	428	464	509	540	2.1	1.8
	Received	290	319	354	387	422	466	496	2.2	1.9
Middle Atlantic Coast	Shipped	1,289	1,398	1,541	1,672	1,816	1,990	2,107	2.0	1.8
	Received	984	1,064	1,171	1,267	1,376	1,505	1,592	2.0	1.8

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SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	62	66	72	78	84	91	96	1.8	1.6
	Received	32	34	36	38	40	43	45	1.4	1.3
Great Lakes and Seaway	Shipped	322	322	322	322	322	322	322	0.0	0.0
	Received	322	322	322	322	322	322	322	0.0	0.0
Washington/Oregon Coast	Shipped	361	394	436	477	520	574	611	2.2	1.9
	Received	228	248	273	297	322	353	374	2.0	1.8
Columbia-Snake Willamette River	Shipped	60	63	69	75	83	92	98	1.8	2.1
	Received	85	91	98	104	111	119	125	1.5	1.4
California Coast	Shipped	1,135	1,251	1,405	1,559	1,726	1,935	2,078	2.5	2.2
	Received	1,826	2,010	2,238	2,454	2,682	2,967	3,162	2.3	2.0
Alaska	Shipped	167	184	205	225	245	272	289	2.3	2.0
	Received	309	340	377	413	451	498	531	2.3	1.9
Hawaii and Pacific Territories	Shipped	2,069	2,279	2,543	2,795	3,064	3,399	3,629	2.3	2.0
	Received	1,055	1,165	1,318	1,475	1,650	1,866	2,016	2.6	2.4
Domestic Caribbean	Shipped	494	528	568	606	646	696	730	1.6	1.4
	Received	1,295	1,393	1,515	1,630	1,755	1,910	2,017	1.8	1.7
Total	Shipped	15,634	17,948	20,209	23,558	25,142	27,981	30,040	3.2	1.9
	Received	15,634	17,948	20,209	23,558	25,142	27,981	30,040	3.2	1.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Food and Kindred Products
ALTERNATIVE: High Use

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	8,246	9,919	11,410	13,961	14,709	16,501	17,844	4.1	1.9
	Imports	2,649	2,763	3,357	3,986	4,846	5,903	6,669	3.2	4.0
Illinois River	Exports	230	270	308	372	392	437	471	3.8	1.8
	Imports	23	24	29	34	41	50	56	3.0	3.9
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	1,094	1,235	1,393	1,586	1,663	1,813	1,922	2.9	1.5
	Imports	1,000	1,031	1,247	1,475	1,785	2,165	2,440	3.0	3.9
Gulf Coast East	Exports	712	837	955	1,161	1,223	1,370	1,480	3.8	1.9
	Imports	396	408	492	581	702	851	958	3.0	3.9
Warrior River System	Exports	113	132	151	183	193	216	233	3.8	1.9
	Imports	42	43	48	54	62	72	79	2.0	2.9
South Atlantic Coast	Exports	532	577	642	709	741	799	840	2.2	1.3
	Imports	554	570	689	814	985	1,194	1,345	3.0	3.9
Middle Atlantic Coast	Exports	1,394	1,532	1,709	1,924	2,016	2,190	2,317	2.5	1.4
	Imports	5,951	6,138	7,389	8,696	10,479	12,656	14,225	3.0	3.9

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	53	54	59	63	66	69	72	1.4	1.1
	Imports	720	742	898	1,063	1,287	1,562	1,760	3.0	4.0
Great Lakes and Seaway	Exports	470	525	586	682	716	788	841	2.9	1.6
	Imports	69	71	87	102	124	151	170	3.0	4.0
Washington/Oregon Coast	Exports	621	701	789	925	972	1,073	1,149	3.1	1.7
	Imports	130	134	163	192	233	282	318	3.0	4.0
Columbia-Snake Willamette River	Exports	150	157	172	185	193	206	216	1.6	1.2
	Imports	131	140	169	200	241	293	330	3.3	3.9
California Coast	Exports	1,604	1,724	1,908	2,091	2,187	2,348	2,464	2.1	1.3
	Imports	1,190	1,252	1,511	1,784	2,157	2,616	2,948	3.2	3.9
Alaska	Exports	11	12	13	13	14	15	15	1.2	1.0
	Imports	26	27	31	36	43	51	56	2.5	3.5
Hawaii and Pacific Territories	Exports	9	10	11	12	13	14	15	2.2	1.4
	Imports	33	34	39	45	53	63	70	2.5	3.4
Domestic Caribbean	Exports	103	116	130	151	159	175	187	3.0	1.6
	Imports	390	400	469	543	643	765	854	2.6	3.5
Total	Exports	15,344	17,802	20,238	24,019	25,256	28,012	30,065	3.5	1.7
	Imports	13,305	13,776	16,620	19,605	23,682	28,673	32,278	3.0	3.9

s = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: Food and Kindred Products
ALTERNATIVE: High Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	1,651	1,998	2,300	2,813	2,966	3,327	3,597	4.2	1.9
Lower Upper Mississippi	5,321	6,379	7,299	8,923	9,414	10,567	11,428	4.1	1.9
Lower Mississippi	7,691	9,335	10,770	12,220	12,921	14,570	15,804	3.6	2.0
Baton Rouge to Gulf	8,453	10,197	11,733	14,370	15,203	17,114	18,540	4.2	2.0
Illinois River	1,018	1,150	1,270	1,475	1,552	1,710	1,827	2.9	1.7
Missouri River	739	860	967	1,142	1,197	1,323	1,415	3.4	1.7
Ohio River	1,243	1,459	1,650	929	973	1,073	1,147	-2.2	1.6
Tennessee River	709	843	961	1,157	1,214	1,346	1,444	3.8	1.7
Arkansas River	177	214	246	306	323	365	396	4.3	2.0
Gulf Coast West	866	919	969	1,039	1,077	1,138	1,180	1.4	1.0
Gulf Coast East	582	625	671	1,769	1,866	2,057	2,196	8.9	1.7
Warrior River System	125	132	138	1,200	1,261	1,401	1,506	19.0	1.8
Great Lakes	322	322	322	322	322	322	322	0.0	0.0

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Food and Kindred Products
ALTERNATIVE: High Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	582	704	811	992	1,046	1,173	1,269	4.2	1.9
Lower Upper Mississippi	1,091	1,309	1,498	1,831	1,932	2,169	2,346	4.1	1.9
Lower Mississippi	4,707	5,710	6,586	7,415	7,841	8,842	9,591	3.6	2.0
Baton Rouge to Gulf	1,008	1,205	1,378	1,501	1,586	1,778	1,922	3.1	1.9
Illinois River	253	285	315	366	386	425	454	2.9	1.7
Missouri River	451	525	590	696	730	807	863	3.4	1.7
Ohio River	258	293	325	315	330	363	388	1.5	1.6
Tennessee River	261	311	354	425	446	495	532	3.8	1.7
Arkansas River	62	75	86	107	113	128	139	4.3	2.0
Gulf Coast West	105	117	127	146	152	166	176	2.6	1.5
Gulf Coast East	13	15	16	157	165	184	198	20.8	1.8
Warrior River System	4	4	5	354	373	417	450	40.6	1.9
Great Lakes	88	88	88	88	88	88	88	0.0	0.0
Total	8,884	10,640	12,178	14,394	15,189	17,036	18,415	3.8	1.9

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Food and Kindred Products
ALTERNATIVE: Bad Energy

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	1,486	1,863	2,049	2,388	2,405	2,268	1,832	3.7	-2.0
	Received	169	173	177	181	185	190	193	0.5	0.5
Lower Upper Mississippi	Shipped	1,818	2,323	2,545	3,024	3,030	2,810	2,160	4.0	-2.6
	Received	156	160	166	171	178	186	191	0.7	0.9
Lower Mississippi	Shipped	1,304	1,670	1,846	2,179	2,191	2,051	1,616	4.0	-2.3
	Received	128	130	136	141	148	156	162	0.8	1.1
Baton Rouge to Gulf	Shipped	1,310	1,372	1,443	1,523	1,598	1,677	1,710	1.2	0.9
	Received	7,017	8,891	9,792	11,522	11,606	10,909	8,686	3.9	-2.2
Illinois River	Shipped	556	687	747	870	874	821	658	3.5	-2.1
	Received	471	486	507	527	552	581	600	0.9	1.0
Missouri River	Shipped	559	687	752	866	873	829	685	3.4	-1.8
	Received	180	185	189	193	198	203	207	0.5	0.5
Ohio River	Shipped	338	425	462	545	546	507	392	3.8	-2.5
	Received	234	239	247	255	265	276	285	0.6	0.9
Tennessee River	Shipped	540	686	763	888	897	850	693	3.9	-1.9
	Received	170	170	170	170	170	171	171	0.0	0.0
Arkansas River	Shipped	140	180	197	236	237	218	165	4.1	-2.7
	Received	38	38	39	40	41	42	42	0.4	0.4
Gulf Coast West	Shipped	760	810	843	890	908	914	883	1.2	-0.1
	Received	486	501	517	532	549	568	580	0.7	0.7
Gulf Coast East	Shipped	450	485	519	557	585	615	624	1.6	0.9
	Received	122	130	139	148	158	170	177	1.5	1.4
Warrior River System	Shipped	88	95	99	106	108	107	99	1.5	-0.5
	Received	37	37	37	38	38	38	38	0.1	0.1
South Atlantic Coast	Shipped	328	358	398	431	468	513	544	2.1	1.8
	Received	290	319	356	391	426	470	499	2.3	1.9
Middle Atlantic Coast	Shipped	1,289	1,400	1,562	1,703	1,848	2,016	2,124	2.2	1.7
	Received	984	1,065	1,190	1,294	1,405	1,531	1,612	2.1	1.7

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SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	62	66	73	78	84	92	97	1.9	1.6
	Received	32	34	36	38	41	44	45	1.5	1.3
Great Lakes and Seaway	Shipped	322	322	322	322	322	322	322	0.0	0.0
	Received	322	322	322	322	322	322	322	0.0	0.0
Washington/Oregon Coast	Shipped	361	395	439	480	524	578	614	2.2	1.9
	Received	228	249	275	299	324	355	376	2.1	1.8
Columbia-Snake Willamette River	Shipped	60	63	69	75	83	92	98	1.8	2.1
	Received	85	91	98	104	111	120	125	1.6	1.4
California Coast	Shipped	1,135	1,253	1,414	1,572	1,741	1,949	2,091	2.5	2.2
	Received	1,826	2,013	2,254	2,477	2,709	2,993	3,185	2.4	2.0
Alaska	Shipped	167	184	206	227	248	274	292	2.4	2.0
	Received	309	340	380	417	456	503	535	2.3	1.9
Hawaii and Pacific Territories	Shipped	2,069	2,282	2,560	2,821	3,094	3,428	3,655	2.4	2.0
	Received	1,055	1,167	1,326	1,486	1,663	1,879	2,026	2.7	2.4
Domestic Caribbean	Shipped	494	529	571	610	650	700	734	1.6	1.4
	Received	1,295	1,395	1,524	1,645	1,771	1,926	2,030	1.9	1.6
Total	Shipped	15,634	18,132	19,876	22,393	23,314	23,631	22,087	2.8	-0.1
	Received	15,634	18,132	19,876	22,393	23,314	23,631	22,087	2.8	-0.1

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Food and Kindred Products
ALTERNATIVE: Bad Energy

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	8,246	10,092	11,020	12,726	12,813	12,140	9,969	3.4	-1.9
	Imports	2,649	2,763	3,374	4,014	4,879	5,936	6,695	3.2	4.0
Illinois River	Exports	230	275	299	342	345	331	280	3.1	-1.5
	Imports	23	24	29	34	41	50	56	3.1	3.9
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	1,094	1,246	1,369	1,508	1,543	1,537	1,426	2.5	-0.4
	Imports	1,000	1,031	1,248	1,476	1,786	2,166	2,441	3.0	3.9
Gulf Coast East	Exports	712	851	923	1,062	1,071	1,021	851	3.1	-1.7
	Imports	396	408	492	581	702	851	958	3.0	3.9
Warrior River System	Exports	113	134	146	168	169	161	135	3.1	-1.7
	Imports	42	43	48	54	62	72	79	2.0	2.9
South Atlantic Coast	Exports	532	580	635	686	707	720	698	2.0	0.1
	Imports	554	570	690	815	985	1,194	1,345	3.0	3.9
Middle Atlantic Coast	Exports	1,394	1,543	1,683	1,842	1,890	1,900	1,794	2.2	-0.7
	Imports	5,951	6,138	7,404	8,716	10,500	12,674	14,239	3.0	3.8

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	53	54	59	62	65	68	69	1.3	0.8
	Imports	720	742	898	1,063	1,287	1,562	1,760	3.0	4.0
Great Lakes and Seaway	Exports	470	531	576	642	655	646	585	2.4	-0.7
	Imports	69	71	87	102	124	151	170	3.0	4.0
Washington/Oregon Coast	Exports	621	710	770	865	880	861	766	2.6	-0.9
	Imports	130	134	163	192	233	282	318	3.0	4.0
Columbia-Snake Willamette River	Exports	150	157	171	182	189	195	195	1.5	0.6
	Imports	131	140	173	205	248	299	334	3.5	3.8
California Coast	Exports	1,604	1,732	1,891	2,035	2,101	2,149	2,106	1.8	0.3
	Imports	1,190	1,252	1,527	1,809	2,187	2,644	2,970	3.3	3.9
Alaska	Exports	11	12	13	13	14	15	15	1.2	1.0
	Imports	26	27	31	36	43	51	56	2.5	3.5
Hawaii and Pacific Territories	Exports	9	10	11	12	12	12	12	1.9	0.0
	Imports	33	34	39	45	53	63	70	2.5	3.4
Domestic Caribbean	Exports	103	117	127	142	145	143	128	2.5	-0.8
	Imports	390	400	470	543	643	765	854	2.6	3.5
Total	Exports	15,344	18,044	19,691	22,287	22,599	21,900	19,028	2.9	-1.2
	Imports	13,305	13,776	16,672	19,685	23,774	28,758	32,345	3.1	3.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Food and Kindred Products
ALTERNATIVE: Bad Energy

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	1,651	2,032	2,222	2,565	2,587	2,455	2,021	3.4	-1.8
Lower Upper Mississippi	5,321	6,488	7,054	8,143	8,216	7,808	6,443	3.3	-1.8
Lower Mississippi	7,691	9,504	10,392	11,104	11,207	10,621	8,668	2.9	-1.9
Baton Rouge to Gulf	8,453	10,374	11,342	13,119	13,280	12,675	10,513	3.4	-1.7
Illinois River	1,018	1,163	1,243	1,386	1,415	1,390	1,246	2.4	-0.8
Missouri River	739	872	941	1,059	1,071	1,032	891	2.8	-1.3
Ohio River	1,243	1,480	1,603	867	878	850	744	-2.7	-1.2
Tennessee River	709	855	932	1,067	1,076	1,029	873	3.2	-1.5
Arkansas River	177	219	237	276	277	260	207	3.5	-2.2
Gulf Coast West	866	922	962	1,015	1,040	1,054	1,029	1.2	0.1
Gulf Coast East	582	627	669	1,669	1,712	1,699	1,547	8.4	-0.6
Warrior River System	125	132	137	1,106	1,117	1,069	905	18.3	-1.5
Great Lakes	322	322	322	322	322	322	322	0.0	0.0

a = less than 500 tons

7/20/84

WATERBORNE PROJECTED USE
MILLIONS OF TON MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY Food And Kindred Products
ALTERNATIVE Rad Energy

SEGMENT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	582	717	784	905	912	866	713	3.4	-1.8
Lower Upper Mississippi	1,091	1,331	1,447	1,671	1,686	1,603	1,323	3.3	-1.8
Lower Mississippi	4,707	5,813	6,355	6,739	6,803	6,449	5,266	2.8	-1.9
Baton Rouge to Gulf	1,008	1,224	1,334	1,376	1,392	1,332	1,115	2.4	-1.6
Illinois River	253	289	309	344	351	345	309	2.4	-0.8
Missouri River	451	532	574	646	653	630	544	2.8	-1.3
Ohio River	258	297	317	295	301	294	262	1.0	-0.9
Tennessee River	261	315	344	392	395	378	320	3.2	-1.6
Arkansas River	62	76	83	97	97	91	72	3.5	-2.2
Gulf Coast West	105	118	125	137	139	136	123	2.1	-0.9
Gulf Coast East	13	15	16	144	145	139	117	20.0	-1.6
Warrior River System	4	4	5	324	327	312	260	39.6	-1.7
Great Lakes	88	88	88	88	88	88	88	0.0	0.0
Total	8,884	10,819	11,778	13,159	13,291	12,662	10,512	3.1	-1.7

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Food and Kindred Products
ALTERNATIVE: Defense

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	1,486	1,828	2,127	1,907	2,784	3,140	3,407	1.9	4.6
	Received	169	173	177	159	186	191	194	-0.5	1.5
Lower Upper Mississippi	Shipped	1,818	2,272	2,659	2,384	3,585	4,087	4,465	2.1	4.9
	Received	156	160	165	148	178	186	191	-0.4	2.0
Lower Mississippi	Shipped	1,304	1,636	1,924	1,725	2,567	2,915	3,176	2.2	4.8
	Received	128	130	135	121	146	155	161	-0.4	2.2
Baton Rouge to Gulf	Shipped	1,310	1,370	1,442	1,293	1,609	1,716	1,791	-0.1	2.5
	Received	7,017	8,715	10,189	9,135	13,538	15,356	16,718	2.1	4.8
Illinois River	Shipped	556	674	776	695	1,014	1,143	1,240	1.7	4.5
	Received	471	486	505	453	549	579	599	-0.3	2.2
Missouri River	Shipped	559	676	778	697	999	1,119	1,208	1.7	4.3
	Received	180	185	189	170	199	204	207	-0.5	1.5
Ohio River	Shipped	338	416	482	432	643	731	797	1.9	4.8
	Received	234	239	246	220	263	275	283	-0.5	2.0
Tennessee River	Shipped	540	673	791	709	1,035	1,166	1,265	2.1	4.5
	Received	170	170	170	153	170	171	171	-0.8	0.9
Arkansas River	Shipped	140	176	207	185	282	323	354	2.2	5.1
	Received	38	38	39	35	41	42	42	-0.5	1.4
Gulf Coast West	Shipped	760	807	851	763	948	999	1,035	0.0	2.4
	Received	486	501	517	463	549	569	581	-0.4	1.8
Gulf Coast East	Shipped	450	483	520	466	595	641	673	0.3	2.9
	Received	122	129	139	124	157	169	177	0.2	2.7
Warrior River System	Shipped	88	95	101	90	115	123	128	0.2	2.8
	Received	37	37	37	34	38	38	38	-0.7	1.0
South Atlantic Coast	Shipped	326	357	393	353	464	509	540	0.6	3.3
	Received	290	319	354	317	422	466	496	0.7	3.5
Middle Atlantic Coast	Shipped	1,289	1,398	1,541	1,382	1,816	1,990	2,107	0.5	3.3
	Received	984	1,064	1,171	1,050	1,378	1,505	1,592	0.5	3.3

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	62	66	72	65	84	91	96	0.4	3.1
	Received	32	34	36	32	40	43	45	0.1	2.6
Great Lakes and Seaway	Shipped	322	322	322	289	322	322	322	-0.8	0.8
	Received	322	322	322	289	322	322	322	-0.8	0.8
Washington/Oregon Coast	Shipped	361	394	436	391	520	574	611	0.6	3.5
	Received	228	248	273	245	322	353	374	0.5	3.3
Columbia-Snake Willamette River	Shipped	60	63	69	61	83	92	98	0.2	3.7
	Received	85	91	98	87	111	119	125	0.2	2.8
California Coast	Shipped	1,135	1,251	1,405	1,260	1,726	1,935	2,078	0.8	3.9
	Received	1,826	2,010	2,238	2,006	2,682	2,967	3,162	0.7	3.6
Alaska	Shipped	167	184	205	184	245	272	289	0.7	3.6
	Received	309	340	377	338	451	498	531	0.7	3.5
Hawaii and Pacific Territories	Shipped	2,069	2,279	2,543	2,280	3,064	3,399	3,629	0.7	3.6
	Received	1,055	1,165	1,318	1,182	1,650	1,866	2,016	0.9	4.2
Domestic Caribbean	Shipped	494	528	568	509	646	696	730	0.2	2.8
	Received	1,295	1,393	1,515	1,358	1,755	1,910	2,017	0.4	3.1
Total	Shipped	15,634	17,948	20,209	18,119	25,142	27,981	30,040	1.1	4.0
	Received	15,634	17,948	20,209	18,119	25,142	27,981	30,040	1.1	4.0

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Food and Kindred Products
ALTERNATIVE: Defense

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	8,246	9,919	11,410	10,230	14,709	16,501	17,844	1.7	4.4
	Imports	2,649	2,763	3,357	2,412	4,846	5,903	6,669	-0.7	8.1
Illinois River	Exports	230	270	308	276	392	437	471	1.4	4.2
	Imports	23	24	29	21	41	50	56	-0.8	8.0
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	1,094	1,235	1,393	1,249	1,663	1,813	1,922	1.0	3.4
	Imports	1,000	1,031	1,247	896	1,785	2,165	2,440	-0.8	8.0
Gulf Coast East	Exports	712	837	955	856	1,223	1,370	1,480	1.4	4.3
	Imports	396	408	492	354	702	851	958	-0.9	8.0
Warrior River System	Exports	113	132	151	135	193	216	233	1.4	4.3
	Imports	42	43	48	35	62	72	79	-1.5	6.5
South Atlantic Coast	Exports	532	577	642	575	741	799	840	0.6	3.0
	Imports	554	570	689	495	985	1,194	1,345	-0.9	8.0
Middle Atlantic Coast	Exports	1,394	1,532	1,709	1,532	2,016	2,190	2,317	0.7	3.2
	Imports	5,951	6,138	7,389	5,310	10,479	12,656	14,225	-0.9	7.9

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	53	54	59	53	66	69	72	0.1	2.4
	Imports	720	742	898	646	1,287	1,562	1,760	-0.8	8.0
Great Lakes and Seaway	Exports	470	525	588	528	716	788	841	0.9	3.6
	Imports	69	71	87	62	124	151	170	-0.8	8.0
Washington/Oregon Coast	Exports	621	701	789	707	972	1,073	1,149	1.0	3.8
	Imports	130	134	163	117	233	282	318	-0.8	8.0
Columbia-Snake Willamette River	Exports	150	157	172	154	193	206	216	0.2	2.6
	Imports	131	140	169	122	241	293	330	-0.6	8.0
California Coast	Exports	1,604	1,724	1,908	1,711	2,187	2,348	2,464	0.5	2.8
	Imports	1,190	1,252	1,511	1,086	2,157	2,616	2,948	-0.7	8.0
Alaska	Exports	11	12	13	11	14	15	15	0.0	2.2
	Imports	26	27	31	22	43	51	56	-1.1	7.3
Hawaii and Pacific Territories	Exports	9	10	11	10	13	14	15	0.5	3.1
	Imports	33	34	39	28	53	63	70	-1.2	7.2
Domestic Caribbean	Exports	103	116	130	117	159	175	187	0.9	3.7
	Imports	390	400	469	337	643	765	854	-1.1	7.4
Total	Exports	15,344	17,802	20,238	18,145	25,256	28,012	30,065	1.3	4.0
	Imports	13,305	13,776	16,620	11,943	23,682	28,673	32,278	-0.8	7.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Food and Kindred Products
ALTERNATIVE: Defense

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	1,651	1,998	2,300	2,063	2,966	3,327	3,597	1.7	4.4
Lower Upper Mississippi	5,321	6,379	7,299	6,544	9,414	10,567	11,428	1.6	4.4
Lower Mississippi	7,691	9,335	10,770	8,874	12,921	14,570	15,804	1.1	4.5
Baton Rouge to Gulf	8,453	10,197	11,733	10,503	15,203	17,114	18,540	1.7	4.5
Illinois River	1,018	1,150	1,270	1,139	1,552	1,710	1,827	0.9	3.7
Missouri River	739	860	967	867	1,197	1,323	1,415	1.2	3.8
Ohio River	1,243	1,459	1,650	712	973	1,073	1,147	-4.2	3.7
Tennessee River	709	843	961	870	1,214	1,346	1,444	1.6	4.0
Arkansas River	177	214	246	221	323	365	396	1.7	4.6
Gulf Coast West	866	919	969	869	1,077	1,138	1,180	0.0	2.4
Gulf Coast East	582	625	671	1,367	1,866	2,057	2,196	6.8	3.7
Warrior River System	125	132	138	899	1,261	1,401	1,506	16.4	4.0
Great Lakes	322	322	322	289	322	322	322	-0.8	0.8

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Food and Kindred Products
ALTERNATIVE: Defense

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	582	704	811	727	1,046	1,173	1,269	1.7	4.4
Lower Upper Mississippi	1,091	1,309	1,498	1,343	1,932	2,169	2,346	1.6	4.4
Lower Mississippi	4,707	5,710	6,586	5,385	7,841	8,842	9,591	1.0	4.5
Baton Rouge to Gulf	1,008	1,205	1,378	1,107	1,586	1,778	1,922	0.7	4.3
Illinois River	253	285	315	283	386	425	454	0.9	3.7
Missouri River	451	525	590	529	730	807	863	1.2	3.8
Ohio River	258	293	325	243	330	363	388	-0.5	3.7
Tennessee River	261	311	354	319	446	495	532	1.6	4.0
Arkansas River	62	75	86	77	113	128	139	1.7	4.6
Gulf Coast West	105	117	127	114	152	166	176	0.7	3.4
Gulf Coast East	13	15	16	116	165	184	198	18.1	4.2
Warrior River System	4	4	5	262	373	417	450	37.3	4.2
Great Lakes	88	88	88	79	88	88	88	-0.8	0.8
Total	8,884	10,640	12,178	10,585	15,189	17,036	18,415	1.4	4.4

A = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Food and Kindred Products
ALTERNATIVE: High Coal Export

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Shipped	1,486	1,828	2,127	2,635	2,784	3,140	3,407	4.5	2.0
	Received	169	173	177	181	186	191	194	0.5	0.5
Lower Upper Mississippi	Shipped	1,818	2,272	2,659	3,386	3,585	4,087	4,465	4.9	2.2
	Received	156	160	165	171	178	186	191	0.7	0.9
Lower Mississippi	Shipped	1,304	1,636	1,924	2,424	2,567	2,915	3,176	4.9	2.1
	Received	128	130	135	140	146	155	161	0.7	1.1
Baton Rouge to Gulf	Shipped	1,310	1,370	1,442	1,528	1,609	1,716	1,791	1.2	1.2
	Received	7,017	8,715	10,189	12,781	13,538	15,356	16,718	4.7	2.1
Illinois River	Shipped	556	674	776	961	1,014	1,143	1,240	4.3	2.0
	Received	471	486	505	525	549	579	599	0.8	1.0
Missouri River	Shipped	559	676	778	948	999	1,119	1,208	4.1	1.9
	Received	180	185	189	194	199	204	207	0.5	0.5
Ohio River	Shipped	338	416	482	609	643	731	797	4.6	2.1
	Received	234	239	246	253	263	275	283	0.6	0.9
Tennessee River	Shipped	540	673	791	978	1,035	1,166	1,265	4.7	2.0
	Received	170	170	170	170	170	171	171	0.0	0.0
Arkansas River	Shipped	140	176	207	266	282	323	354	5.1	2.2
	Received	38	38	39	40	41	42	42	0.5	0.4
Gulf Coast West	Shipped	760	807	851	914	946	999	1,035	1.4	1.0
	Received	486	501	517	532	549	569	581	0.7	0.7
Gulf Coast East	Shipped	450	483	520	562	595	641	673	1.7	1.4
	Received	122	129	139	148	157	169	177	1.5	1.4
Warrior River System	Shipped	88	95	101	111	115	123	128	1.8	1.1
	Received	37	37	37	38	38	38	38	0.1	0.1
South Atlantic Coast	Shipped	328	357	393	428	464	509	540	2.1	1.8
	Received	290	319	354	387	422	466	496	2.2	1.9
Middle Atlantic Coast	Shipped	1,289	1,398	1,541	1,672	1,816	1,990	2,107	2.0	1.8
	Received	984	1,064	1,171	1,267	1,376	1,505	1,592	2.0	1.8

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SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	62	66	72	78	84	91	96	1.8	1.6
	Received	32	34	36	38	40	43	45	1.4	1.3
Great Lakes and Seaway	Shipped	322	322	322	322	322	322	322	0.0	0.0
	Received	322	322	322	322	322	322	322	0.0	0.0
Washington/Oregon Coast	Shipped	361	394	436	477	520	574	611	2.2	1.9
	Received	228	248	273	297	322	353	374	2.0	1.8
Columbia-Snake Willamette River	Shipped	60	63	69	75	83	92	98	1.8	2.1
	Received	85	91	98	104	111	119	125	1.5	1.4
California Coast	Shipped	1,135	1,251	1,405	1,559	1,726	1,935	2,078	2.5	2.2
	Received	1,826	2,010	2,238	2,454	2,682	2,967	3,162	2.3	2.0
Alaska	Shipped	167	184	205	225	245	272	289	2.3	2.0
	Received	309	340	377	413	451	498	531	2.3	1.9
Hawaii and Pacific Territories	Shipped	2,069	2,279	2,543	2,795	3,064	3,399	3,629	2.3	2.0
	Received	1,055	1,165	1,318	1,475	1,650	1,866	2,016	2.6	2.4
Domestic Caribbean	Shipped	494	528	568	606	646	696	730	1.6	1.4
	Received	1,295	1,393	1,515	1,630	1,755	1,910	2,017	1.8	1.7
Total	Shipped	15,634	17,948	20,209	23,558	25,142	27,981	30,040	3.2	1.9
	Received	15,634	17,948	20,209	23,558	25,142	27,981	30,040	3.2	1.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Food and Kindred Products
ALTERNATIVE: High Coal Export

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	8,246	9,919	11,410	13,961	14,709	16,501	17,844	4.1	1.9
	Imports	2,649	2,763	3,357	3,986	4,846	5,903	6,669	3.2	4.0
Illinois River	Exports	230	270	308	372	392	437	471	3.8	1.8
	Imports	23	24	29	34	41	50	56	3.0	3.9
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	1,094	1,235	1,393	1,586	1,663	1,813	1,922	2.9	1.5
	Imports	1,000	1,031	1,247	1,475	1,785	2,165	2,440	3.0	3.9
Gulf Coast East	Exports	712	837	955	1,161	1,223	1,370	1,480	3.8	1.9
	Imports	396	408	492	581	702	851	958	3.0	3.9
Warrior River System	Exports	113	132	151	183	193	216	233	3.8	1.9
	Imports	42	43	48	54	62	72	79	2.0	2.9
South Atlantic Coast	Exports	532	577	642	709	741	799	840	2.2	1.3
	Imports	554	570	689	814	985	1,194	1,345	3.0	3.9
Middle Atlantic Coast	Exports	1,394	1,532	1,709	1,924	2,016	2,190	2,317	2.5	1.4
	Imports	5,951	6,138	7,389	8,696	10,479	12,656	14,225	3.0	3.9

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	53	54	59	63	66	69	72	1.4	1.1
	Imports	720	742	898	1,063	1,287	1,562	1,760	3.0	4.0
Great Lakes and Seaway	Exports	470	525	588	682	716	788	841	2.9	1.6
	Imports	69	71	87	102	124	151	170	3.0	4.0
Washington/Oregon Coast	Exports	621	701	789	925	972	1,073	1,149	3.1	1.7
	Imports	130	134	163	192	233	282	318	3.0	4.0
Columbia-Snake Willamette River	Exports	150	157	172	185	193	206	216	1.6	1.2
	Imports	131	140	169	200	241	293	330	3.3	3.9
California Coast	Exports	1,604	1,724	1,908	2,091	2,187	2,348	2,464	2.1	1.3
	Imports	1,190	1,252	1,511	1,784	2,157	2,616	2,948	3.2	3.9
Alaska	Exports	11	12	13	13	14	15	15	1.2	1.0
	Imports	26	27	31	36	43	51	56	2.5	3.5
Hawaii and Pacific Territories	Exports	9	10	11	12	13	14	15	2.2	1.4
	Imports	33	34	39	45	53	63	70	2.5	3.4
Domestic Caribbean	Exports	103	116	130	151	159	175	187	3.0	1.6
	Imports	390	400	469	543	643	765	854	2.6	3.5
Total	Exports	15,344	17,802	20,238	24,019	25,256	28,012	30,065	3.5	1.7
	Imports	13,305	13,776	16,620	19,605	23,682	28,673	32,278	3.0	3.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Food and Kindred Products
ALTERNATIVE: High Coal Export

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	1,651	1,998	2,300	2,813	2,966	3,327	3,597	4.2	1.9
Lower Upper Mississippi	5,321	6,379	7,299	8,923	9,414	10,567	11,428	4.1	1.9
Lower Mississippi	7,691	9,335	10,770	12,220	12,921	14,570	15,804	3.6	2.0
Baton Rouge to Gulf	8,453	10,197	11,733	14,370	15,203	17,114	18,540	4.2	2.0
Illinois River	1,018	1,150	1,270	1,475	1,552	1,710	1,827	2.9	1.7
Missouri River	739	860	967	1,142	1,197	1,323	1,415	3.4	1.7
Ohio River	1,243	1,459	1,650	929	973	1,073	1,147	-2.2	1.6
Tennessee River	709	843	961	1,157	1,214	1,346	1,444	3.8	1.7
Arkansas River	177	214	246	306	323	365	396	4.3	2.0
Gulf Coast West	866	919	969	1,039	1,077	1,138	1,180	1.4	1.0
Gulf Coast East	582	625	671	1,769	1,866	2,057	2,196	8.9	1.7
Warrior River System	125	132	138	1,200	1,261	1,401	1,506	19.0	1.8
Great Lakes	322	322	322	322	322	322	322	0.0	0.0

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Food and Kindred Products
ALTERNATIVE: High Coal Export

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90 03
Upper Mississippi	582	704	811	992	1,046	1,173	1,269	4.2	1.9
Lower Upper Mississippi	1,091	1,309	1,498	1,831	1,932	2,169	2,346	4.1	1.9
Lower Mississippi	4,707	5,710	6,586	7,415	7,841	8,842	9,591	3.6	2.0
Baton Rouge to Gulf	1,008	1,205	1,378	1,501	1,586	1,778	1,922	3.1	1.9
Illinois River	253	285	315	366	386	425	454	2.9	1.7
Missouri River	451	525	590	696	730	807	863	3.4	1.7
Ohio River	258	293	325	315	330	363	388	1.5	1.6
Tennessee River	261	311	354	425	446	495	532	3.8	1.7
Arkansas River	62	75	86	107	113	128	139	4.3	2.0
Gulf Coast ' st	105	117	127	146	152	166	176	2.6	1.5
Gulf Coast East	13	15	16	157	165	184	198	20.8	1.8
Warrior River System	4	4	5	354	373	417	450	40.6	1.9
Great Lakes	88	88	88	88	88	88	88	0.0	0.0
Total	8,884	10,640	12,178	14,394	15,189	17,036	18,415	3.8	1.9

a = less than 500,000 ton-miles

7/20/81

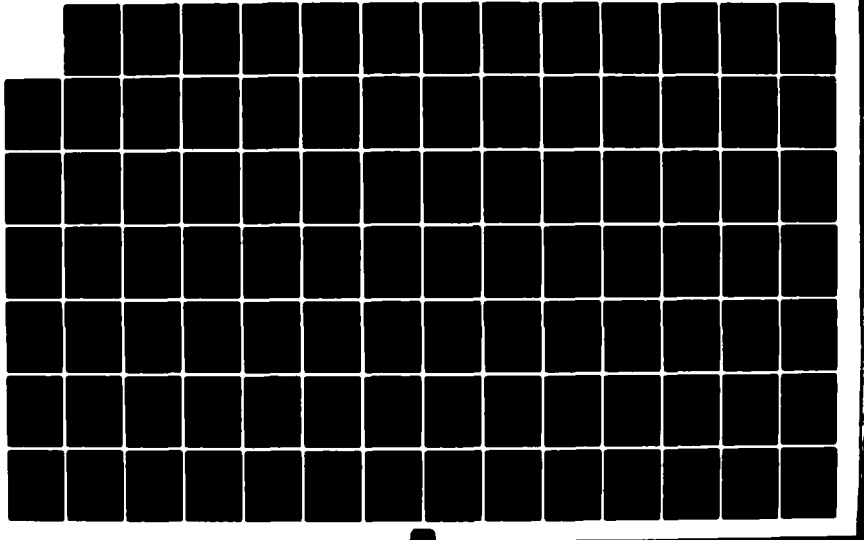
WATERBURNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

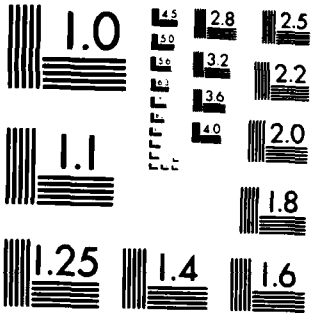
COMMODITY: Food and Kindred Products
ALTERNATIVE: Misc. Sensitivity

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	1,489	1,831	2,130	2,639	2,787	3,144	3,410	4.5	2.0
	Received	169	173	177	181	186	191	194	0.5	0.5
Lower Upper Mississippi	Shipped	1,824	2,278	2,665	3,392	3,592	4,093	4,471	4.9	2.1
	Received	156	160	165	171	178	186	191	0.7	0.9
Lower Mississippi	Shipped	1,304	1,636	1,924	2,425	2,568	2,917	3,179	4.9	2.1
	Received	128	131	135	140	147	155	161	0.7	1.1
Baton Rouge to Gulf	Shipped	1,328	1,388	1,464	1,554	1,639	1,753	1,834	1.2	1.3
	Received	7,099	8,816	10,337	12,998	13,806	15,723	17,179	4.8	2.2
Illinois River	Shipped	560	678	779	965	1,018	1,147	1,244	4.3	2.0
	Received	471	486	505	525	549	579	599	0.8	1.0
Missouri River	Shipped	564	681	783	953	1,004	1,124	1,213	4.1	1.9
	Received	180	185	189	194	199	204	207	0.5	0.5
Ohio River	Shipped	372	457	530	670	708	804	876	4.6	2.1
	Received	258	262	270	278	289	302	312	0.6	0.9
Tennessee River	Shipped	594	740	870	1,076	1,138	1,283	1,391	4.7	2.0
	Received	187	187	187	187	187	188	188	0.0	0.0
Arkansas River	Shipped	140	174	233	330	388	507	615	6.8	4.9
	Received	38	38	44	49	56	65	73	2.1	3.1
Gulf Coast West	Shipped	760	807	852	916	948	1,002	1,040	1.4	1.0
	Received	487	501	517	533	550	569	582	0.7	0.7
Gulf Coast East	Shipped	450	483	520	563	596	642	674	1.7	1.4
	Received	122	130	139	148	157	169	177	1.5	1.4
Warrior River System	Shipped	88	94	101	112	116	125	132	1.9	1.3
	Received	37	37	38	38	39	40	40	0.3	0.4
South Atlantic Coast	Shipped	328	357	393	428	464	509	540	2.1	1.8
	Received	290	319	354	387	422	466	496	2.2	1.9
Middle Atlantic Coast	Shipped	1,289	1,398	1,541	1,672	1,816	1,990	2,107	2.0	1.8
	Received	984	1,064	1,171	1,267	1,376	1,505	1,592	2.0	1.8

AD-A129 641 EVALUATION OF THE PRESENT NAVIGATION SYSTEM APPENDIX A (U) KEARNEY (A T) INC CHICAGO ILL MAR 82 DACW72-79-C-0003

UNCLASSIFIED F/G 13/3 NL





MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	62	66	72	78	84	91	96	1.8	1.6
	Received	32	34	36	38	40	43	45	1.4	1.3
Great Lakes and Seaway	Shipped	322	322	322	322	322	322	322	0.0	0.0
	Received	322	322	322	322	322	322	322	0.0	0.0
Washington/Oregon Coast	Shipped	361	394	436	477	520	574	611	2.2	1.9
	Received	228	248	273	297	322	353	374	2.0	1.8
Columbia-Snake Willamette River	Shipped	60	63	69	75	83	92	98	1.8	2.1
	Received	85	91	98	104	111	119	125	1.5	1.4
California Coast	Shipped	1,135	1,251	1,405	1,559	1,726	1,935	2,078	2.5	2.2
	Received	1,826	2,010	2,238	2,454	2,682	2,967	3,162	2.3	2.0
Alaska	Shipped	167	184	205	225	245	272	289	2.3	2.0
	Received	309	340	377	413	451	498	531	2.3	1.9
Hawaii and Pacific Territories	Shipped	2,069	2,279	2,543	2,795	3,064	3,399	3,629	2.3	2.0
	Received	1,055	1,165	1,318	1,475	1,650	1,866	2,016	2.6	2.4
Domestic Caribbean	Shipped	494	528	568	606	646	696	730	1.6	1.4
	Received	1,295	1,393	1,515	1,630	1,755	1,910	2,017	1.8	1.7
Total	Shipped	15,758	18,091	20,406	23,829	25,471	28,419	30,580	3.2	1.9
	Received	15,758	18,091	20,406	23,829	25,471	28,419	30,580	3.2	1.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Food and Kindred Products
ALTERNATIVE: Misc. Sensitivity

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	*Exports*	8,246	9,919	11,410	13,961	14,709	16,501	17,844	4.1	1.9
	Imports	2,649	2,763	3,357	3,986	4,846	5,903	6,669	3.2	4.0
Illinois River	Exports	230	270	308	372	392	437	471	3.8	1.8
	Imports	23	24	29	34	41	50	56	3.0	3.9
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	1,094	1,235	1,393	1,586	1,663	1,813	1,922	2.9	1.5
	Imports	1,000	1,031	1,247	1,475	1,785	2,165	2,440	3.0	3.9
Gulf Coast East	*Exports*	712	837	955	1,161	1,223	1,370	1,480	3.8	1.9
	Imports	396	408	492	581	702	851	958	3.0	3.9
Warrior River System	Exports	113	132	151	183	193	216	233	3.8	1.9
	Imports	42	43	48	54	62	72	79	2.0	2.9
South Atlantic Coast	Exports	532	577	642	709	741	799	840	2.2	1.3
	Imports	554	570	689	814	985	1,194	1,345	3.0	3.9
Middle Atlantic Coast	Exports	1,394	1,532	1,709	1,924	2,016	2,190	2,317	2.5	1.4
	Imports	5,951	6,138	7,389	8,696	10,479	12,656	14,225	3.0	3.9

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	53	54	59	63	66	69	72	1.4	1.1
	Imports	720	742	898	1,063	1,287	1,562	1,760	3.0	4.0
Great Lakes and Seaway	Exports	470	525	588	682	716	788	841	2.9	1.6
	Imports	69	71	87	102	124	151	170	3.0	4.0
Washington/Oregon Coast	Exports	621	701	789	925	972	1,073	1,149	3.1	1.7
	Imports	130	134	163	192	233	282	318	3.0	4.0
Columbia-Snake Willamette River	Exports	150	157	172	185	193	206	216	1.6	1.2
	Imports	131	140	169	200	241	293	330	3.3	3.9
California Coast	Exports	1,604	1,724	1,908	2,091	2,187	2,348	2,464	2.1	1.3
	Imports	1,190	1,252	1,511	1,784	2,157	2,616	2,948	3.2	3.9
Alaska	Exports	11	12	13	13	14	15	15	1.2	1.0
	Imports	26	27	31	36	43	51	56	2.5	3.5
Hawaii and Pacific Territories	Exports	9	10	11	12	13	14	15	2.2	1.4
	Imports	33	34	39	45	53	63	70	2.5	3.4
Domestic Caribbean	Exports	103	116	130	151	159	175	187	3.0	1.6
	Imports	390	400	469	543	643	765	854	2.6	3.5
Total	Exports	15,344	17,802	20,238	24,019	25,256	28,012	30,065	3.5	1.7
	Imports	13,305	13,776	16,620	19,605	23,682	28,673	32,278	3.0	3.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Food and Kindred Products
ALTERNATIVE: Misc. Sensitivity

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	1,655	2,001	2,304	2,816	2,969	3,331	3,600	4.2	1.9
Lower Upper Mississippi	5,340	6,397	7,318	8,942	9,433	10,586	11,447	4.0	1.9
Lower Mississippi	7,793	9,455	10,944	12,362	13,116	14,862	16,188	3.6	2.1
Baton Rouge to Gulf	8,554	10,317	11,906	14,615	15,507	17,526	19,054	4.2	2.1
Illinois River	1,022	1,154	1,274	1,479	1,556	1,714	1,831	2.9	1.7
Missouri River	745	866	972	1,147	1,203	1,328	1,421	3.4	1.7
Ohio River	1,367	1,605	1,815	1,021	1,070	1,179	1,261	-2.2	1.6
Tennessee River	780	927	1,057	1,272	1,334	1,479	1,588	3.8	1.7
Arkansas River	177	211	278	379	445	572	689	6.0	4.7
Gulf Coast West	867	920	971	1,041	1,080	1,142	1,185	1.4	1.0
Gulf Coast East	582	625	672	1,876	1,980	2,186	2,336	9.4	1.7
Warrior River System	125	132	139	1,307	1,375	1,529	1,645	19.8	1.8
Great Lakes	322	322	322	322	322	322	322	0.0	0.0

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Food and Kindred Products
ALTERNATIVE: Misc. Sensitivity

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	583	706	812	993	1,047	1,175	1,270	4.2	1.9
Lower Upper Mississippi	1,095	1,312	1,502	1,835	1,936	2,173	2,350	4.1	1.9
Lower Mississippi	4,775	5,791	6,690	7,484	7,928	8,962	9,742	3.5	2.0
Baton Rouge to Gulf	1,023	1,222	1,402	1,518	1,608	1,812	1,966	3.1	2.0
Illinois River	253	286	316	367	387	426	455	2.9	1.7
Missouri River	454	528	593	700	734	810	867	3.4	1.7
Ohio River	284	322	357	346	363	400	427	1.5	1.6
Tennessee River	287	342	390	468	491	545	585	3.8	1.7
Arkansas River	62	74	97	133	155	200	241	6.0	4.7
Gulf Coast West	105	117	128	146	153	166	177	2.6	1.5
Gulf Coast East	13	15	16	171	180	201	217	21.6	1.8
Warrior River System	4	4	5	389	410	458	494	41.6	1.9
Great Lakes	88	88	88	88	88	88	88	0.0	0.0
Total	9,028	10,808	12,395	14,637	15,479	17,416	18,877	3.8	2.0

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Lumber and Wood Products
ALTERNATIVE: Baseline

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	12	17	19	19	20	20	21	3.4	0.5
	Received	7	12	14	14	15	15	15	5.1	0.6
Lower Upper Mississippi	Shipped	18	19	20	21	21	21	22	1.0	0.4
	Received	23	23	26	26	27	27	28	0.9	0.5
Lower Mississippi	Shipped	441	454	506	512	528	544	552	1.1	0.6
	Received	428	450	488	501	514	528	536	1.2	0.5
Baton Rouge to Gulf	Shipped	140	142	164	161	167	173	174	1.1	0.6
	Received	136	136	149	152	156	160	162	0.9	0.5
Illinois River	Shipped	20	21	22	22	22	23	23	0.7	0.3
	Received	78	73	101	90	96	102	102	1.1	1.0
Missouri River	Shipped	3	3	3	3	3	3	3	1.2	0.5
	Received	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Shipped	35	36	39	40	42	43	43	1.2	0.5
	Received	a	a	a	a	a	a	a	0.4	0.9
Tennessee River	Shipped	361	374	410	419	431	444	450	1.2	0.6
	Received	361	374	410	419	431	444	450	1.2	0.6
Arkansas River	Shipped	12	12	14	14	14	15	15	1.2	0.6
	Received	5	5	5	5	5	5	5	1.0	0.5
Gulf Coast West	Shipped	65	64	66	66	66	66	67	0.1	0.1
	Received	37	35	32	31	30	29	28	-1.3	-0.8
Gulf Coast East	Shipped	13	12	14	14	15	15	16	0.7	0.7
	Received	101	106	114	117	121	124	126	1.2	0.5
Warrior River System	Shipped	431	447	491	502	517	532	540	1.2	0.6
	Received	284	298	322	330	338	347	352	1.1	0.5
South Atlantic Coast	Shipped	726	680	647	591	551	516	494	-1.6	-1.4
	Received	393	367	328	294	264	237	222	-2.2	-2.1
Middle Atlantic Coast	Shipped	343	305	383	380	412	444	453	0.8	1.4
	Received	679	611	684	658	681	704	706	-0.2	0.5

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SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	a	a	a	a	a	1	1	0.8	1.3
	Received	a	a	a	a	a	1	1	1.6	1.9
Great Lakes and Seaway	Shipped	177	161	160	160	161	161	161	-0.8	0.0
	Received	177	161	160	160	161	161	161	-0.8	0.0
Washington/Oregon Coast	Shipped	8,948	11,183	10,521	11,112	11,143	11,408	11,483	1.7	0.3
	Received	7,991	10,429	9,577	10,150	10,147	10,397	10,469	1.9	0.2
Columbia-Snake Willamette River	Shipped	9,790	12,636	11,706	12,418	12,447	12,770	12,873	1.8	0.3
	Received	9,562	12,456	11,494	12,204	12,228	12,550	12,653	1.9	0.3
California Coast	Shipped	30	25	30	30	31	32	32	0.1	0.3
	Received	810	633	795	812	838	847	847	0.0	0.3
Alaska	Shipped	1,556	2,136	2,058	2,187	2,217	2,286	2,311	2.7	0.4
	Received	1,731	2,276	2,239	2,370	2,408	2,483	2,510	2.4	0.4
Hawaii and Pacific Territories	Shipped	76	84	100	106	113	120	125	2.6	1.2
	Received	280	253	303	311	323	332	337	0.8	0.6
Domestic Caribbean	Shipped	6	5	3	3	2	2	2	-6.1	-2.6
	Received	121	116	134	134	139	144	145	0.8	0.7
Total	Shipped	23,204	28,815	27,377	28,780	28,922	29,638	29,858	1.7	0.3
	Received	23,204	28,815	27,377	28,780	28,922	29,638	29,858	1.7	0.3

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Lumber and Wood Products
ALTERNATIVE: Baseline

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	108	117	146	148	157	167	168	2.5	1.0
	Imports	175	149	187	171	171	185	182	-0.1	0.5
Illinois River	Exports	5	5	6	5	5	5	5	-1.0	0.0
	Imports	1	1	1	1	1	1	1	-0.2	0.1
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	274	323	510	597	631	635	636	6.2	0.5
	Imports	208	181	230	213	213	232	228	0.2	0.5
Gulf Coast East	Exports	35	63	85	98	107	112	113	8.3	1.1
	Imports	77	68	94	93	92	107	103	1.5	0.8
Warrior River System	Exports	111	160	206	235	259	275	277	5.9	1.3
	Imports	93	82	108	110	109	125	120	1.3	0.7
South Atlantic Coast	Exports	441	556	788	891	951	974	980	5.6	0.7
	Imports	600	522	634	582	572	613	601	-0.2	0.2
Middle Atlantic Coast	Exports	257	325	448	432	447	467	476	4.1	0.7
	Imports	1,414	1,180	1,527	1,456	1,390	1,572	1,512	0.2	0.3

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	11	13	19	16	16	16	17	2.7	0.5
	Imports	261	213	284	275	260	300	286	0.4	0.3
Great Lakes and Seaway	Exports	50	60	322	398	405	412	406	17.3	0.1
	Imports	9	8	8	8	7	7	7	-1.6	-0.6
Washington/Oregon Coast	Exports	13,485	11,826	11,934	9,530	8,731	8,410	8,233	-2.6	-1.1
	Imports	2,689	2,529	3,093	3,193	3,227	3,609	3,516	1.3	0.7
Columbia-Snake Willamette River	Exports	5,470	4,816	4,853	3,881	3,556	3,427	3,353	-2.6	-1.1
	Imports	160	140	177	162	164	178	175	0.1	0.6
California Coast	Exports	1,579	1,446	1,504	1,322	1,196	1,120	1,076	-1.4	-1.6
	Imports	479	419	581	579	589	682	660	1.5	1.0
Alaska	Exports	989	1,001	938	839	779	744	733	-1.3	-1.0
	Imports	233	230	240	240	241	247	246	0.2	0.2
Hawaii and Pacific Territories	Exports	40	38	44	43	40	37	36	0.5	-1.3
	Imports	8	7	10	10	10	11	11	1.2	0.8
Domestic Caribbean	Exports	5	6	7	8	7	7	7	3.9	-0.2
	Imports	158	134	188	188	186	218	209	1.3	0.8
Total	Exports	22,859	20,754	21,812	18,442	17,285	16,808	16,515	-1.6	-0.8
	Imports	6,565	5,864	7,361	7,283	7,232	8,088	7,859	0.8	0.6

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Lumber and Wood Products
ALTERNATIVE: Baseline

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	15	20	22	22	23	24	24	3.0	0.6
Lower Upper Mississippi	133	128	161	151	159	166	167	1.0	0.8
Lower Mississippi	555	569	641	643	665	686	695	1.1	0.6
Baton Rouge to Gulf	190	188	217	213	221	228	230	0.9	0.6
Illinois River	98	94	123	112	118	125	125	1.1	0.8
Missouri River	3	3	3	3	3	3	3	1.2	0.5
Ohio River	35	37	40	41	42	43	44	1.2	0.5
Tennessee River	361	374	410	419	431	444	450	1.2	0.6
Arkansas River	12	13	14	14	15	15	15	1.1	0.6
Gulf Coast West	72	71	73	72	72	73	73	0.0	0.0
Gulf Coast East	124	127	140	142	146	150	152	1.0	0.5
Warrior River System	444	457	502	512	527	542	549	1.1	0.5
Great Lakes	177	161	160	160	161	161	161	-0.8	0.0

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Lumber and Wood Products
ALTERNATIVE: Baseline

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	3	3	3	3	4	4	4	0.7	0.6
Lower Upper Mississippi	25	24	31	29	30	32	32	1.0	0.8
Lower Mississippi	134	134	158	154	161	167	169	1.1	0.7
Baton Rouge to Gulf	26	25	30	29	30	31	31	0.7	0.6
Illinois River	26	24	32	29	31	33	33	1.1	0.8
Missouri River	a	a	1	1	1	1	1	1.2	0.5
Ohio River	13	14	15	15	16	16	16	1.2	0.5
Tennessee River	42	43	48	49	50	51	52	1.2	0.6
Arkansas River	1	1	1	1	1	1	1	1.2	0.6
Gulf Coast West	2	2	2	2	2	2	2	-1.0	-0.5
Gulf Coast East	9	9	10	10	10	10	11	1.0	0.5
Warrior River System	45	47	51	52	54	55	56	1.2	0.5
Great Lakes	44	40	39	39	39	39	39	-0.9	0.0
Total	371	367	421	414	428	442	446	0.8	0.6

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Lumber and Wood Products
ALTERNATIVE: Low Use

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	12	17	19	19	20	20	21	3.4	0.5
	Received	7	12	14	14	15	15	15	5.1	0.6
Lower Upper Mississippi	Shipped	18	19	20	21	21	21	22	1.0	0.4
	Received	23	23	26	26	27	27	28	0.9	0.5
Lower Mississippi	Shipped	441	454	506	512	528	544	552	1.1	0.6
	Received	428	450	488	501	514	528	536	1.2	0.5
Baton Rouge to Gulf	Shipped	140	142	164	161	167	173	174	1.1	0.6
	Received	136	136	149	152	156	160	162	0.9	0.5
Illinois River	Shipped	20	21	22	22	22	23	23	0.7	0.3
	Received	78	73	101	90	96	102	102	1.1	1.0
Missouri River	Shipped	3	3	3	3	3	3	3	1.2	0.5
	Received	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Shipped	35	36	39	40	42	43	43	1.2	0.5
	Received	a	a	a	a	a	a	a	0.4	0.9
Tennessee River	Shipped	361	374	410	419	431	444	450	1.2	0.6
	Received	361	374	410	419	431	444	450	1.2	0.6
Arkansas River	Shipped	12	12	14	14	14	15	15	1.2	0.6
	Received	5	5	5	5	5	5	5	1.0	0.5
Gulf Coast West	Shipped	65	64	66	66	66	66	67	0.1	0.1
	Received	37	35	32	31	30	29	28	-1.7	-0.8
Gulf Coast East	Shipped	13	12	14	14	15	15	16	0.7	0.7
	Received	101	106	114	117	121	124	126	1.2	0.5
Warrior River System	Shipped	431	447	491	502	517	532	540	1.2	0.6
	Received	284	298	322	330	338	347	352	1.1	0.5
South Atlantic Coast	Shipped	726	680	647	591	551	516	494	-1.6	-1.4
	Received	393	367	328	294	264	237	222	-2.2	-2.1
Middle Atlantic Coast	Shipped	343	305	383	380	412	444	453	0.8	1.4
	Received	679	611	684	658	681	704	706	-0.2	0.5

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90 03
North Atlantic Coast	Shipped	a	a	a	a	a	a	a	0 8	1 3
	Received	a	a	a	a	1	1	1	1 8	1 9
Great Lakes and Seaway	Shipped	177	161	160	160	161	161	161	-0 8	0 0
	Received	177	161	160	160	161	161	161	-0 8	0 0
Washington/Oregon Coast	Shipped	8,948	11,183	10,521	11,112	11,143	11,408	11,483	1 7	0 3
	Received	7,991	10,429	9,577	10,150	10,147	10,397	10,469	1 9	0 2
Columbia-Snake Willamette River	Shipped	9,790	12,636	11,706	12,418	12,447	12,770	12,873	1 8	0 3
	Received	9,562	12,456	11,494	12,204	12,228	12,550	12,653	1 9	0 3
California Coast	Shipped	30	25	30	30	31	32	32	0 1	0 3
	Received	*810*	633	795	*812*	838	847	847	0 0	0 3
Alaska	Shipped	1,556	2,136	2,058	2,187	2,217	2,286	2,311	2 7	0 4
	Received	1,731	2,276	2,239	2,370	2,408	2,483	2,510	2 4	0 4
Hawaii and Pacific Territories	Shipped	76	84	100	106	113	120	125	2 6	1 2
	Received	280	253	303	311	323	332	337	0 8	0 6
Domestic Caribbean	Shipped	6	5	3	3	2	2	2	-6 1	-2 6
	Received	121	118	134	134	139	144	145	0 8	0 7
Total	Shipped	23,204	28,815	27,377	28,780	28,922	29,638	29,858	1 7	0 3
	Received	23,204	28,815	27,377	28,780	28,922	29,638	29,858	1 7	0 3

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Lumber and Wood Products
ALTERNATIVE: Low Use

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	108	117	146	148	157	167	168	2.5	1.0
	Imports	175	149	187	171	171	185	182	-0.1	0.5
Illinois River	Exports	5	5	6	5	5	5	5	-1.0	0.0
	Imports	1	1	1	1	1	1	1	-0.2	0.1
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	274	323	510	597	631	635	636	6.2	0.5
	Imports	208	181	230	213	213	232	228	0.2	0.5
Gulf Coast East	Exports	35	63	85	98	107	112	113	8.3	1.1
	Imports	77	68	94	93	92	107	103	1.5	0.8
Warrior River System	Exports	111	160	206	235	259	275	277	5.9	1.3
	Imports	93	82	108	110	109	125	120	1.3	0.7
South Atlantic Coast	Exports	441	556	786	891	951	974	980	5.6	0.7
	Imports	600	522	634	582	572	613	601	-0.2	0.2
Middle Atlantic Coast	Exports	257	325	448	432	447	467	476	4.1	0.7
	Imports	1,414	1,180	1,527	1,456	1,390	1,572	1,512	0.2	0.3

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	11	13	19	16	16	16	17	2.7	0.5
	Imports	261	213	284	275	260	300	286	0.4	0.3
Great Lakes and Seaway	Exports	50	60	322	398	405	412	406	17.3	0.1
	Imports	9	8	8	8	7	7	7	-1.6	-0.6
Washington/Oregon Coast	Exports	13,485	11,826	11,934	9,530	8,731	8,410	8,233	-2.6	-1.1
	Imports	2,689	2,529	3,093	3,193	3,227	3,609	3,516	1.3	0.7
Columbia-Snake Willamette River	Exports	5,470	4,816	4,853	3,881	3,556	3,427	3,353	-2.6	-1.1
	Imports	160	140	177	162	164	178	175	0.1	0.6
California Coast	Exports	1,579	1,446	1,504	1,322	1,196	1,120	1,076	-1.4	-1.6
	Imports	479	419	581	579	589	682	660	1.5	1.0
Alaska	Exports	989	1,001	938	839	779	744	733	-1.3	-1.0
	Imports	233	230	240	240	241	247	246	0.2	0.2
Hawaii and Pacific Territories	Exports	40	38	44	43	40	37	36	0.5	-1.3
	Imports	8	7	10	10	10	11	11	1.2	0.8
Domestic Caribbean	Exports	5	6	7	8	7	7	7	3.9	-0.2
	Imports	158	134	188	188	186	218	209	1.3	0.8
Total	Exports	22,859	20,754	21,812	18,442	17,285	16,808	16,515	-1.6	-0.8
	Imports	6,565	5,864	7,361	7,283	7,232	8,088	7,859	0.8	0.6

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Lumber and Wood Products
ALTERNATIVE: Low Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	15	20	22	22	23	24	24	3.0	0.6
Lower Upper Mississippi	133	128	161	151	159	166	167	1.0	0.8
Lower Mississippi	555	569	641	643	665	686	695	1.1	0.6
Baton Rouge to Gulf	190	188	217	213	221	228	230	0.9	0.6
Illinois River	98	94	123	112	118	125	125	1.1	0.8
Missouri River	3	3	3	3	3	3	3	1.2	0.5
Ohio River	35	37	40	41	42	43	44	1.2	0.5
Tennessee River	361	374	410	419	431	444	450	1.2	0.6
Arkansas River	12	13	14	14	15	15	15	1.1	0.6
Gulf Coast West	72	71	73	72	72	73	73	0.0	0.0
Gulf Coast East	124	127	140	142	146	150	152	1.0	0.5
Warrior River System	444	457	502	512	527	542	549	1.1	0.5
Great Lakes	177	161	160	160	161	161	161	-0.8	0.0

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Lumber and Wood Products
ALTERNATIVE: Low Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	3	3	3	3	4	4	4	0.7	0.6
Lower Upper Mississippi	25	24	31	29	30	32	32	1.0	0.8
Lower Mississippi	134	134	158	154	161	167	169	1.1	0.7
Baton Rouge to Gulf	26	25	30	29	30	31	31	0.7	0.6
Illinois River	26	24	32	29	31	33	33	1.1	0.8
Missouri River	a	a	1	1	1	1	1	1.2	0.5
Ohio River	13	14	15	15	16	16	16	1.2	0.5
Tennessee River	42	43	48	49	50	51	52	1.2	0.6
Arkansas River	1	1	1	1	1	1	1	1.2	0.6
Gulf Coast West	2	2	2	2	2	2	2	-1.0	-0.5
Gulf Coast East	9	9	10	10	10	10	11	1.0	0.5
Warrior River System	45	47	51	52	54	55	56	1.2	0.5
Great Lakes	44	40	39	39	39	39	39	-0.9	0.0
Total	371	367	421	414	428	442	446	0.8	0.6

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Lumber and Wood Products
ALTERNATIVE: High Use

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77 90	90 03
Upper Mississippi	Shipped	12	17	19	19	20	20	21	3.4	0.5
	Received	7	12	14	14	15	15	15	5.1	0.6
Lower Upper Mississippi	Shipped	18	19	20	21	21	21	22	1.0	0.4
	Received	23	23	26	26	27	27	28	0.9	0.5
Lower Mississippi	Shipped	441	454	506	512	528	544	552	1.1	0.6
	Received	428	450	488	501	514	528	536	1.2	0.5
Baton Rouge to Gulf	Shipped	140	142	164	161	167	173	174	1.1	0.6
	Received	136	136	149	152	156	160	162	0.9	0.5
Illinois River	Shipped	20	21	22	22	22	23	23	0.7	0.3
	Received	78	73	101	90	96	102	102	1.1	1.0
Missouri River	Shipped	3	3	3	3	3	3	3	1.2	0.5
	Received	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Shipped	35	36	39	40	42	43	43	1.2	0.5
	Received	a	a	a	a	a	a	a	0.4	0.9
Tennessee River	Shipped	361	374	410	419	431	444	450	1.2	0.6
	Received	361	374	410	419	431	444	450	1.2	0.6
Arkansas River	Shipped	12	12	14	14	14	15	15	1.2	0.6
	Received	5	5	5	5	5	5	5	1.0	0.5
Gulf Coast West	Shipped	65	64	66	66	66	66	67	0.1	0.1
	Received	37	35	32	31	30	29	28	-1.3	-0.8
Gulf Coast East	Shipped	13	12	14	14	15	15	16	0.7	0.7
	Received	101	106	114	117	121	124	126	1.2	0.5
Warrior River System	Shipped	431	447	491	502	517	532	540	1.2	0.6
	Received	284	298	322	330	338	347	352	1.1	0.5
South Atlantic Coast	Shipped	726	680	647	591	551	516	494	-1.6	-1.4
	Received	393	367	328	294	264	237	222	-2.2	-2.1
Middle Atlantic Coast	Shipped	343	305	383	380	412	444	453	0.8	1.4
	Received	679	611	684	658	681	704	706	-0.2	0.5

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	a	a	a	a	a	a	a	0.8	1.3
	Received	a	a	a	a	1	1	1	1.8	1.9
Great Lakes and Seaway	Shipped	177	161	160	160	161	161	161	-0.8	0.0
	Received	177	161	160	160	161	161	161	-0.8	0.0
Washington/Oregon Coast	Shipped	8,948	11,183	10,521	11,112	11,143	11,408	11,483	1.7	0.3
	Received	7,991	10,429	9,577	10,150	10,147	10,397	10,469	1.9	0.2
Columbia-Snake Willamette River	Shipped	9,790	12,636	11,706	12,418	12,447	12,770	12,873	1.8	0.3
	Received	9,562	12,456	11,494	12,204	12,228	12,550	12,653	1.9	0.3
California Coast	Shipped	30	25	30	30	31	32	32	0.1	0.3
	Received	810	633	795	812	838	847	847	0.0	0.3
Alaska	Shipped	1,556	2,136	2,058	2,187	2,217	2,288	2,311	2.7	0.4
	Received	1,731	2,276	2,239	2,370	2,408	2,483	2,510	2.4	0.4
Hawaii and Pacific Territories	Shipped	76	84	100	106	113	120	125	2.6	1.2
	Received	280	253	303	311	323	332	337	0.8	0.6
Domestic Caribbean	Shipped	6	5	3	3	2	2	2	-6.1	-2.6
	Received	121	116	134	134	139	144	145	0.8	0.7
Total	Shipped	23,204	28,815	27,377	28,780	28,922	29,638	29,858	1.7	0.3
	Received	23,204	28,815	27,377	28,780	28,922	29,638	29,858	1.7	0.3

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Lumber and Wood Products
ALTERNATIVE: High Use

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	108	117	148	148	157	167	168	2.5	1.0
	Imports	175	149	187	171	171	185	182	-0.1	0.5
Illinois River	Exports	5	5	6	5	5	5	5	-1.0	0.0
	Imports	1	1	1	1	1	1	1	-0.2	0.1
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	274	323	510	597	631	635	636	6.2	0.5
	Imports	208	181	230	213	213	232	228	0.2	0.5
Gulf Coast East	Exports	35	63	85	98	107	112	113	8.3	1.1
	Imports	77	68	94	93	92	107	103	1.5	0.8
Warrior River System	Exports	111	160	208	235	259	275	277	5.9	1.3
	Imports	93	82	108	110	109	125	120	1.3	0.7
South Atlantic Coast	Exports	441	556	788	891	951	974	980	5.6	0.7
	Imports	600	522	634	582	572	613	601	-0.2	0.2
Middle Atlantic Coast	Exports	257	325	448	432	447	467	476	4.1	0.7
	Imports	1,414	1,180	1,527	1,456	1,390	1,572	1,512	0.2	0.3

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	11	13	19	16	16	16	17	2.7	0.5
	Imports	261	213	284	275	260	300	286	0.4	0.3
Great Lakes and Seaway	Exports	50	60	322	398	405	412	406	17.3	0.1
	Imports	9	8	8	8	7	7	7	-1.6	-0.6
Washington/Oregon Coast	Exports	13,485	11,826	11,934	9,530	8,731	8,410	8,233	-2.6	-1.1
	Imports	2,689	2,529	3,093	3,193	3,227	3,609	3,516	1.3	0.7
Columbia-Snake Willamette River	Exports	5,470	4,816	4,853	3,881	3,556	3,427	3,353	-2.6	-1.1
	Imports	160	140	177	162	164	178	175	0.1	0.6
California Coast	Exports	1,579	1,446	1,504	1,322	1,196	1,120	1,076	-1.4	-1.6
	Imports	479	419	581	575	589	682	660	1.5	1.0
Alaska	Exports	989	1,001	938	839	779	744	733	-1.3	-1.0
	Imports	233	230	240	240	241	247	246	0.2	0.2
Hawaii and Pacific Territories	Exports	40	38	44	43	40	37	36	0.5	-1.3
	Imports	8	7	10	10	10	11	11	1.2	0.8
Domestic Caribbean	Exports	5	6	7	8	7	7	7	3.9	-0.2
	Imports	158	134	188	188	186	218	209	1.3	0.8
Total	Exports	22,859	20,754	21,812	18,442	17,285	16,808	16,515	-1.6	-0.8
	Imports	6,565	5,864	7,361	7,283	7,232	8,088	7,859	0.8	0.6

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Lumber and Wood Products
ALTERNATIVE: High Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	15	20	22	22	23	24	24	3.0	0.6
Lower Upper Mississippi	133	128	161	151	159	166	167	1.0	0.8
Lower Mississippi	555	569	641	643	665	686	695	1.1	0.6
Baton Rouge to Gulf	190	188	217	213	221	228	230	0.9	0.6
Illinois River	98	94	123	112	118	125	125	1.1	0.8
Missouri River	3	3	3	3	3	3	3	1.2	0.5
Ohio River	35	37	40	41	42	43	44	1.2	0.5
Tennessee River	361	374	410	419	431	444	450	1.2	0.6
Arkansas River	12	13	14	14	15	15	15	1.1	0.6
Gulf Coast West	72	71	73	72	72	73	73	0.0	0.0
Gulf Coast East	124	127	140	142	146	150	152	1.0	0.5
Warrior River System	444	457	502	512	527	542	549	1.1	0.5
Great Lakes	177	161	160	160	161	161	161	-0.8	0.0

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Lumber and Wood Products
ALTERNATIVE: High Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	3	3	3	3	4	4	4	0.7	0.6
Lower Upper Mississippi	25	24	31	29	30	32	32	1.0	0.8
Lower Mississippi	134	134	158	154	161	167	169	1.1	0.7
Baton Rouge to Gulf	26	25	30	29	30	31	31	0.7	0.6
Illinois River	26	24	32	29	31	33	33	1.1	0.8
Missouri River	a	a	1	1	1	1	1	1.2	0.5
Ohio River	13	14	15	15	16	16	16	1.2	0.5
Tennessee River	42	43	48	49	50	51	52	1.2	0.6
Arkansas River	1	1	1	1	1	1	1	1.2	0.6
Gulf Coast West	2	2	2	2	2	2	2	-1.0	-0.5
Gulf Coast East	9	9	10	10	10	10	11	1.0	0.5
Warrior River System	45	47	51	52	54	55	56	1.2	0.5
Great Lakes	44	40	39	39	39	39	39	-0.9	0.0
Total	371	367	421	414	428	442	446	0.8	0.6

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Lumber and Wood Products
ALTERNATIVE: Bad Energy

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	12	17	19	19	20	20	21	3.4	0.5
	Received	7	12	14	14	15	15	15	5.1	0.6
Lower Upper Mississippi	Shipped	18	19	20	21	21	21	22	1.0	0.4
	Received	23	23	26	26	27	27	28	0.9	0.5
Lower Mississippi	Shipped	441	454	506	512	528	544	552	1.1	0.6
	Received	428	450	488	501	514	528	536	1.2	0.5
Baton Rouge to Gulf	Shipped	140	142	164	161	167	173	174	1.1	0.6
	Received	136	136	149	152	156	160	162	0.9	0.5
Illinois River	Shipped	20	21	22	22	22	23	23	0.7	0.3
	Received	78	73	101	90	96	102	102	1.1	1.0
Missouri River	Shipped	3	3	3	3	3	3	3	1.2	0.5
	Received	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Shipped	35	36	39	40	42	43	43	1.2	0.5
	Received	a	a	a	a	a	a	a	0.4	0.9
Tennessee River	Shipped	361	374	410	419	431	444	450	1.2	0.6
	Received	361	374	410	419	431	444	450	1.2	0.6
Arkansas River	Shipped	12	12	14	14	14	15	15	1.2	0.6
	Received	5	5	5	5	5	5	5	1.0	0.5
Gulf Coast West	Shipped	65	64	66	66	66	66	67	0.1	0.1
	Received	37	35	32	31	30	29	28	-1.3	0.8
Gulf Coast East	Shipped	13	12	14	14	15	15	16	0.7	0.7
	Received	101	108	114	117	121	124	126	1.2	0.5
Warrior River System	Shipped	431	447	491	502	517	532	540	1.2	0.6
	Received	284	298	322	330	338	347	352	1.1	0.5
South Atlantic Coast	Shipped	726	680	647	591	551	516	494	-1.6	-1.4
	Received	393	367	328	294	264	237	222	-2.2	-2.1
Middle Atlantic Coast	Shipped	343	305	383	380	412	444	453	0.8	1.4
	Received	679	611	684	658	681	704	706	-0.2	0.5

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	a	a	a	a	a	a	a	0.8	1.3
	Received	a	a	a	a	a	1	1	1.8	1.9
Great Lakes and Seaway	Shipped	177	161	160	160	161	161	161	-0.8	0.0
	Received	177	161	160	160	161	161	161	-0.8	0.0
Washington/Oregon Coast	Shipped	8,948	11,183	10,521	11,112	11,143	11,408	11,483	1.7	0.3
	Received	7,991	10,429	9,577	10,150	10,147	10,397	10,469	1.9	0.2
Columbia-Snake Willamette River	Shipped	9,790	12,636	11,706	12,418	12,447	12,770	12,873	1.8	0.3
	Received	9,562	12,456	11,494	12,204	12,228	12,550	12,653	1.9	0.3
California Coast	Shipped	30	25	30	30	31	32	32	0.1	0.3
	Received	810	633	795	812	838	847	847	0.0	0.3
Alaska	Shipped	1,556	2,136	2,058	2,187	2,217	2,286	2,311	2.7	0.4
	Received	1,731	2,276	2,239	2,370	2,408	2,483	2,510	2.4	0.4
Hawaii and Pacific Territories	Shipped	76	84	100	106	113	120	125	2.6	1.2
	Received	280	253	303	311	323	332	337	0.8	0.6
Domestic Caribbean	Shipped	6	5	3	3	2	2	2	-6.1	-2.6
	Received	121	116	134	134	139	144	145	0.8	0.7
Total	Shipped	23,204	28,815	27,377	28,780	28,922	29,638	29,858	1.7	0.3
	Received	23,204	28,815	27,377	28,780	28,922	29,638	29,858	1.7	0.3

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Lumber and Wood Products
ALTERNATIVE: Bad Energy

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90 03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0 0	0 0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0.0	0 0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0 0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	108	117	146	148	157	167	168	2.5	1.0
	Imports	175	149	187	171	171	185	182	-0.1	0 5
Illinois River	Exports	5	5	6	5	5	5	5	-1.0	0.0
	Imports	1	1	1	1	1	1	1	-0.2	0.1
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0 0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0 0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0 0
	Imports	0	0	0	0	0	0	0	0.0	0 0
Arkansas River	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	274	323	510	597	631	635	636	6.2	0 5
	Imports	208	181	230	213	213	232	228	0.2	0.5
Gulf Coast East	Exports	35	63	85	98	107	112	113	8.3	1.1
	Imports	77	68	94	93	92	107	103	1.5	0 8
Warrior River System	Exports	111	160	206	235	259	275	277	5 9	1 3
	Imports	93	82	108	110	109	125	120	1 3	0 7
South Atlantic Coast	Exports	441	556	788	891	951	974	980	5 6	0 7
	Imports	600	522	634	582	572	613	601	-0.2	0 2
Middle Atlantic Coast	Exports	257	325	448	432	447	467	476	4.1	0.7
	Imports	1,414	1,180	1,527	1,456	1,390	1,572	1,512	0 2	0.3

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	11	13	19	16	16	16	17	2.7	0.5
	Imports	261	213	284	275	260	300	286	0.4	0.3
Great Lakes and Seaway	Exports	50	60	322	398	405	412	406	17.3	0.1
	Imports	9	8	8	8	7	7	7	-1.6	-0.6
Washington/Oregon Coast	Exports	13,485	11,826	11,934	9,530	8,731	8,410	8,233	-2.6	-1.1
	Imports	2,689	2,529	3,093	3,193	3,227	3,609	3,516	1.3	0.7
Columbia-Snake Willamette River	Exports	5,470	4,816	4,853	3,881	3,556	3,427	3,353	-2.6	-1.1
	Imports	160	140	177	162	164	178	175	0.1	0.6
California Coast	Exports	1,579	1,446	1,504	1,322	1,196	1,120	1,078	1.4	-1.6
	Imports	479	419	581	579	589	682	660	1.5	1.0
Alaska	Exports	989	1,001	938	839	779	744	733	-1.3	-1.0
	Imports	233	230	240	240	241	247	246	0.2	0.2
Hawaii and Pacific Territories	Exports	40	38	44	43	40	37	36	0.5	1.3
	Imports	8	7	10	10	10	11	11	1.2	0.8
Domestic Caribbean	Exports	5	6	7	8	7	7	7	3.9	0.2
	Imports	158	134	188	188	186	218	209	1.3	0.8
Total	Exports	22,859	20,754	21,812	18,442	17,285	16,808	16,515	1.6	-0.8
	Imports	6,565	5,864	7,361	7,283	7,232	8,088	7,859	0.8	0.6

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Lumber and Wood Products
ALTERNATIVE: Bad Energy

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	15	20	22	22	23	24	24	3.0	0.6
Lower Upper Mississippi	133	128	161	151	159	166	167	1.0	0.8
Lower Mississippi	555	569	641	643	665	686	695	1.1	0.6
Baton Rouge to Gulf	190	188	217	213	221	228	230	0.9	0.6
Illinois River	98	94	123	112	118	125	125	1.1	0.8
Missouri River	3	3	3	3	3	3	3	1.2	0.5
Ohio River	35	37	40	41	42	43	44	1.2	0.5
Tennessee River	361	374	410	419	431	444	450	1.2	0.6
Arkansas River	12	13	14	14	15	15	15	1.1	0.6
Gulf Coast West	72	71	73	72	72	73	73	0.0	0.0
Gulf Coast East	124	127	140	142	146	150	152	1.0	0.5
Warrior River System	444	457	502	512	527	542	549	1.1	0.5
Great Lakes	177	161	160	160	161	161	161	-0.8	0.0

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Lumber and Wood Products
ALTERNATIVE: Bad Energy

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	3	3	3	3	4	4	4	0.7	0.6
Lower Upper Mississippi	25	24	31	29	30	32	32	1.0	0.8
Lower Mississippi	134	134	158	154	161	167	169	1.1	0.7
Baton Rouge to Gulf	26	25	30	29	30	31	31	0.7	0.6
Illinois River	26	24	32	29	31	33	33	1.1	0.8
Missouri River	a	a	1	1	1	1	1	1.2	0.5
Ohio River	13	14	15	15	16	16	16	1.2	0.5
Tennessee River	42	43	48	49	50	51	52	1.2	0.6
Arkansas River	1	1	1	1	1	1	1	1.2	0.6
Gulf Coast West	2	2	2	2	2	2	2	-1.0	-0.5
Gulf Coast East	9	9	10	10	10	10	11	1.0	0.5
Warrior River System	45	47	51	52	54	55	56	1.2	0.5
Great Lakes	44	40	39	39	39	39	39	-0.9	0.0
Total	371	367	421	414	428	442	446	0.8	0.6

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Lumber and Wood Products
ALTERNATIVE: Defense

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	12	17	19	17	20	20	21	2.5	1.5
	Received	7	12	14	13	15	15	15	4.3	1.4
Lower Upper Mississippi	Shipped	18	19	20	18	21	21	22	0.1	1.4
	Received	23	23	26	23	27	27	28	0.1	1.4
Lower Mississippi	Shipped	441	454	506	459	528	544	552	0.3	1.4
	Received	428	450	488	443	514	526	536	0.3	1.5
Baton Rouge to Gulf	Shipped	140	142	164	149	167	173	174	0.5	1.2
	Received	136	136	149	136	156	160	162	0.0	1.4
Illinois River	Shipped	20	21	22	20	22	23	23	-0.1	1.2
	Received	78	73	101	92	96	102	102	1.3	0.8
Missouri River	Shipped	3	3	3	3	3	3	3	0.2	1.5
	Received	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Shipped	35	36	39	36	42	43	43	0.2	1.5
	Received	.a	a	a	a	a	a	a	0.0	1.3
Tennessee River	Shipped	361	374	410	372	431	444	450	0.2	1.5
	Received	361	374	410	372	431	444	450	0.2	1.5
Arkansas River	Shipped	12	12	14	12	14	15	15	0.4	1.4
	Received	5	5	5	5	5	5	5	0.1	1.4
Gulf Coast West	Shipped	65	64	66	60	66	66	67	-0.6	0.8
	Received	37	35	32	29	30	29	28	-1.7	-0.4
Gulf Coast East	Shipped	13	12	14	13	15	15	16	0.0	1.3
	Received	101	106	114	104	121	124	126	0.2	1.5
Warrior River System	Shipped	431	447	491	446	517	532	540	0.3	1.5
	Received	284	298	322	292	338	347	352	0.2	1.4
South Atlantic Coast	Shipped	726	680	647	588	551	516	494	-1.6	-1.3
	Received	393	367	328	298	264	237	222	-2.1	-2.2
Middle Atlantic Coast	Shipped	343	305	383	348	412	444	453	0.1	2.0
	Received	679	611	684	621	681	704	708	-0.7	1.0

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	a	a	a	a	a	a	a	0.2	1.9
	Received	a	a	a	a	a	1	1	0.9	2.8
Great Lakes and Seaway	Shipped	177	161	160	145	161	161	161	-1.5	0.8
	Received	177	161	160	145	161	161	161	-1.5	0.8
Washington/Oregon Coast	Shipped	8,948	11,183	10,521	9,557	11,143	11,408	11,483	0.5	1.4
	Received	7,991	10,429	9,577	8,699	10,147	10,397	10,469	0.7	1.4
Columbia-Snake Willamette River	Shipped	9,790	12,636	11,706	10,633	12,447	12,770	12,873	0.6	1.5
	Received	9,562	12,456	11,494	10,441	12,228	12,550	12,653	0.7	1.5
California Coast	Shipped	30	25	30	27	31	32	32	-0.7	1.1
	Received	810	633	795	723	838	847	847	-0.9	1.2
Alaska	Shipped	1,556	2,136	2,058	1,869	2,217	2,286	2,311	1.4	1.6
	Received	1,731	2,276	2,239	2,034	2,408	2,483	2,510	1.2	1.6
Hawaii and Pacific Territories	Shipped	76	84	100	91	113	120	125	1.4	2.5
	Received	280	253	303	276	323	332	337	-0.1	1.5
Domestic Caribbean	Shipped	6	5	3	3	2	2	2	-5.6	-3.1
	Received	121	116	134	122	139	144	145	0.0	1.4
Total	Shipped	23,204	28,815	27,377	24,869	28,922	29,638	29,858	0.5	1.4
	Received	23,204	28,815	27,377	24,869	28,922	29,638	29,858	0.5	1.4

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Lumber and Wood Products
ALTERNATIVE: Defense

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	108	117	146	133	157	167	168	1.7	1.8
	Imports	175	149	187	143	171	185	182	-1.5	1.9
Illinois River	Exports	5	5	6	6	5	5	5	0.2	-1.2
	Imports	1	1	1	a	1	1	1	-1.9	1.8
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	274	323	510	465	631	635	636	4.2	2.4
	Imports	208	181	230	176	213	232	228	-1.3	2.0
Gulf Coast East	Exports	35	63	85	78	107	112	113	6.4	2.9
	Imports	77	68	94	72	92	107	103	-0.5	2.8
Warrior River System	Exports	111	160	206	188	259	275	277	4.1	3.0
	Imports	93	82	108	83	109	125	120	-0.9	2.9
South Atlantic Coast	Exports	441	556	788	719	951	974	980	3.8	2.4
	Imports	600	522	634	484	572	613	601	-1.6	1.7
Middle Atlantic Coast	Exports	257	325	448	409	447	467	476	3.6	1.2
	Imports	1,414	1,180	1,527	1,167	1,390	1,572	1,512	-1.5	2.0

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	11	13	19	17	16	16	17	3.5	-0.3
	Imports	261	213	284	217	260	300	286	-1.4	2.1
Great Lakes and Seaway	Exports	50	60	322	294	405	412	406	14.6	2.5
	Imports	9	8	8	6	7	7	7	-3.1	0.9
Washington/Oregon Coast	Exports	13,485	11,826	11,934	10,882	8,731	8,410	8,233	-1.6	-2.1
	Imports	2,689	2,529	3,093	2,365	3,227	3,609	3,516	-1.0	3.1
Columbia-Snake Willamette River	Exports	5,470	4,816	4,853	4,426	3,556	3,427	3,353	-1.6	-2.1
	Imports	160	140	177	136	164	178	175	-1.3	2.0
California Coast	Exports	1,579	1,446	1,504	1,371	1,196	1,120	1,076	-1.1	-1.8
	Imports	479	419	581	444	589	682	660	-0.6	3.1
Alaska	Exports	989	1,001	938	856	779	744	733	-1.1	-1.2
	Imports	233	230	240	183	241	247	246	-1.8	2.3
Hawaii and Pacific Territories	Exports	40	38	44	40	40	37	36	0.0	-0.8
	Imports	8	7	10	7	10	11	11	-0.8	2.9
Domestic Caribbean	Exports	5	6	7	7	7	7	7	2.9	0.8
	Imports	158	134	188	144	186	218	209	-0.7	2.9
Total	Exports	22,859	20,754	21,812	19,890	17,285	16,808	16,515	-1.1	-1.4
	Imports	6,565	5,864	7,361	5,628	7,232	8,088	7,859	-1.2	2.6

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Lumber and Wood Products
ALTERNATIVE: Defense

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	15	20	22	20	23	24	24	2.2	1.4
Lower Upper Mississippi	133	128	161	147	159	166	167	0.8	1.0
Lower Mississippi	555	569	641	583	665	686	695	0.4	1.4
Baton Rouge to Gulf	190	188	217	197	221	228	230	0.3	1.2
Illinois River	98	94	123	111	118	125	125	1.0	0.9
Missouri River	3	3	3	3	3	3	3	0.2	1.5
Ohio River	35	37	40	36	42	43	44	0.2	1.5
Tennessee River	361	374	410	372	431	444	450	0.2	1.5
Arkansas River	12	13	14	13	15	15	15	0.3	1.4
Gulf Coast West	72	71	73	66	72	73	73	-0.7	0.7
Gulf Coast East	124	127	140	127	146	150	152	0.2	1.4
Warrior River System	444	457	502	456	527	542	549	0.2	1.4
Great Lakes	177	161	160	145	161	161	161	-1.5	0.8

0 = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Lumber and Wood Products
ALTERNATIVE: Defense

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	3	3	3	3	4	4	4	0.0	1.4
Lower Upper Mississippi	25	24	31	28	30	32	32	0.9	1.0
Lower Mississippi	134	134	158	144	161	167	169	0.5	1.2
Baton Rouge to Gulf	26	25	30	27	30	31	31	0.3	1.0
Illinois River	26	24	32	29	31	33	33	1.0	0.9
Missouri River	a	a	1	a	1	1	1	0.2	1.5
Ohio River	13:	14	15	13	16	16	16	0.2	1.5
Tennessee River	42	43	48	43	50	51	52	0.2	1.5
Arkansas River	1	1	1	1	1	1	1	0.3	1.4
Gulf Coast West	2	2	2	2	2	2	2	-1.4	-0.1
Gulf Coast East	9	9	10	9	10	10	11	0.1	1.4
Warrior River System	45	47	51	46	54	55	56	0.2	1.5
Great Lakes	44	40	39	36	39	39	39	-1.6	0.8
Total	371	367	421	382	428	442	446	0.2	1.2

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Lumber and Wood Products
ALTERNATIVE: High Coal Export

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	12	17	19	19	20	20	21	3.4	0.5
	Received	7	12	14	14	15	15	15	5.1	0.6
Lower Upper Mississippi	Shipped	18	19	20	21	21	21	22	1.0	0.4
	Received	23	23	26	26	27	27	28	0.9	0.5
Lower Mississippi	Shipped	441	454	506	512	528	544	552	1.1	0.6
	Received	428	450	488	501	514	528	536	1.2	0.5
Baton Rouge to Gulf	Shipped	140	142	164	161	167	173	174	1.1	0.6
	Received	136	136	149	152	156	160	162	0.9	0.5
Illinois River	Shipped	20	21	22	22	22	23	23	0.7	0.3
	Received	78	73	101	90	96	102	102	1.1	1.0
Missouri River	Shipped	3	3	3	3	3	3	3	1.2	0.5
	Received	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Shipped	35	36	39	40	42	43	43	1.2	0.5
	Received	a	a	a	a	a	a	a	0.4	0.9
Tennessee River	Shipped	361	374	410	419	431	444	450	1.2	0.6
	Received	361	374	410	419	431	444	450	1.2	0.6
Arkansas River	Shipped	12	12	14	14	14	15	15	1.2	0.6
	Received	5	5	5	5	5	5	5	1.0	0.5
Gulf Coast West	Shipped	65	64	66	66	66	66	67	0.1	0.1
	Received	37	35	32	31	30	29	28	-1.3	-0.8
Gulf Coast East	Shipped	13	12	14	14	15	15	16	0.7	0.7
	Received	101	106	114	117	121	124	126	1.2	0.5
Warrior River System	Shipped	431	447	491	502	517	532	540	1.2	0.6
	Received	284	298	322	330	338	347	352	1.1	0.5
South Atlantic Coast	Shipped	726	680	647	591	551	516	494	-1.6	-1.4
	Received	393	367	328	294	264	237	222	-2.2	-2.1
Middle Atlantic Coast	Shipped	343	305	383	380	412	444	453	0.8	1.4
	Received	679	611	684	658	681	704	706	-0.2	0.5

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	a	a	a	a	a	a	a	0.8	1.3
	Received	a	a	a	a	a	1	1	1.8	1.9
Great Lakes and Seaway	Shipped	177	161	160	160	161	161	161	-0.8	0.0
	Received	177	161	160	160	161	161	161	-0.8	0.0
Washington/Oregon Coast	Shipped	8,948	11,183	10,521	11,112	11,143	11,408	11,483	1.7	0.3
	Received	7,991	10,429	9,577	10,150	10,147	10,397	10,469	1.9	0.2
Columbia-Snake Willamette River	Shipped	9,790	12,636	11,706	12,418	12,447	12,770	12,873	1.8	0.3
	Received	9,562	12,456	11,494	12,204	12,228	12,550	12,653	1.9	0.3
California Coast	Shipped	30	25	30	30	31	32	32	0.1	0.3
	Received	810	633	795	812	838	847	847	0.0	0.3
Alaska	Shipped	1,556	2,136	2,058	2,187	2,217	2,286	2,311	2.7	0.4
	Received	1,731	2,276	2,239	2,370	2,408	2,483	2,510	2.4	0.4
Hawaii and Pacific Territories	Shipped	76	84	100	106	113	120	125	2.6	1.2
	Received	280	253	303	311	323	332	337	0.8	0.6
Domestic Caribbean	Shipped	6	5	3	3	2	2	2	-6.1	-2.6
	Received	121	116	134	134	139	144	145	0.8	0.7
Total	Shipped	23,204	28,815	27,377	28,780	28,922	29,638	29,858	1.7	0.3
	Received	23,204	28,815	27,377	28,780	28,922	29,638	29,858	1.7	0.3

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Lumber and Wood Products
ALTERNATIVE: High Coal Export

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	108	117	146	148	157	167	168	2.5	1.0
	Imports	175	149	187	171	171	185	182	-0.1	0.5
Illinois River	Exports	5	5	6	5	5	5	5	-1.0	0.0
	Imports	1	1	1	1	1	1	1	-0.2	0.1
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	274	323	510	597	631	635	636	6.2	0.5
	Imports	208	181	230	213	213	232	228	0.2	0.5
Gulf Coast East	Exports	35	63	85	98	107	112	113	8.3	1.1
	Imports	77	68	94	93	92	107	103	1.5	0.8
Warrior River System	Exports	111	160	206	235	259	275	277	5.9	1.3
	Imports	93	82	108	110	109	125	120	1.3	0.7
South Atlantic Coast	Exports	441	556	788	891	951	974	980	5.6	0.7
	Imports	600	522	634	582	572	613	601	-0.2	0.2
Middle Atlantic Coast	Exports	257	325	448	432	447	467	476	4.1	0.7
	Imports	1,414	1,180	1,527	1,456	1,390	1,572	1,512	0.2	0.3

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	11	13	19	16	16	16	17	2.7	0.5
	Imports	261	213	284	275	260	300	286	0.4	0.3
Great Lakes and Seaway	Exports	50	60	322	398	405	412	406	17.3	0.1
	Imports	9	8	8	8	7	7	7	-1.6	-0.6
Washington/Oregon Coast	Exports	13,485	11,826	11,934	9,530	8,731	8,410	8,233	-2.6	-1.1
	Imports	2,689	2,529	3,093	3,193	3,227	3,609	3,516	1.3	0.7
Columbia-Snake Willamette River	Exports	5,470	4,816	4,853	3,881	3,556	3,427	3,353	-2.6	-1.1
	Imports	160	140	177	162	164	178	175	0.1	0.6
California Coast	Exports	1,579	1,446	1,504	1,322	1,196	1,120	1,076	-1.4	-1.6
	Imports	479	419	581	579	589	682	660	1.5	1.0
Alaska	Exports	989	1,001	938	839	779	744	733	-1.3	-1.0
	Imports	233	230	240	240	241	247	246	0.2	0.2
Hawaii and Pacific Territories	Exports	40	38	44	43	40	37	36	0.5	-1.3
	Imports	8	7	10	10	10	11	11	1.2	0.8
Domestic Caribbean	Exports	5	6	7	8	7	7	7	3.9	-0.2
	Imports	158	134	188	188	186	218	209	1.3	0.8
Total	Exports	22,859	20,754	21,812	18,442	17,285	16,808	16,515	-1.6	-0.8
	Imports	6,565	5,864	7,361	7,283	7,232	8,088	7,859	0.8	0.6

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Lumber and Wood Products
ALTERNATIVE: High Coal Export

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	15	20	22	22	23	24	24	3.0	0.6
Lower Upper Mississippi	133	128	161	151	159	166	167	1.0	0.8
Lower Mississippi	555	569	641	643	665	686	695	1.1	0.6
Baton Rouge to Gulf	190	188	217	213	221	228	230	0.9	0.6
Illinois River	98	94	123	112	118	125	125	1.1	0.8
Missouri River	3	3	3	3	3	3	3	1.2	0.5
Ohio River	35	37	40	41	42	43	44	1.2	0.5
Tennessee River	361	374	410	419	431	444	450	1.2	0.6
Arkansas River	12	13	14	14	15	15	15	1.1	0.6
Gulf Coast West	72	71	73	72	72	73	73	0.0	0.0
Gulf Coast East	124	127	140	142	146	150	152	1.0	0.5
Warrior River System	444	457	502	512	527	542	549	1.1	0.5
Great Lakes	177	161	160	160	161	161	161	-0.8	0.0

n = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Lumber and Wood Products
ALTERNATIVE: High Coal Export

SEGMENT	YEARS							% GROWTH	
	1977	1980	1985	1990	1995	2000	2003	77-90	90-03
Upper Mississippi	3	3	3	3	4	4	4	0.7	0.6
Lower Upper Mississippi	25	24	31	29	30	32	32	1.0	0.8
Lower Mississippi	134	134	158	154	161	167	169	1.1	0.7
Baton Rouge to Gulf	26	25	30	29	30	31	31	0.7	0.6
Illinois River	26	24	32	29	31	33	33	1.1	0.8
Missouri River	a	a	1	1	1	1	1	1.2	0.5
Ohio River	13	14	15	15	16	16	16	1.2	0.5
Tennessee River	42	43	48	49	50	51	52	1.2	0.6
Arkansas River	1	1	1	1	1	1	1	1.2	0.6
Gulf Coast West	2	2	2	2	2	2	2	-1.0	-0.5
Gulf Coast East	9	9	10	10	10	10	11	1.0	0.5
Warrior River System	45	47	51	52	54	55	56	1.2	0.5
Great Lakes	44	40	39	39	39	39	39	-0.9	0.0
Total	371	367	421	414	428	442	446	0.8	0.6

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Lumber and Wood Products
ALTERNATIVE: Misc. Sensitivity

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	12	17	19	19	20	20	21	3.4	0.5
	Received	7	12	14	14	15	15	15	5.1	0.6
Lower Upper Mississippi	Shipped	18	19	20	21	21	21	22	1.0	0.4
	Received	23	23	26	26	27	27	28	0.9	0.5
Lower Mississippi	Shipped	441	454	506	512	528	544	552	1.1	0.6
	Received	429	451	490	504	519	534	544	1.2	0.6
Baton Rouge to Gulf	Shipped	140	142	165	161	167	173	175	1.1	0.6
	Received	138	139	152	155	159	164	166	0.9	0.5
Illinois River	Shipped	20	21	22	22	22	23	23	0.7	0.3
	Received	78	73	101	90	96	103	103	1.2	1.0
Missouri River	Shipped	3	3	3	3	3	3	3	1.2	0.5
	Received	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Shipped	38	40	43	44	46	47	48	1.2	0.5
	Received	a	a	a	a	a	1	1	0.4	0.9
Tennessee River	Shipped	361	374	410	419	431	444	450	1.2	0.6
	Received	361	374	410	419	431	444	450	1.2	0.6
Arkansas River	Shipped	12	12	15	17	19	23	26	2.9	3.2
	Received	5	5	6	6	7	9	10	2.7	3.2
Gulf Coast West	Shipped	65	64	66	66	66	66	67	0.1	0.1
	Received	37	35	32	31	30	29	28	-1.3	-0.8
Gulf Coast East	Shipped	13	12	14	14	15	15	16	0.7	0.7
	Received	101	106	114	117	121	124	126	1.2	0.5
Warrior River System	Shipped	431	447	491	502	517	532	540	1.2	0.6
	Received	284	298	322	330	338	347	352	1.1	0.5
South Atlantic Coast	Shipped	726	680	647	591	551	516	494	-1.6	-1.4
	Received	393	367	328	294	264	237	222	-2.2	-2.1
Middle Atlantic Coast	Shipped	343	305	383	380	412	444	453	0.8	1.4
	Received	679	611	684	658	681	704	706	0.2	0.5

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	a	a	a	a	a	a	a	0.8	1.3
	Received	a	a	a	a	a	1	1	1.8	1.9
Great Lakes and Seaway	Shipped	177	161	160	160	161	161	161	-0.8	0.0
	Received	177	161	160	160	161	161	161	-0.8	0.0
Washington/Oregon Coast	Shipped	8,948	11,183	10,521	11,112	11,143	11,408	11,483	1.7	0.3
	Received	7,991	10,429	9,577	10,150	10,147	10,397	10,469	1.9	0.2
Columbia-Snake Willamette River	Shipped	9,790	12,636	11,706	12,418	12,447	12,770	12,873	1.8	0.3
	Received	9,562	12,456	11,494	12,204	12,228	12,550	12,653	1.9	0.3
California Coast	Shipped	30	25	30	30	31	32	32	0.1	0.3
	Received	810	633	795	812	838	847	847	0.0	0.3
Alaska	Shipped	1,556	2,136	2,058	2,187	2,217	2,286	2,311	2.7	0.4
	Received	1,731	2,276	2,239	2,370	2,408	2,483	2,510	2.4	0.4
Hawaii and Pacific Territories	Shipped	76	84	100	106	113	120	125	2.6	1.2
	Received	280	253	303	311	323	332	337	0.8	0.6
Domestic Caribbean	Shipped	6	5	3	3	2	2	2	-6.1	-2.6
	Received	121	116	134	134	139	144	145	0.8	0.7
Total	Shipped	23,208	28,818	27,383	28,787	28,932	29,651	29,874	1.7	0.3
	Received	23,208	28,818	27,383	28,787	28,932	29,651	29,874	1.7	0.3

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Lumber and Wood Products
ALTERNATIVE: Misc. Sensitivity

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	108	117	146	148	157	167	168	2.5	1.0
	Imports	175	149	187	171	171	185	182	-0.1	0.5
Illinois River	Exports	5	5	6	5	5	5	5	-1.0	0.0
	Imports	1	1	1	1	1	1	1	-0.2	0.1
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	274	323	510	597	631	635	636	6.2	0.5
	Imports	208	181	230	213	213	232	228	0.2	0.5
Gulf Coast East	Exports	35	63	85	98	107	112	113	8.3	1.1
	Imports	77	68	94	93	92	107	103	1.5	0.8
Warrior River System	Exports	111	160	206	235	259	275	277	5.9	1.3
	Imports	93	82	108	110	109	125	120	1.3	0.7
South Atlantic Coast	Exports	441	556	788	891	951	974	980	5.6	0.7
	Imports	600	522	634	582	572	613	601	-0.2	0.2
Middle Atlantic Coast	Exports	257	325	448	432	447	467	476	4.1	0.7
	Imports	1,414	1,180	1,527	1,456	1,390	1,572	1,512	0.2	0.3

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	11	13	19	16	16	16	17	2.7	0.5
	Imports	261	213	284	275	260	300	286	0.4	0.3
Great Lakes and Seaway	Exports	50	60	322	398	405	412	406	17.3	0.1
	Imports	9	8	8	8	7	7	7	-1.6	-0.6
Washington/Oregon Coast	Exports	13,485	11,826	11,934	9,530	8,731	8,410	8,233	-2.6	-1.1
	Imports	2,689	2,529	3,093	3,193	3,227	3,609	3,516	1.3	0.7
Columbia-Snake Willamette River	Exports	5,470	4,816	4,853	3,881	3,556	3,427	3,353	-2.6	-1.1
	Imports	160	140	177	162	164	178	175	0.1	0.6
California Coast	Exports	1,579	1,446	1,504	1,322	1,196	1,120	1,076	-1.4	-1.6
	Imports	479	419	581	579	589	682	660	1.5	1.0
Alaska	Exports	989	1,001	938	839	779	744	733	-1.3	-1.0
	Imports	233	230	240	240	241	247	246	0.2	0.2
Hawaii and Pacific Territories	Exports	40	38	44	43	40	37	36	0.5	-1.3
	Imports	8	7	10	10	10	11	11	1.2	0.8
Domestic Caribbean	Exports	5	6	7	8	7	7	7	3.9	-0.2
	Imports	158	134	188	188	186	218	209	1.3	0.8
Total	Exports	22,859	20,754	21,812	18,442	17,285	16,808	16,515	-1.6	-0.8
	Imports	6,565	5,864	7,361	7,283	7,232	8,088	7,859	0.8	0.6

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Lumber and Wood Products
ALTERNATIVE: Misc. Sensitivity

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	15	20	22	22	23	24	24	3.0	0.6
Lower Upper Mississippi	133	128	161	151	159	167	168	1.0	0.8
Lower Mississippi	559	572	646	650	673	697	707	1.2	0.7
Baton Rouge to Gulf	192	191	219	216	224	231	234	0.9	0.6
Illinois River	98	94	123	112	119	125	126	1.1	0.9
Missouri River	3	3	3	3	3	3	3	1.2	0.5
Ohio River	39	40	44	45	46	47	48	1.2	0.5
Tennessee River	361	374	410	419	431	444	450	1.2	0.6
Arkansas River	12	12	16	18	20	24	27	2.8	3.2
Gulf Coast West	72	71	73	72	72	73	73	0.0	0.0
Gulf Coast East	124	127	140	142	146	150	152	1.0	0.5
Warrior River System	444	457	502	512	527	542	549	1.1	0.5
Great Lakes	177	161	160	160	161	161	161	-0.8	0.0

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Lumber and Wood Products
ALTERNATIVE: Misc. Sensitivity

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	3	3	3	3	4	4	4	0.7	0.6
Lower Upper Mississippi	25	24	31	29	31	32	32	1.1	0.9
Lower Mississippi	136	136	161	157	164	172	174	1.1	0.8
Baton Rouge to Gulf	27	26	31	29	31	32	32	0.7	0.6
Illinois River	26	24	32	29	31	33	33	1.1	0.9
Missouri River	a	a	1	1	1	1	1	1.2	0.5
Ohio River	14	15	16	17	17	18	18	1.2	0.5
Tennessee River	42	43	48	49	50	51	52	1.2	0.6
Arkansas River	1	1	1	1	1	1	2	2.8	3.2
Gulf Coast West	2	2	2	2	2	2	2	-1.0	-0.5
Gulf Coast East	9	9	10	10	10	10	11	1.0	0.5
Warrior River System	45	47	51	52	54	55	56	1.2	0.5
Great Lakes	44	40	39	39	39	39	39	-0.9	0.0
Total	375	370	426	419	434	450	455	0.9	0.6

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Pulp, Paper and Allied Products
ALTERNATIVE: Baseline

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	1	1	1	1	1	2	2	2.4	2.1
	Received	14	14	15	16	16	16	16	0.8	0.4
Lower Upper Mississippi	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	6	6	6	6	6	7	7	0.8	0.4
Lower Mississippi	Shipped	195	202	216	224	232	241	247	1.0	0.8
	Received	3	3	3	4	4	4	4	0.8	0.4
Baton Rouge to Gulf	Shipped	102	109	361	442	536	650	709	11.9	3.7
	Received	466	487	763	858	968	1,099	1,168	4.8	2.4
Illinois River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	29	31	36	40	44	49	52	2.4	2.1
Missouri River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	6	6	7	7	7	7	7	0.8	0.4
Ohio River	Shipped	3	3	3	3	3	3	3	0.8	0.4
	Received	13	14	14	15	15	15	16	0.8	0.4
Tennessee River	Shipped	163	171	185	195	205	217	225	1.4	1.1
	Received	131	138	150	159	169	180	187	1.5	1.3
Arkansas River	Shipped	118	122	128	131	133	136	138	0.8	0.4
	Received	4	4	4	5	5	6	6	2.4	2.1
Gulf Coast West	Shipped	47	49	52	54	56	59	60	1.1	0.9
	Received	39	40	42	42	43	44	45	0.7	0.4
Gulf Coast East	Shipped	138	145	157	166	176	186	193	1.4	1.2
	Received	28	29	31	32	34	35	36	1.1	0.8
Warrior River System	Shipped	17	18	20	21	23	25	26	1.9	1.6
	Received	9	9	10	11	11	12	12	1.3	1.1
South Atlantic Coast	Shipped	379	406	457	488	521	556	579	2.0	1.3
	Received	53	57	63	69	75	82	86	1.9	1.7
Middle Atlantic Coast	Shipped	108	108	114	119	125	130	134	0.8	0.9
	Received	254	272	304	325	348	372	387	1.9	1.4

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	2	2	3	3	3	3	3	1.8	0.8
	Received	1	1	1	1	1	1	1	1.8	1.0
Great Lakes and Seaway	Shipped	434	437	441	444	446	448	450	0.2	0.1
	Received	434	437	441	444	446	448	450	0.2	0.1
Washington/Oregon Coast	Shipped	381	411	477	513	545	578	599	2.3	1.2
	Received	456	491	575	627	670	713	741	2.5	1.3
Columbia-Snake Willamette River	Shipped	1,736	1,879	2,172	2,313	2,446	2,583	2,670	2.2	1.1
	Received	1,708	1,850	2,141	2,281	2,413	2,549	2,635	2.3	1.1
California Coast	Shipped	66	69	74	76	78	80	81	1.1	0.5
	Received	13	7	a	a	a	a	a	-29.7	2.5
Alaska	Shipped	115	123	146	163	176	188	197	2.7	1.5
	Received	20	22	26	27	28	30	31	2.1	1.0
Hawaii and Pacific Territories	Shipped	40	48	63	68	74	80	84	4.1	1.6
	Received	149	162	185	194	203	212	218	2.0	0.9
Domestic Caribbean	Shipped	9	9	10	11	11	11	12	1.4	0.7
	Received	217	233	262	273	285	298	306	1.8	0.9
Total	Shipped	4,055	4,312	5,081	5,434	5,791	6,178	6,412	2.3	1.3
	Received	4,055	4,312	5,081	5,434	5,791	6,178	6,412	2.3	1.3

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Pulp, Paper and Allied Products
ALTERNATIVE: Baseline

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	829	918	1,117	1,227	1,352	1,458	1,542	3.1	1.8
	Imports	92	79	56	44	37	31	30	-5.5	-3.0
Illinois River	Exports	2	2	3	3	4	4	5	3.1	2.2
	Imports	72	74	77	78	80	82	83	0.6	0.5
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	261	287	346	388	430	471	502	3.1	2.0
	Imports	26	22	16	12	11	9	8	-5.5	-3.0
Gulf Coast East	Exports	260	287	347	387	428	467	496	3.1	1.9
	Imports	34	29	21	16	14	11	11	-5.5	-3.0
Warrior River System	Exports	142	158	195	210	229	244	256	3.0	1.5
	Imports	104	96	85	78	74	71	69	-2.2	-0.9
South Atlantic Coast	Exports	1,458	1,614	2,044	2,243	2,464	2,652	2,738	3.4	1.5
	Imports	359	335	302	275	254	237	228	-2.0	-1.4
Middle Atlantic Coast	Exports	389	428	527	595	659	725	768	3.3	2.0
	Imports	642	590	519	461	415	379	367	-2.5	-1.9

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SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	64	71	89	98	109	118	123	3.3	1.7
	Imports	87	85	83	81	80	78	77	-0.5	-0.4
Great Lakes and Seaway	Exports	3	4	4	5	5	6	6	2.5	2.0
	Imports	345	346	352	348	345	342	343	0.1	-0.1
Washington/Oregon Coast	Exports	682	686	656	628	648	640	643	-0.6	0.2
	Imports	242	237	230	220	210	202	198	-0.7	-0.8
Columbia-Snake Willamette River	Exports	269	266	253	247	254	254	257	-0.7	0.3
	Imports	1	1	1	1	1	1	1	-1.6	-1.4
California Coast	Exports	380	387	372	351	364	355	355	-0.6	0.1
	Imports	606	580	542	502	466	439	423	-1.4	-1.3
Alaska	Exports	252	259	250	233	242	234	233	-0.6	0.0
	Imports	13	12	12	11	10	9	9	-1.5	-1.4
Hawaii and Pacific Territories	Exports	a	a	a	a	a	a	a	2.6	2.0
	Imports	24	22	20	18	16	15	14	-2.1	-1.7
Domestic Caribbean	Exports	21	23	26	30	33	36	39	2.6	2.0
	Imports	37	34	31	28	25	23	22	-2.1	-1.7
Total	Exports	5,015	5,391	6,231	6,645	7,221	7,666	7,962	2.2	1.4
	Imports	2,683	2,543	2,346	2,174	2,037	1,930	1,878	-1.6	-1.1

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Pulp, Paper and Allied Products
ALTERNATIVE: *Baseline*

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	15	15	16	17	17	18	18	0.9	0.6
Lower Upper Mississippi	56	59	65	69	74	80	84	1.7	1.4
Lower Mississippi	369	383	408	411	428	445	456	0.8	0.8
Baton Rouge to Gulf	551	576	861	949	1,065	1,203	1,277	4.3	2.3
Illinois River	29	31	36	40	44	49	52	2.4	2.1
Missouri River	6	6	7	7	7	7	7	0.8	0.4
Ohio River	44	46	48	36	37	38	38	-1.5	0.4
Tennessee River	163	171	185	195	205	217	225	1.4	1.1
Arkansas River	122	126	132	136	139	142	144	0.8	0.5
Gulf Coast West	68	70	74	77	80	83	85	1.0	0.7
Gulf Coast East	182	190	206	231	243	256	267	1.9	1.1
Warrior River System	26	27	30	44	47	50	51	4.3	1.1
Great Lakes	434	437	441	444	446	448	450	0.2	0.1

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC
COMMODITY: Pulp, Paper and Allied Products
ALTERNATIVE: Baseline

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	7	8	8	8	9	9	9	0.9	0.6
Lower Upper Mississippi	12	13	14	15	16	17	18	1.7	1.5
Lower Mississippi	102	107	126	127	136	147	153	1.6	1.5
Baton Rouge to Gulf	60	63	101	112	127	145	155	4.9	2.5
Illinois River	3	3	3	4	4	5	5	2.4	2.1
Missouri River	4	4	4	4	4	4	4	0.8	0.4
Ohio River	10	10	11	10	11	11	11	0.2	0.4
Tennessee River	19	20	21	22	22	23	23	0.9	0.6
Arkansas River	10	11	11	12	12	12	12	0.8	0.5
Gulf Coast West	14	14	15	15	16	17	17	1.0	0.7
Gulf Coast East	31	33	36	40	42	45	46	1.9	1.2
Warrior River System	1	1	1	5	5	5	6	16.0	0.6
Great Lakes	119	120	121	122	122	123	123	0.2	0.1
Total	393	405	473	495	526	562	583	1.8	1.3

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Pulp, Paper and Allied Products
ALTERNATIVE: Low Use

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	1	1	1	1	1	2	2	2.4	2.1
	Received	14	14	15	16	16	16	16	0.8	0.4
Lower Upper Mississippi	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	6	6	6	6	6	7	7	0.8	0.4
Lower Mississippi	Shipped	195	202	216	224	232	241	247	1.0	0.8
	Received	3	3	3	4	4	4	4	0.8	0.4
Baton Rouge to Gulf	Shipped	102	109	361	442	536	650	709	11.9	3.7
	Received	466	487	763	858	968	1,099	1,168	4.8	2.4
Illinois River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	29	31	36	40	44	49	52	2.4	2.1
Missouri River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	6	6	7	7	7	7	7	0.8	0.4
Ohio River	Shipped	3	3	3	3	3	3	3	0.8	0.4
	Received	13	14	14	15	15	15	16	0.8	0.4
Tennessee River	Shipped	163	171	185	195	205	217	225	1.4	1.1
	Received	131	138	150	159	169	180	187	1.5	1.3
Arkansas River	Shipped	118	122	128	131	133	136	138	0.8	0.4
	Received	4	4	4	5	5	6	6	2.4	2.1
Gulf Coast West	Shipped	47	49	52	54	56	59	60	1.1	0.9
	Received	39	40	42	42	43	44	45	0.7	0.4
Gulf Coast East	Shipped	138	145	157	166	176	186	193	1.4	1.2
	Received	28	29	31	32	34	35	36	1.1	0.8
Warrior River System	Shipped	17	18	20	21	23	25	26	1.8	1.6
	Received	9	9	10	11	11	12	12	1.3	1.1
South Atlantic Coast	Shipped	379	406	457	488	521	556	579	2.0	1.3
	Received	53	57	63	69	75	82	86	1.9	1.7
Middle Atlantic Coast	Shipped	108	108	114	119	125	130	134	0.8	0.9
	Received	254	272	304	325	348	372	387	1.9	1.4

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	2	2	3	3	3	3	3	1.8	0.8
	Received	1	1	1	1	1	1	1	1.8	1.0
Great Lakes and Seaway	Shipped	434	437	441	444	446	448	450	0.2	0.1
	Received	434	437	441	444	446	448	450	0.2	0.1
Washington/Oregon Coast	Shipped	381	411	477	513	545	578	599	2.3	1.2
	Received	456	491	575	627	670	713	741	2.5	1.3
Columbia-Snake Willamette River	Shipped	1,736	1,879	2,172	2,313	2,446	2,583	2,670	2.2	1.1
	Received	1,708	1,850	2,141	2,261	2,413	2,549	2,635	2.3	1.1
California Coast	Shipped	66	69	74	76	78	80	81	1.1	0.5
	Received	13	7	a	a	a	a	a	-29.7	2.5
Alaska	Shipped	115	123	146	163	176	188	197	2.7	1.5
	Received	20	22	26	27	28	30	31	2.1	1.0
Hawaii and Pacific Territories	Shipped	40	48	63	68	74	80	84	4.1	1.6
	Received	149	162	185	194	203	212	218	2.0	0.9
Domestic Caribbean	Shipped	9	9	10	11	11	11	12	1.4	0.7
	Received	217	233	262	273	285	298	306	1.8	0.9
Total	Shipped	4,055	4,312	5,081	5,434	5,791	6,178	6,412	2.3	1.3
	Received	4,055	4,312	5,081	5,434	5,791	6,178	6,412	2.3	1.3

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Pulp, Paper and Allied Products
ALTERNATIVE: Low Use

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	C	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	829	918	1,117	1,227	1,352	1,458	1,542	3.1	1.8
	Imports	92	79	56	44	37	31	30	-5.5	-3.0
Illinois River	Exports	2	2	3	3	4	4	5	3.1	2.2
	Imports	72	74	77	78	80	82	83	0.6	0.5
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	261	287	346	388	430	471	502	3.1	2.0
	Imports	26	22	16	12	11	9	8	-5.5	-3.0
Gulf Coast East	Exports	260	287	347	387	428	467	496	3.1	1.9
	Imports	34	29	21	16	14	11	11	-5.5	-3.0
Warrior River System	Exports	142	158	195	210	229	244	256	3.0	1.5
	Imports	104	96	85	78	74	71	69	-2.2	-0.9
South Atlantic Coast	Exports	1,458	1,614	2,044	2,243	2,464	2,652	2,738	3.4	1.5
	Imports	359	335	302	275	254	237	228	-2.0	-1.4
Middle Atlantic Coast	Exports	389	428	527	595	659	725	768	3.3	2.0
	Imports	642	590	519	461	415	370	362	-2.5	-1.9

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-00
North Atlantic Coast	Exports	64	71	89	98	109	118	123	3.3	1.7
	Imports	87	85	83	81	80	78	77	-0.5	-0.4
Great Lakes and Seaway	Exports	3	4	4	5	5	6	6	2.5	2.0
	Imports	345	346	352	348	345	342	343	0.1	-0.1
Washington/Oregon Coast	Exports	682	686	656	628	648	640	643	-0.6	0.2
	Imports	242	237	230	220	210	202	198	-0.7	-0.8
Columbia-Snake Willamette River	Exports	269	266	253	247	254	254	257	0.7	0.3
	Imports	1	1	1	1	1	1	1	-1.6	-1.4
California Coast	Exports	380	387	372	351	364	355	355	-0.6	0.1
	Imports	606	580	542	502	466	439	423	-1.4	-1.3
Alaska	Exports	252	259	250	233	242	234	233	-0.6	0.0
	Imports	13	12	12	11	10	9	9	-1.5	-1.4
Hawaii and Pacific Territories	Exports	a	a	a	a	a	a	a	2.6	2.0
	Imports	24	22	20	18	16	15	14	-2.1	-1.7
Domestic Caribbean	Exports	21	23	26	30	33	36	39	2.6	2.0
	Imports	37	34	31	28	25	23	22	-2.1	-1.7
Total	Exports	5,015	5,391	6,231	6,645	7,221	7,666	7,962	2.2	1.4
	Imports	2,683	2,543	2,346	2,174	2,037	1,930	1,878	-1.6	-1.1

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Pulp, Paper and Allied Products
ALTERNATIVE: Low Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	15	15	16	17	17	18	18	0.9	0.6
Lower Upper Mississippi	56	59	65	69	74	80	84	1.7	1.4
Lower Mississippi	369	383	408	411	428	445	456	0.8	0.8
Baton Rouge to Gulf	551	576	861	949	1,065	1,203	1,277	4.3	2.3
Illinois River	29	31	36	40	44	49	52	2.4	2.1
Missouri River	6	6	7	7	7	7	7	0.8	0.4
Ohio River	44	46	48	36	37	38	38	-1.5	0.4
Tennessee River	163	171	185	195	205	217	225	1.4	1.1
Arkansas River	122	126	132	136	139	142	144	0.8	0.5
Gulf Coast West	68	70	74	77	80	83	85	1.0	0.7
Gulf Coast East	182	190	206	231	243	258	267	1.9	1.1
Warrior River System	26	27	30	44	47	50	51	4.3	1.1
Great Lakes	434	437	441	444	446	448	450	0.2	0.1

s = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Pulp, Paper and Allied Products
ALTERNATIVE: Low Use

SEGMENT	YEARS							% GROWTH	
	1977	1980	1985	1990	1995	2000	2003	77-90	90-03
Upper Mississippi	7	8	8	8	9	9	9	0.9	0.6
Lower Upper Mississippi	12	13	14	15	16	17	18	1.7	1.5
Lower Mississippi	102	107	126	127	136	147	153	1.6	1.5
Baton Rouge to Gulf	60	63	101	112	127	145	155	4.9	2.5
Illinois River	3	3	3	4	4	5	5	2.4	2.1
Missouri River	4	4	4	4	4	4	4	0.8	0.4
Ohio River	10	10	11	10	11	11	11	0.2	0.4
Tennessee River	19	20	21	22	22	23	23	0.9	0.6
Arkansas River	10	11	11	12	12	12	12	0.8	0.5
Gulf Coast West	14	14	15	15	16	17	17	1.0	0.7
Gulf Coast East	31	33	36	40	42	45	46	1.9	1.2
Warrior River System	1	1	1	5	5	5	6	16.0	0.6
Great Lakes	119	120	121	122	122	123	123	0.2	0.1
Total	393	405	473	495	526	562	583	1.8	1.3

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Pulp, Paper and Allied Products
ALTERNATIVE: High Use

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	1	1	1	1	1	2	2	2.4	2.1
	Received	14	14	15	16	16	16	16	0.8	0.4
Lower Upper Mississippi	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	6	6	6	6	6	7	7	0.8	0.4
Lower Mississippi	Shipped	195	202	216	224	232	241	247	1.0	0.8
	Received	3	3	3	4	4	4	4	0.8	0.4
Baton Rouge to Gulf	Shipped	102	109	361	442	536	650	709	11.9	3.7
	Received	466	487	763	858	968	1,099	1,168	4.8	2.4
Illinois River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	29	31	36	40	44	49	52	2.4	2.1
Missouri River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	6	6	7	7	7	7	7	0.8	0.4
Ohio River	Shipped	3	3	3	3	3	3	3	0.8	0.4
	Received	13	14	14	15	15	15	16	0.8	0.4
Tennessee River	Shipped	163	171	185	195	205	217	225	1.4	1.1
	Received	131	138	150	159	169	180	187	1.5	1.3
Arkansas River	Shipped	118	122	128	131	133	136	138	0.8	0.4
	Received	4	4	4	5	5	6	6	2.4	2.1
Gulf Coast West	Shipped	47	49	52	54	56	59	60	1.1	0.9
	Received	39	40	42	42	43	44	45	0.7	0.4
Gulf Coast East	Shipped	138	145	157	166	176	186	193	1.4	1.2
	Received	28	29	31	32	34	35	36	1.1	0.8
Warrior River System	Shipped	17	18	20	21	23	25	26	1.8	1.6
	Received	9	9	10	11	11	12	12	1.3	1.1
South Atlantic Coast	Shipped	379	406	457	488	521	556	579	2.0	1.3
	Received	53	57	63	69	75	82	86	1.9	1.7
Middle Atlantic Coast	Shipped	108	108	114	119	125	130	134	0.8	0.9
	Received	254	272	304	325	348	372	387	1.9	1.4

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SEGMENT	IN/OUT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
North Atlantic Coast	Shipped	2	2	3	3	3	3	3	1.8	0.8
	Received	1	1	1	1	1	1	1	1.8	1.0
Great Lakes and Seaway	Shipped	434	437	441	444	446	448	450	0.2	0.1
	Received	434	437	441	444	446	448	450	0.2	0.1
Washington/Oregon Coast	Shipped	381	411	477	513	545	578	599	2.3	1.2
	Received	456	491	575	627	670	713	741	2.5	1.3
Columbia-Snake Willamette River	Shipped	1,736	1,879	2,172	2,313	2,446	2,583	2,670	2.2	1.1
	Received	1,708	1,850	2,141	2,281	2,413	2,549	2,635	2.3	1.1
California Coast	Shipped	66	69	74	76	78	80	81	1.1	0.5
	Received	13	7	a	a	a	a	a	-29.7	2.5
Alaska	Shipped	115	123	146	163	176	188	197	2.7	1.5
	Received	20	22	26	27	28	30	31	2.1	1.0
Hawaii and Pacific Territories	Shipped	40	48	63	68	74	80	84	4.1	1.6
	Received	149	162	185	194	203	212	218	2.0	0.9
Domestic Caribbean	Shipped	9	9	10	11	11	11	12	1.4	0.7
	Received	217	233	262	273	285	298	306	1.8	0.9
Total	Shipped	4,055	4,312	5,081	5,434	5,791	6,178	6,412	2.3	1.3
	Received	4,055	4,312	5,081	5,434	5,791	6,178	6,412	2.3	1.3

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Pulp, Paper and Allied Products
ALTERNATIVE: High Use

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	829	918	1,117	1,227	1,352	1,458	1,542	3.1	1.8
	Imports	92	79	56	44	37	31	30	-5.5	-3.0
Illinois River	Exports	2	2	3	3	4	4	5	3.1	2.2
	Imports	72	74	77	78	80	82	83	0.6	0.5
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	261	287	346	388	430	471	502	3.1	2.0
	Imports	26	22	16	12	11	9	8	-5.5	-3.0
Gulf Coast East	Exports	260	287	347	387	428	467	496	3.1	1.9
	Imports	34	29	21	16	14	11	11	-5.5	-3.0
Warrior River System	Exports	142	158	195	210	229	244	256	3.0	1.5
	Imports	104	96	85	78	74	71	69	-2.2	-0.9
South Atlantic Coast	Exports	1,458	1,614	2,044	2,243	2,464	2,652	2,738	3.4	1.5
	Imports	359	335	302	275	254	237	228	-2.0	-1.4
Middle Atlantic Coast	Exports	389	428	527	595	659	725	768	3.3	2.0
	Imports	642	590	519	461	415	379	362	-2.5	-1.9

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	64	71	69	98	109	118	123	3.3	1.7
	Imports	87	85	83	81	80	78	77	-0.5	-0.4
Great Lakes and Seaway	Exports	3	4	4	5	5	6	6	2.5	2.0
	Imports	345	346	352	348	345	342	343	0.1	-0.1
Washington/Oregon Coast	Exports	682	686	656	628	648	640	643	-0.6	0.2
	Imports	242	237	230	220	210	202	198	-0.7	-0.8
Columbia-Snake Willamette River	Exports	269	266	253	247	254	254	257	-0.7	0.3
	Imports	1	1	1	1	1	1	1	-1.6	-1.4
California Coast	Exports	380	387	372	351	364	355	355	-0.6	0.1
	Imports	606	580	542	502	466	439	423	-1.4	-1.3
Alaska	Exports	252	259	250	233	242	234	233	-0.6	0.0
	Imports	13	12	12	11	10	9	9	-1.5	-1.4
Hawaii and Pacific Territories	Exports	a	a	a	a	a	a	a	2.6	2.0
	Imports	24	22	20	18	16	15	14	-2.1	-1.7
Domestic Caribbean	Exports	21	23	26	30	33	36	39	2.6	2.0
	Imports	37	34	31	28	25	23	22	-2.1	-1.7
Total	Exports	5,015	5,391	6,231	6,645	7,221	7,666	7,962	2.2	1.4
	Imports	2,683	2,543	2,346	2,174	2,037	1,930	1,878	-1.6	-1.1

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Pulp, Paper and Allied Products
ALTERNATIVE: High Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	15	15	16	17	17	18	18	0.9	0.6
Lower Upper Mississippi	56	59	65	69	74	80	84	1.7	1.4
Lower Mississippi	369	383	408	411	428	445	456	0.8	0.8
Baton Rouge to Gulf	551	576	861	949	1,065	1,203	1,277	4.3	2.3
Illinois River	29	31	36	40	44	49	52	2.4	2.1
Missouri River	6	6	7	7	7	7	7	0.8	0.4
Ohio River	44	46	48	36	37	38	38	-1.5	0.4
Tennessee River	163	171	185	195	205	217	225	1.4	1.1
Arkansas River	122	126	132	136	139	142	144	0.8	0.5
Gulf Coast West	68	70	74	77	80	83	85	1.0	0.7
Gulf Coast East	182	190	206	231	243	258	267	1.9	1.1
Warrior River System	26	27	30	44	47	50	51	4.3	1.1
Great Lakes	434	437	441	444	446	448	450	0.2	0.1

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Pulp, Paper and Allied Products
ALTERNATIVE: High Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	7	8	8	8	9	9	9	0.9	0.6
Lower Upper Mississippi	12	13	14	15	16	17	18	1.7	1.5
Lower Mississippi	102	107	126	127	136	147	153	1.6	1.5
Baton Rouge to Gulf	60	63	101	112	127	145	155	4.9	2.5
Illinois River	3	3	3	4	4	5	5	2.4	2.1
Missouri River	4	4	4	4	4	4	4	0.8	0.4
Ohio River	10	10	11	10	11	11	11	0.2	0.4
Tennessee River	19	20	21	22	22	23	23	0.9	0.6
Arkansas River	10	11	11	12	12	12	12	0.8	0.5
Gulf Coast West	14	14	15	15	16	17	17	1.0	0.7
Gulf Coast East	31	33	36	40	42	45	46	1.9	1.2
Warrior River System	1	1	1	5	5	5	6	16.0	0.6
Great Lakes	119	120	121	122	122	123	123	0.2	0.1
Total	393	405	473	495	526	562	583	1.8	1.3

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Pulp, Paper and Allied Products
ALTERNATIVE: Bad Energy

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	1	1	1	1	1	2	2	2.4	2.1
	Received	14	14	15	16	16	16	16	0.8	0.4
Lower Upper Mississippi	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	6	6	6	6	6	7	7	0.8	0.4
Lower Mississippi	Shipped	195	202	216	224	232	241	247	1.0	0.8
	Received	3	3	3	4	4	4	4	0.8	0.4
Baton Rouge to Gulf	Shipped	102	109	361	442	536	650	709	11.9	3.7
	Received	466	487	763	858	968	1,099	1,168	4.8	2.4
Illinois River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	29	31	36	40	44	49	52	2.4	2.1
Missouri River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	6	6	7	7	7	7	7	0.8	0.4
Ohio River	Shipped	3	3	3	3	3	3	3	0.8	0.4
	Received	13	14	14	15	15	15	16	0.8	0.4
Tennessee River	Shipped	163	171	185	195	205	217	225	1.4	1.1
	Received	131	138	150	159	169	180	187	1.5	1.3
Arkansas River	Shipped	118	122	128	131	133	136	138	0.8	0.4
	Received	4	4	4	5	5	6	6	2.4	2.1
Gulf Coast West	Shipped	47	49	52	54	56	59	60	1.1	0.9
	Received	39	40	42	42	43	44	45	0.7	0.4
Gulf Coast East	Shipped	138	145	157	166	176	186	193	1.4	1.2
	Received	28	29	31	32	34	35	36	1.1	0.8
Warrior River System	Shipped	17	18	20	21	23	25	26	1.8	1.6
	Received	9	9	10	11	11	12	12	1.3	1.1
South Atlantic Coast	Shipped	379	406	457	488	521	556	579	2.0	1.3
	Received	53	57	63	69	75	82	86	1.9	1.7
Middle Atlantic Coast	Shipped	108	108	114	119	125	130	134	0.8	0.9
	Received	254	272	304	325	348	372	387	1.9	1.4

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	2	2	3	3	3	3	3	1.8	0.8
	Received	1	1	1	1	1	1	1	1.8	1.0
Great Lakes and Seaway	Shipped	434	437	441	444	446	448	450	0.2	0.1
	Received	434	437	441	444	446	448	450	0.2	0.1
Washington/Oregon Coast	Shipped	381	411	477	513	545	578	599	2.3	1.2
	Received	456	491	575	627	670	713	741	2.5	1.3
Columbia-Snake Willamette River	Shipped	1,736	1,879	2,172	2,313	2,446	2,583	2,670	2.2	1.1
	Received	1,708	1,850	2,141	2,281	2,413	2,549	2,635	2.3	1.1
California Coast	Shipped	66	69	74	76	78	80	81	1.1	0.5
	Received	13	7	a	a	a	a	a	-29.7	2.5
Alaska	Shipped	115	123	146	163	176	188	197	2.7	1.5
	Received	20	22	26	27	28	30	31	2.1	1.0
Hawaii and Pacific Territories	Shipped	40	48	63	68	74	80	84	4.1	1.6
	Received	149	162	185	194	203	212	218	2.0	0.9
Domestic Caribbean	Shipped	9	9	10	11	11	11	12	1.4	0.7
	Received	217	233	262	273	285	298	306	1.8	0.9
Total	Shipped	4,055	4,312	5,081	5,434	5,791	6,178	6,412	2.3	1.3
	Received	4,055	4,312	5,081	5,434	5,791	6,178	6,412	2.3	1.3

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Pulp, Paper and Allied Products
ALTERNATIVE: Bad Energy

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	829	918	1,117	1,227	1,352	1,458	1,542	3.1	1.8
	Imports	92	79	56	44	37	31	30	-5.5	-3.0
Illinois River	Exports	2	2	3	3	4	4	5	3.1	2.2
	Imports	72	74	77	78	80	82	83	0.6	0.5
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	261	287	346	388	430	471	502	3.1	2.0
	Imports	26	22	16	12	11	9	8	-5.5	-3.0
Gulf Coast East	Exports	260	287	347	387	428	467	496	3.1	1.9
	Imports	34	29	21	16	14	11	11	-5.5	-3.0
Warrior River System	Exports	142	158	195	210	229	244	256	3.0	1.5
	Imports	104	96	85	78	74	71	69	-2.2	-0.9
South Atlantic Coast	Exports	1,458	1,614	2,044	2,243	2,464	2,652	2,738	3.4	1.5
	Imports	359	335	302	275	254	237	228	-2.0	-1.4
Middle Atlantic Coast	Exports	389	428	527	595	659	725	768	3.3	2.0
	Imports	642	590	519	461	415	379	362	-2.5	-1.9

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	64	71	89	98	109	118	123	3.3	1.7
	Imports	87	85	83	81	80	78	77	-0.5	-0.4
Great Lakes and Seaway	Exports	3	4	4	5	5	6	6	2.5	2
	Imports	345	346	352	348	345	342	343	0.1	-0.1
Washington/Oregon Coast	Exports	682	686	656	628	648	640	643	-0.6	0.2
	Imports	242	237	230	220	210	202	198	-0.7	-0.8
Columbia-Snake Willamette River	Exports	269	266	253	247	254	254	257	-0.7	0.3
	Imports	1	1	1	1	1	1	1	-1.6	-1.4
California Coast	Exports	380	387	372	351	364	355	355	-0.6	0.1
	Imports	606	580	542	502	466	439	423	-1.4	-1.3
Alaska	Exports	252	259	250	243	242	234	233	-0.6	0.0
	Imports	13	12	12	11	10	9	9	-1.5	-1.4
Hawaii and Pacific Territories	Exports	a	a	a	a	a	a	a	2.6	2.0
	Imports	24	22	20	18	16	15	14	-2.1	-1.7
Domestic Caribbean	Exports	21	23	26	30	33	36	39	2.6	2.0
	Imports	37	34	31	28	25	23	22	-2.1	-1.7
Total	Exports	5,015	5,391	6,231	6,845	7,221	7,666	7,962	2.2	1.4
	Imports	2,683	2,543	2,346	2,174	2,037	1,930	1,878	-1.6	-1.1

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Pulp, Paper and Allied Products
ALTERNATIVE: Bad Energy

SEGMENT	YEARS							% GROWTH	
	1977	1980	1985	1990	1995	2000	2003	77-90	90-03
Upper Mississippi	15	15	16	17	17	18	18	0.9	0.6
Lower Upper Mississippi	56	59	65	69	74	80	84	1.7	1.4
Lower Mississippi	369	383	408	411	428	445	456	0.8	0.8
Baton Rouge to Gulf	551	576	861	949	1,065	1,203	1,277	4.3	2.3
Illinois River	29	31	36	40	44	49	52	2.4	2.1
Missouri River	6	6	7	7	7	7	7	0.8	0.4
Ohio River	44	46	48	36	37	38	38	-1.5	0.4
Tennessee River	163	171	185	195	205	217	225	1.4	1.1
Arkansas River	122	126	132	136	139	142	144	0.8	0.5
Gulf Coast West	68	70	74	77	80	83	85	1.0	0.7
Gulf Coast East	182	190	206	231	243	258	267	1.9	1.1
Warrior River System	26	27	30	44	47	50	51	4.3	1.1
Great Lakes	434	437	441	444	446	448	450	0.2	0.1

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Pulp, Paper and Allied Products
ALTERNATIVE: Bad Energy

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	7	8	8	8	9	9	9	0.9	0.6
Lower Upper Mississippi	12	13	14	15	16	17	18	1.7	1.5
Lower Mississippi	102	107	126	127	136	147	153	1.6	1.5
Baton Rouge to Gulf	60	63	101	112	127	145	155	4.9	2.5
Illinois River	3	3	3	4	4	5	5	2.4	2.1
Missouri River	4	4	4	4	4	4	4	0.8	0.4
Ohio River	10	10	11	10	11	11	11	0.2	0.4
Tennessee River	19	20	21	22	22	23	23	0.9	0.8
Arkansas River	10	11	11	12	12	12	12	0.8	0.5
Gulf Coast West	14	14	15	15	16	17	17	1.0	0.7
Gulf Coast East	31	33	36	40	42	45	46	1.9	1.2
Warrior River System	1	1	1	5	5	5	6	16.0	0.6
Great Lakes	119	120	121	122	122	123	123	0.2	0.1
Total	393	405	473	495	526	562	583	1.8	1.3

e = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Pulp, Paper and Allied Products
ALTERNATIVE: Defense

SEGMENT	IN/OUT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Shipped	1	1	1	1	1	2	2	3.7	0.9
	Received	14	14	15	20	16	16	16	2.7	-1.4
Lower Upper Mississippi	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	6	6	6	8	6	7	7	2.7	-1.4
Lower Mississippi	Shipped	195	202	216	281	232	241	247	2.8	-1.0
	Received	3	3	3	5	4	4	4	2.7	-1.4
Baton Rouge to Gulf	Shipped	102	109	361	468	536	650	709	12.4	3.3
	Received	466	487	763	991	968	1,099	1,168	6.0	1.3
Illinois River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	29	31	36	46	44	49	52	3.7	0.9
Missouri River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	6	6	7	9	7	7	7	2.7	-1.4
Ohio River	Shipped	3	3	3	4	3	3	3	2.7	-1.4
	Received	13	14	14	19	15	15	16	2.7	-1.4
Tennessee River	Shipped	163	171	185	240	205	217	225	3.0	-0.5
	Received	131	138	150	195	169	180	187	3.1	-0.3
Arkansas River	Shipped	118	122	128	167	133	136	138	2.7	-1.4
	Received	4	4	4	6	5	6	6	3.7	0.9
Gulf Coast West	Shipped	47	49	52	67	56	59	60	2.9	-0.8
	Received	39	40	42	54	43	44	45	2.6	-1.4
Gulf Coast East	Shipped	138	145	157	205	176	186	193	3.1	-0.4
	Received	28	29	31	40	34	35	36	2.9	-0.9
Warrior River System	Shipped	17	18	20	25	23	25	26	3.3	0.1
	Received	9	9	10	13	11	12	12	3.0	-0.6
South Atlantic Coast	Shipped	379	406	457	595	521	556	579	3.5	-0.2
	Received	53	57	63	82	75	82	86	3.3	0.4
Middle Atlantic Coast	Shipped	108	108	114	148	125	130	134	2.5	-0.8
	Received	254	272	304	396	348	372	387	3.5	-0.2

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SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	2	2	3	4	3	3	3	3.6	-0.9
	Received	1	1	1	1	1	1	1	3.5	-0.6
Great Lakes and Seaway	Shipped	434	437	441	574	446	448	450	2.2	-1.9
	Received	434	437	441	574	446	448	450	2.2	-1.9
Washington/Oregon Coast	Shipped	381	411	477	620	545	578	599	3.8	-0.3
	Received	456	491	575	748	670	713	741	3.9	-0.1
Columbia-Snake Willamette River	Shipped	1,736	1,879	2,172	2,827	2,446	2,583	2,670	3.8	-0.4
	Received	1,708	1,850	2,141	2,786	2,413	2,549	2,635	3.8	-0.4
California Coast	Shipped	66	69	74	96	78	80	81	2.9	-1.3
	Received	13	7	a	a	a	a	a	-27.1	-1.2
Alaska	Shipped	115	123	146	189	176	188	197	3.9	0.3
	Received	20	22	26	33	28	30	31	3.8	-0.6
Hawaii and Pacific Territories	Shipped	40	48	63	82	74	80	84	5.6	0.1
	Received	149	162	185	241	203	212	218	3.8	-0.8
Domestic Caribbean	Shipped	9	9	10	14	11	11	12	3.3	-1.1
	Received	217	233	262	341	285	298	306	3.5	-0.8
Total	Shipped	4,055	4,312	5,081	6,609	5,791	6,178	6,412	3.8	-0.2
	Received	4,055	4,312	5,081	6,609	5,791	6,178	6,412	3.8	-0.2

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Pulp, Paper and Allied Products
ALTERNATIVE: Defense

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	829	918	1,117	1,094	1,352	1,458	1,542	2.2	2.7
	Imports	92	79	56	43	37	31	30	-5.6	-2.9
Illinois River	Exports	2	2	3	3	4	4	5	1.9	3.5
	Imports	72	74	77	60	80	82	83	-1.4	2.6
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	261	287	346	339	430	471	502	2.0	3.1
	Imports	26	22	16	12	11	9	8	-5.6	-2.9
Gulf Coast East	Exports	260	287	347	340	428	467	496	2.1	3.0
	Imports	34	29	21	16	14	11	11	-5.6	-2.9
Warrior River System	Exports	142	158	195	191	229	244	256	2.3	2.3
	Imports	104	96	85	66	74	71	69	-3.4	0.4
South Atlantic Coast	Exports	1,458	1,614	2,044	2,001	2,464	2,652	2,738	2.5	2.4
	Imports	359	335	302	234	254	237	228	-3.2	-0.2
Middle Atlantic Coast	Exports	389	428	527	516	659	725	768	2.2	3.1
	Imports	642	590	519	402	415	379	362	-3.5	-0.8

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SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	64	71	89	87	109	118	123	2.4	2.7
	Imports	87	85	83	65	80	78	77	-2.3	1.4
Great Lakes and Seaway	Exports	3	4	4	4	5	6	6	1.4	3.0
	Imports	345	346	352	273	345	342	343	-1.8	1.8
Washington/Oregon Coast	Exports	682	686	656	642	648	640	643	-0.5	0.0
	Imports	242	237	230	178	210	202	198	-2.3	0.8
Columbia-Snake Willamette River	Exports	269	266	253	248	254	254	257	-0.6	0.3
	Imports	1	1	1	1	1	1	1	-2.9	-0.1
California Coast	Exports	380	387	372	365	364	355	355	-0.3	-0.2
	Imports	606	580	542	420	466	439	423	-2.8	0.1
Alaska	Exports	252	259	250	245	242	234	233	-0.2	-0.4
	Imports	13	12	12	9	10	9	9	-2.9	-0.1
Hawaii and Pacific Territories	Exports	a	a	a	a	a	a	a	1.5	3.2
	Imports	24	22	20	16	16	15	14	-3.2	-0.6
Domestic Caribbean	Exports	21	23	28	26	33	36	39	1.5	3.1
	Imports	37	34	31	24	25	23	22	-3.2	-0.6
Total	Exports	5,015	5,391	6,231	6,098	7,221	7,666	7,962	1.5	2.1
	Imports	2,683	2,543	2,346	1,818	2,037	1,930	1,878	-3.0	0.3

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Pulp, Paper and Allied Products
ALTERNATIVE: Defense

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	15	15	16	21	17	18	18	2.7	-1.3
Lower Upper Midsissippi	56	59	65	84	74	80	84	3.2	-0.1
Lower Mississippi	369	383	408	515	428	445	456	2.6	-0.9
Baton Rouge to Gulf	551	576	861	1,102	1,065	1,203	1,277	5.5	1.1
Illinois River	29	31	36	46	44	49	52	3.7	0.9
Missouri River	6	6	7	9	7	7	7	2.7	-1.4
Ohio River	44	46	48	46	37	38	38	0.3	-1.4
Tennessee River	163	171	185	240	205	217	225	3.0	-0.5
Arkansas River	122	126	132	172	139	142	144	2.7	-1.3
Gulf Coast West	68	70	74	97	80	83	85	2.8	-1.0
Gulf Coast East	182	190	206	285	243	258	267	3.5	-0.5
Warrior River System	26	27	30	55	47	50	51	6.0	-0.5
Great Lakes	434	437	441	574	446	448	450	2.2	-1.9

a = less than 500 tons

7/30/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Pulp, Paper and Allied Products
ALTERNATIVE: Defense

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	7	8	8	11	9	9	9	2.7	-1.3
Lower Upper Mississippi	12	13	14	18	16	17	18	3.3	0.0
Lower Mississippi	102	107	126	154	136	147	153	3.2	0.0
Baton Rouge to Gulf	60	63	101	128	127	145	155	6.0	1.4
Illinois River	3	3	3	4	4	5	5	3.7	0.9
Missouri River	4	4	4	5	4	4	4	2.7	-1.4
Ohio River	10	10	11	13	11	11	11	2.1	-1.4
Tennessee River	19	20	21	28	22	23	23	2.8	-1.2
Arkansas River	10	11	11	15	12	12	12	2.7	-1.3
Gulf Coast West	14	14	15	19	16	17	17	2.8	-1.0
Gulf Coast East	31	33	36	49	42	45	46	3.5	-0.4
Warrior River System	1	1	1	6	5	5	6	18.1	-1.2
Great Lakes	119	120	121	157	122	123	123	2.2	-1.9
Total	393	405	473	608	526	562	583	3.4	-0.3

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Pulp, Paper and Allied Products
ALTERNATIVE: High Coal Export

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	1	1	1	1	1	2	2	2.4	2.1
	Received	14	14	15	16	16	16	16	0.8	0.4
Lower Upper Mississippi	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	6	6	6	6	6	7	7	0.8	0.4
Lower Mississippi	Shipped	195	202	216	224	232	241	247	1.0	0.8
	Received	3	3	3	4	4	4	4	0.8	0.4
Baton Rouge to Gulf	Shipped	102	109	361	442	536	650	709	11.9	3.7
	Received	466	487	763	858	968	1,099	1,168	4.8	2.4
Illinois River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	29	31	36	40	44	49	52	2.4	2.1
Missouri River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	6	6	7	7	7	7	7	0.8	0.4
Ohio River	Shipped	3	3	3	3	3	3	3	0.8	0.4
	Received	13	14	14	15	15	15	16	0.8	0.4
Tennessee River	Shipped	163	171	185	195	205	217	225	1.4	1.1
	Received	131	138	150	159	169	180	187	1.5	1.3
Arkansas River	Shipped	118	122	128	131	133	136	138	0.8	0.4
	Received	4	4	4	5	5	6	6	2.4	2.1
Gulf Coast West	Shipped	47	49	52	54	56	59	60	1.1	0.9
	Received	39	40	42	42	43	44	45	0.7	0.4
Gulf Coast East	Shipped	138	145	157	166	176	186	193	1.4	1.2
	Received	28	29	31	32	34	35	36	1.1	0.8
Warrior River System	Shipped	17	18	20	21	23	25	26	1.8	1.6
	Received	9	9	10	11	11	12	12	1.3	1.1
South Atlantic Coast	Shipped	379	406	457	488	521	556	579	2.0	1.3
	Received	53	57	63	69	75	82	86	1.9	1.7
Middle Atlantic Coast	Shipped	108	108	114	119	125	130	134	0.8	0.9
	Received	254	272	304	325	348	372	387	1.9	1.4

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	2	2	3	3	3	3	3	1.8	0.8
	Received	1	1	1	1	1	1	1	1.8	1.0
Great Lakes and Seaway	Shipped	434	437	441	444	446	448	450	0.2	0.1
	Received	434	437	441	444	446	448	450	0.2	0.1
Washington/Oregon Coast	Shipped	381	411	477	513	545	578	599	2.3	1.2
	Received	456	491	575	627	670	713	741	2.5	1.3
Columbia-Snake Willamette River	Shipped	1,736	1,879	2,172	2,313	2,446	2,583	2,670	2.2	1.1
	Received	1,708	1,850	2,141	2,281	2,413	2,549	2,635	2.3	1.1
California Coast	Shipped	66	69	74	76	78	80	81	1.1	0.5
	Received	13	7	a	a	a	a	a	-29.7	2.5
Alaska	Shipped	115	123	146	163	176	188	197	2.7	1.5
	Received	20	22	26	27	28	30	31	2.1	1.0
Hawaii and Pacific Territories	Shipped	40	48	63	68	74	80	84	4.1	1.6
	Received	149	162	185	194	203	212	218	2.0	0.9
Domestic Caribbean	Shipped	9	9	10	11	11	11	12	1.4	0.7
	Received	217	233	262	273	285	298	306	1.8	0.9
Total	Shipped	4,055	4,312	5,081	5,434	5,791	6,178	6,412	2.3	1.3
	Received	4,055	4,312	5,081	5,434	5,791	6,178	6,412	2.3	1.3

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Pulp, Paper and Allied Products
ALTERNATIVE: High Coal Export

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	829	918	1,117	1,227	1,352	1,458	1,542	3.1	1.8
	Imports	92	79	56	44	37	31	30	-5.5	-3.0
Illinois River	Exports	2	2	3	3	4	4	5	3.1	2.2
	Imports	72	74	77	78	80	82	83	0.6	0.5
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	261	287	346	388	430	471	502	3.1	2.0
	Imports	26	22	16	12	11	9	8	-5.5	-3.0
Gulf Coast East	Exports	260	287	347	387	428	467	496	3.1	1.9
	Imports	34	29	21	16	14	11	11	-5.5	-3.0
Warrior River System	Exports	142	158	195	210	229	244	256	3.0	1.5
	Imports	104	96	85	78	74	71	69	-2.2	-0.9
South Atlantic Coast	Exports	1,458	1,614	2,044	2,243	2,464	2,652	2,738	3.4	1.5
	Imports	359	335	302	275	254	237	228	-2.0	-1.4
Middle Atlantic Coast	Exports	389	428	527	595	659	725	768	3.3	2.0
	Imports	642	590	519	461	415	379	362	-2.5	-1.9

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	64	71	89	98	109	118	123	3.3	1.7
	Imports	87	85	83	81	80	78	77	-0.5	-0.4
Great Lakes and Seaway	Exports	3	4	4	5	5	6	6	2.5	2.0
	Imports	345	348	352	348	345	342	343	0.1	-0.1
Washington/Oregon Coast	Exports	682	686	656	628	648	640	643	-0.6	0.2
	Imports	242	237	230	220	210	202	198	-0.7	-0.8
Columbia-Snake Willamette River	Exports	269	266	253	247	254	254	257	-0.7	0.3
	Imports	1	1	1	1	1	1	1	-1.6	-1.4
California Coast	Exports	380	387	372	351	364	355	356	-0.6	0.1
	Imports	606	580	542	502	466	439	423	-1.4	-1.3
Alaska	Exports	252	259	250	233	242	234	233	-0.6	0.0
	Imports	13	12	12	11	10	9	9	-1.5	-1.4
Hawaii and Pacific Territories	Exports	a	a	a	a	a	a	a	2.6	2.0
	Imports	24	22	20	18	16	15	14	-2.1	-1.7
Domestic Caribbean	Exports	21	23	26	30	33	36	39	2.6	2.0
	Imports	37	34	31	28	25	23	22	-2.1	-1.7
Total	Exports	5,015	5,391	6,231	6,645	7,221	7,666	7,962	2.2	1.4
	Imports	2,683	2,543	2,346	2,174	2,037	1,930	1,878	-1.6	-1.1

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Pulp, Paper and Allied Products
ALTERNATIVE: High Coal Export

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	15	15	16	17	17	18	18	0.9	0.6
Lower Upper Mississippi	56	59	65	69	74	80	84	1.7	1.4
Lower Mississippi	369	383	408	411	428	445	456	0.8	0.8
Baton Rouge to Gulf	551	576	861	949	1,065	1,203	1,277	4.3	2.3
Illinois River	29	31	36	40	44	49	52	2.4	2.1
Missouri River	6	6	7	7	7	7	7	0.8	0.4
Ohio River	44	46	48	36	37	38	38	-1.5	0.4
Tennessee River	163	171	185	195	205	217	225	1.4	1.1
Arkansas River	122	126	132	136	139	142	144	0.8	0.5
Gulf Coast West	68	70	74	77	80	83	85	1.0	0.7
Gulf Coast East	182	190	206	231	243	258	267	1.9	1.1
Warrior River System	26	27	30	44	47	50	51	4.3	1.1
Great Lakes	434	437	441	444	446	448	450	0.2	0.1

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Pulp, Paper and Allied Products
ALTERNATIVE: Hi h Coal Export

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	7	8	8	8	9	9	9	0.9	0.6
Lower Upper Mississippi	12	13	14	15	16	17	18	1.7	1.5
Lower Mississippi	102	107	126	127	136	147	153	1.6	1.5
Baton Rouge to Gulf	60	63	101	112	127	145	155	4.9	2.5
Illinois River	3	3	3	4	4	5	5	2.4	2.1
Missouri River	4	4	4	4	4	4	4	0.8	0.4
Ohio River	10	10	11	10	11	11	11	0.2	0.4
Tennessee River	19	20	21	22	22	23	23	0.9	0.6
Arkansas River	10	11	11	12	12	12	12	0.8	0.5
Gulf Coast West	14	14	15	15	16	17	17	1.0	0.7
Gulf Coast East	31	33	36	40	42	45	46	1.9	1.2
Warrior River System	1	1	1	5	5	5	6	16.0	0.6
Great Lakes	119	120	121	122	122	123	123	0.2	0.1
Total	393	405	473	495	526	562	583	1.8	1.3

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Pulp, Paper and Allied Products
ALTERNATIVE: Misc. Sensitivity

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	1	1	1	2	2	2	3	4.1	4.8
	Received	15	15	16	17	18	19	19	1.1	1.0
Lower Upper Mississippi	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	6	6	7	7	7	7	7	0.8	0.4
Lower Mississippi	Shipped	196	203	216	224	233	242	248	1.0	0.8
	Received	3	3	4	4	4	4	4	0.9	0.6
Baton Rouge to Gulf	Shipped	103	110	362	443	538	654	714	11.9	3.7
	Received	466	485	780	889	1,017	1,175	1,268	5.1	2.8
Illinois River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	29	31	36	40	44	49	52	2.4	2.1
Missouri River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	6	7	7	7	7	7	7	0.8	0.4
Ohio River	Shipped	3	3	4	4	4	4	4	0.8	0.4
	Received	15	15	16	16	17	17	17	0.8	0.4
Tennessee River	Shipped	166	174	188	198	209	221	228	1.4	1.1
	Received	131	138	150	159	169	180	187	1.5	1.3
Arkansas River	Shipped	118	120	144	162	184	214	240	2.5	3.1
	Received	4	4	5	6	7	9	11	4.1	4.8
Gulf Coast West	Shipped	47	49	52	54	56	59	60	1.1	0.9
	Received	40	41	43	44	45	46	46	0.7	0.4
Gulf Coast East	Shipped	138	145	157	166	176	186	193	1.4	1.2
	Received	28	29	31	32	34	35	36	1.1	0.8
Warrior River System	Shipped	17	18	20	21	23	25	26	1.8	1.6
	Received	9	9	10	11	11	12	12	1.3	1.1
South Atlantic Coast	Shipped	379	406	457	488	521	556	579	2.0	1.3
	Received	53	57	63	69	75	82	86	1.9	1.7
Middle Atlantic Const	Shipped	108	108	114	119	125	130	134	0.8	0.9
	Received	254	272	304	325	348	372	387	1.9	1.4

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SEGMENT	IN/OUT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
North Atlantic Coast	Shipped	2	2	3	3	3	3	3	1.8	0.8
	Received	1	1	1	1	1	1	1	1.8	1.0
Great Lakes and Seaway	Shipped	434	437	441	444	446	448	450	0.2	0.1
	Received	434	437	441	444	446	448	450	0.2	0.1
Washington/Oregon Coast	Shipped	381	411	477	513	545	578	599	2.3	1.2
	Received	456	491	575	627	670	713	741	2.5	1.3
Columbia-Snake Willamette River	Shipped	1,736	1,879	2,172	2,313	2,446	2,583	2,670	2.2	1.1
	Received	1,708	1,850	2,141	2,281	2,413	2,549	2,635	2.3	1.1
California Coast	Shipped	66	69	74	76	78	80	81	1.1	0.5
	Received	13	7	a	a	a	a	a	-29.7	2.5
Alaska	Shipped	115	123	146	163	176	188	197	2.7	1.5
	Received	20	22	26	27	28	30	31	2.1	1.0
Hawaii and Pacific Territories	Shipped	40	48	63	68	74	80	84	4.1	1.6
	Received	149	162	185	194	203	212	218	2.0	0.9
Domestic Caribbean	Shipped	9	9	10	11	11	11	12	1.4	0.7
	Received	217	233	262	273	285	298	306	1.8	0.9
Total	Shipped	4,059	4,315	5,103	5,471	5,849	6,264	6,524	2.3	1.4
	Received	4,059	4,315	5,103	5,471	5,849	6,264	6,524	2.3	1.4

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Pulp, Paper and Allied Products
ALTERNATIVE: Misc. Sensitivity

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	829	918	1,117	1,227	1,352	1,458	1,542	3.1	1.8
	Imports	92	79	56	44	37	31	30	-5.5	-3.0
Illinois River	Exports	2	2	3	3	4	4	5	3.1	2.2
	Imports	72	74	77	78	80	82	83	0.6	0.5
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	261	287	346	388	430	471	502	3.1	2.0
	Imports	26	22	16	12	11	9	8	-5.5	-3.0
Gulf Coast East	Exports	260	287	347	387	428	467	496	3.1	1.9
	Imports	14	29	21	16	14	11	11	-5.5	-3.0
Warrior River System	Exports	112	158	195	210	229	244	256	3.0	1.5
	Import	104	96	85	78	74	71	69	-2.2	-0.9
South Atlantic Coast	Exports	1,458	1,614	2,044	2,243	2,464	2,652	2,738	3.4	1.5
	Imports	359	335	302	275	254	237	228	-2.0	-1.4
Middle Atlantic Coast	Exports	389	428	527	595	659	725	768	3.3	2.0
	Imports	642	590	519	461	415	379	362	-2.5	-1.9

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SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	64	71	89	98	109	118	123	3.3	1.7
	Imports	87	85	83	81	80	78	77	-0.5	-0.4
Great Lakes and Seaway	Exports	3	4	4	5	5	6	6	2.5	2.0
	Imports	345	346	352	348	345	342	343	0.1	-0.1
Washington/Oregon Coast	Exports	682	686	656	628	648	640	643	-0.6	0.2
	Imports	242	237	230	220	210	202	198	-0.7	-0.8
Columbia-Snake Willamette River	Exports	269	266	253	247	254	254	257	-0.7	0.3
	Imports	1	1	1	1	1	1	1	-1.6	-1.4
California Coast	Exports	380	387	372	351	364	355	355	-0.6	0.1
	Imports	606	580	542	502	466	439	423	-1.4	-1.3
Alaska	Exports	252	259	250	233	242	234	233	-0.6	0.0
	Imports	13	12	12	11	10	9	9	-1.5	-1.4
Hawaii and Pacific Territories	Exports	a	a	a	a	a	a	a	2.6	2.0
	Imports	24	22	20	18	16	15	14	-2.1	-1.7
Domestic Caribbean	Exports	21	23	26	30	33	36	39	2.6	2.0
	Imports	37	34	31	28	25	23	22	-2.1	-1.7
Total	Exports	5,015	5,391	6,231	6,645	7,221	7,666	7,962	2.2	1.4
	Imports	2,683	2,543	2,346	2,174	2,037	1,930	1,878	-1.6	-1.1

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Pulp, Paper and Allied Products
ALTERNATIVE: Misc. Sensitivity

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	16	16	18	19	20	21	22	1.3	1.4
Lower Upper Mississippi	57	61	67	72	78	85	89	1.8	1.6
Lower Mississippi	371	383	428	445	481	526	565	1.4	1.8
Baton Rouge to Gulf	553	576	879	981	1,116	1,282	1,381	4.5	2.7
Illinois River	29	31	36	40	44	49	52	2.4	2.1
Missouri River	6	7	7	7	7	7	7	0.8	0.4
Ohio River	49	51	53	40	41	42	42	-1.5	0.4
Tennessee River	166	174	188	198	209	221	228	1.4	1.1
Arkansas River	122	124	149	168	191	223	251	2.5	3.1
Gulf Coast West	69	71	76	78	81	84	86	1.0	0.7
Gulf Coast East	182	190	206	232	245	259	268	1.9	1.1
Warrior River System	26	27	30	46	48	51	53	4.5	1.1
Great Lakes	434	437	441	444	446	448	450	0.2	0.1

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Pulp, Paper and Allied Products
ALTERNATIVE: Misc Sensitivity

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77 90	90-03
Upper Mississippi	8	8	9	9	10	11	11	1.3	1.4
Lower Upper Mississippi	12	13	14	15	17	18	19	1.8	1.6
Lower Mississippi	104	108	133	138	153	173	188	2.2	2.4
Baton Rouge to Gulf	61	63	103	116	133	155	167	5.1	2.9
Illinois River	3	3	3	4	4	5	5	2.4	2.1
Missouri River	4	4	4	4	5	5	5	0.8	0.4
Ohio River	11	12	12	12	12	12	12	0.2	0.4
Tennessee River	21	22	23	24	24	25	25	0.9	0.6
Arkansas River	10	11	13	14	16	19	22	2.5	3.1
Gulf Coast West	14	15	16	16	17	17	18	1.0	0.7
Gulf Coast East	31	33	36	40	42	45	47	1.9	1.2
Warrior River System	1	1	1	6	6	6	6	16.7	0.6
Great Lakes	119	120	121	122	122	123	123	0.2	0.1
Total	399	411	489	519	561	613	647	2.0	1.7

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Chemicals
ALTERNATIVE: Baseline

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90 03
Upper Mississippi	Shipped	372	434	527	618	737	947	948	4.0	3.3
	Received	1,900	2,124	2,647	3,093	3,642	4,721	4,637	3.8	3.2
Lower Upper Mississippi	Shipped	508	556	657	753	926	1,258	1,293	3.1	4.2
	Received	873	936	1,094	1,244	1,425	1,667	1,750	2.8	2.7
Lower Mississippi	Shipped	792	870	1,031	1,182	1,375	1,700	1,720	3.1	2.9
	Received	971	1,037	1,193	1,355	1,549	1,766	1,860	2.6	2.5
Baton Rouge to Gulf	Shipped	13,099	14,219	17,302	19,677	22,317	25,917	27,304	3.2	2.6
	Received	4,338	4,705	6,040	6,879	7,780	8,933	9,666	3.6	2.7
Illinois River	Shipped	418	460	537	621	719	845	918	3.1	3.1
	Received	3,767	4,353	5,184	5,945	6,948	8,294	8,788	3.6	3.1
Missouri River	Shipped	135	153	188	219	261	337	335	3.8	3.3
	Received	445	448	473	497	527	565	568	0.9	1.0
Ohio River	Shipped	1,916	2,063	2,381	2,857	3,935	5,743	6,369	3.1	6.4
	Received	6,904	7,403	8,707	10,105	12,079	14,970	16,080	3.0	3.6
Tennessee River	Shipped	580	617	709	830	1,047	1,294	1,368	2.8	3.9
	Received	2,038	2,196	2,535	2,892	3,293	3,746	4,052	2.7	2.6
Arkansas River	Shipped	80	85	95	104	115	127	134	2.1	2.0
	Received	516	561	675	772	881	1,042	1,060	3.2	2.5
Gulf Coast West	Shipped	17,780	19,397	22,189	25,225	28,406	32,084	34,897	2.7	2.5
	Received	10,011	10,931	12,609	14,462	16,487	18,683	20,462	2.9	2.7
Gulf Coast East	Shipped	1,195	1,237	1,454	1,649	1,861	2,128	2,192	2.5	2.2
	Received	1,559	1,611	1,768	1,920	2,080	2,289	2,416	1.6	1.8
Warrior River System	Shipped	416	446	505	565	629	703	759	2.4	2.3
	Received	760	787	870	950	1,038	1,175	1,260	1.7	2.2
South Atlantic Coast	Shipped	1,028	1,069	1,137	1,215	1,288	1,376	1,442	1.3	1.3
	Received	2,160	2,301	2,575	2,874	3,198	3,589	3,889	2.2	2.4
Middle Atlantic Coast	Shipped	2,740	2,849	3,141	3,481	3,904	4,392	4,763	1.9	2.4
	Received	5,544	5,958	6,751	7,604	8,501	9,647	10,497	2.5	2.5

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SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	26	27	30	32	35	38	41	1.8	1.8
	Received	663	718	816	921	1,036	1,168	1,269	2.6	2.5
Great Lakes and Seaway	Shipped	629	671	757	865	1,005	1,162	1,289	2.5	3.1
	Received	498	532	597	686	804	939	1,047	2.5	3.3
Washington/Oregon Coast	Shipped	786	829	906	988	1,084	1,221	1,312	1.8	2.2
	Received	526	557	605	659	723	815	878	1.7	2.2
Columbia-Snake Willamette River	Shipped	226	238	264	289	317	347	369	1.9	1.9
	Received	697	739	830	919	1,012	1,112	1,187	2.1	2.0
California Coast	Shipped	371	344	391	440	500	568	620	1.3	2.7
	Received	1,049	1,127	1,292	1,455	1,636	1,882	2,024	2.6	2.6
Alaska	Shipped	314	330	368	405	448	503	525	2.0	2.0
	Received	124	131	146	163	183	208	224	2.1	2.5
Hawaii and Pacific Territories	Shipped	27	14	17	19	22	26	28	-2.8	3.2
	Received	212	155	176	198	226	259	283	-0.5	2.8
Domestic Caribbean	Shipped	2,654	2,923	3,633	4,310	5,030	5,845	6,498	3.8	3.2
	Received	538	521	635	754	913	1,090	1,227	2.6	3.8
Total	Shipped	46,093	49,831	58,218	66,346	75,961	88,561	95,124	2.8	2.8
	Received	46,093	49,831	58,218	66,346	75,961	88,561	95,124	2.8	2.8

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Chemicals
ALTERNATIVE: Baseline

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	3,410	5,117	5,479	4,721	4,508	4,254	4,102	2.5	-1.1
	Imports	1,301	1,202	1,294	1,391	1,654	1,906	2,076	0.5	3.1
Illinois River	Exports	8	12	12	11	12	12	12	2.4	0.3
	Imports	85	79	86	94	112	130	142	0.8	3.2
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	7,208	10,419	8,934	8,352	8,360	8,306	8,284	1.1	-0.1
	Imports	1,222	1,083	1,201	1,322	1,427	1,712	1,905	0.6	2.8
Gulf Coast East	Exports	4,032	6,438	9,448	7,252	6,315	5,379	4,818	4.6	-3.1
	Imports	736	1,595	1,620	1,666	1,817	1,961	2,058	6.5	1.6
Warrior River System	Exports	45	65	54	51	54	56	57	1.1	0.8
	Imports	10	10	10	11	13	14	15	1.3	2.4
South Atlantic Coast	Exports	1,021	1,610	2,009	1,744	1,691	1,615	1,571	4.2	-0.8
	Imports	927	886	910	963	1,053	1,141	1,200	0.3	1.7
Middle Atlantic Coast	Exports	1,809	2,615	2,708	2,792	2,954	3,012	3,050	3.4	0.7
	Imports	2,772	2,545	2,782	3,037	3,262	3,790	4,174	0.7	2.5

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SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	20	33	35	37	40	41	42	4.7	0.9
	Imports	111	98	109	120	151	179	199	0.6	4.0
Great Lakes and Seaway	Exports	78	109	103	104	108	110	112	2.2	0.5
	Imports	253	241	252	262	292	319	338	0.3	2.0
Washington/Oregon Coast	Exports	105	138	134	135	142	153	160	1.9	1.3
	Imports	1,427	1,235	1,372	1,512	1,946	2,350	2,635	0.4	4.4
Columbia-Snake Willamette River	Exports	41	58	50	47	47	47	47	1.0	0.1
	Imports	1,371	1,189	1,312	1,438	1,840	2,213	2,475	0.4	4.3
California Coast	Exports	1,713	2,366	2,224	2,183	2,242	2,254	2,263	1.9	0.3
	Imports	476	461	484	508	563	617	655	0.5	2.0
Alaska	Exports	325	369	341	331	331	331	331	0.1	0.0
	Imports	33	40	44	48	56	65	70	2.9	3.0
Hawaii and Pacific Territories	Exports	1	1	1	1	1	1	1	3.5	0.5
	Imports	58	56	57	59	62	65	67	0.1	1.1
Domestic Caribbean	Exports	992	1,543	1,191	1,108	1,118	1,119	1,121	0.9	0.1
	Imports	76	73	76	79	88	96	102	0.3	2.0
Total	Exports	20,808	30,892	32,723	28,868	27,923	26,691	25,969	2.6	-0.8
	Imports	10,857	10,793	11,609	12,510	14,336	16,559	18,114	1.1	2.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: Chemicals
ALTERNATIVE: Baseline

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	2,080	2,327	2,902	3,393	3,997	5,167	5,094	3.8	3.2
Lower Upper Mississippi	6,863	7,684	9,156	10,480	12,213	14,882	15,429	3.3	3.0
Lower Mississippi	14,878	16,269	19,197	18,746	21,534	25,529	26,758	1.8	2.8
Baton Rouge to Gulf	21,080	22,935	27,385	28,845	32,794	38,138	40,495	2.4	2.6
Illinois River	4,066	4,677	5,557	6,374	7,443	8,864	9,417	3.5	3.0
Missouri River	538	560	617	671	741	851	852	1.7	1.9
Ohio River	9,603	10,323	12,086	11,387	13,791	17,391	18,725	1.3	3.9
Tennessee River	2,615	2,813	3,247	4,321	5 039	5,867	6,322	3.9	3.0
Arkansas River	595	646	770	876	996	1,169	1,195	3.0	2.4
Gulf Coast West	21,058	22,962	26,357	30,061	34,041	38,645	42,146	2.8	2.6
Gulf Coast East	3,798	3,959	4,465	6,918	7,713	8,691	9,232	4.7	2.2
Warrior River System	1,140	1,194	1,334	4,315	4,868	5,531	5,968	10.8	2.5
Great Lakes	919	986	1,118	1,276	1,469	1,685	1,860	2.6	2.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Chemicals
ALTERNATIVE: Baseline

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	806	899	1,124	1,314	1,547	1,998	1,970	3.8	3.2
Lower Upper Mississippi	1,385	1,554	1,854	2,122	2,471	3,004	3,119	3.3	3.0
Lower Mississippi	9,196	10,060	11,901	11,481	13,181	15,613	16,395	1.7	2.8
Baton Rouge to Gulf	2,875	3,130	3,887	3,913	4,460	5,185	5,531	2.4	2.7
Illinois River	937	1,078	1,281	1,468	1,715	2,041	2,168	3.5	3.0
Missouri River	283	295	326	355	393	452	452	1.8	1.9
Ohio River	4,016	4,336	5,081	5,724	6,835	8,463	9,139	2.8	3.7
Tennessee River	613	662	770	1,015	1,182	1,386	1,496	3.9	3.0
Arkansas River	112	121	145	165	187	220	224	3.0	2.4
Gulf Coast West	4,626	5,034	5,752	6,541	7,417	8,457	9,205	2.7	2.7
Gulf Coast East	375	392	443	756	846	956	1,027	5.5	2.4
Warrior River System	195	198	221	1,276	1,447	1,649	1,778	15.5	2.6
Great Lakes	222	237	266	300	341	387	423	2.3	2.7
Total	25,642	27,997	33,049	36,429	42,022	49,811	52,927	2.7	2.9

a = less than 500,000 ton-miles

7/20/81

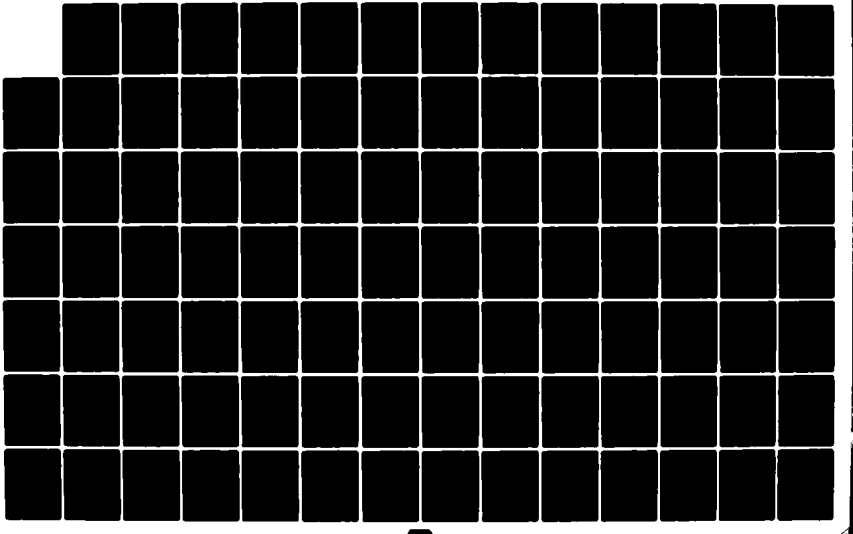
WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

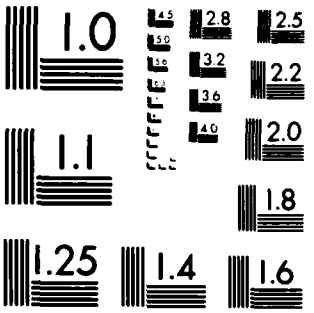
COMMODITY: Chemicals
ALTERNATIVE: Low Use

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	372	429	525	612	736	968	959	3.9	3.5
	Received	1,900	2,127	2,665	3,126	3,715	4,881	4,759	3.9	3.3
Lower Upper Mississippi	Shipped	508	555	657	749	909	1,233	1,260	3.0	4.1
	Received	873	931	1,088	1,224	1,375	1,592	1,660	2.6	2.4
Lower Mississippi	Shipped	792	862	1,027	1,173	1,371	1,726	1,741	3.1	3.1
	Received	971	1,027	1,183	1,331	1,498	1,699	1,781	2.5	2.3
Baton Rouge to Gulf	Shipped	13,099	14,125	17,196	19,359	21,652	25,122	26,364	3.1	2.4
	Received	4,338	4,665	5,993	6,720	7,449	8,464	9,095	3.4	2.4
Illinois River	Shipped	418	457	532	605	687	802	864	2.9	2.8
	Received	3,767	4,319	5,142	5,845	6,711	8,031	8,517	3.4	2.9
Missouri River	Shipped	135	152	188	219	264	349	349	3.8	3.6
	Received	445	448	472	494	521	559	558	0.8	0.9
Ohio River	Shipped	1,916	2,051	2,359	2,765	3,610	5,145	5,641	2.9	5.6
	Received	6,904	7,331	8,621	9,836	11,435	14,039	14,989	2.8	3.3
Tennessee River	Shipped	580	616	705	818	999	1,228	1,294	2.7	3.6
	Received	2,038	2,164	2,502	2,814	3,142	3,544	3,805	2.5	2.3
Arkansas River	Shipped	80	84	94	102	111	122	129	1.9	1.8
	Received	516	560	674	769	881	1,048	1,069	3.1	2.6
Gulf Coast West	Shipped	17,780	19,235	21,993	24,501	26,922	30,033	32,375	2.5	2.2
	Received	10,011	10,855	12,506	14,041	15,590	17,428	18,896	2.6	2.3
Gulf Coast East	Shipped	1,195	1,226	1,447	1,636	1,839	2,105	2,169	2.4	2.2
	Received	1,559	1,601	1,760	1,892	2,023	2,213	2,321	1.5	1.6
Warrior River System	Shipped	416	441	499	549	597	660	707	2.2	2.0
	Received	760	787	867	935	1,001	1,121	1,193	1.6	1.9
South Atlantic Coast	Shipped	1,028	1,061	1,133	1,198	1,254	1,329	1,384	1.2	1.1
	Received	2,160	2,281	2,555	2,790	3,028	3,346	3,588	2.0	2.0
Middle Atlantic Coast	Shipped	2,740	2,830	3,142	3,458	3,821	4,251	4,572	1.8	2.2
	Received	5,544	5,917	6,708	7,412	8,100	9,063	9,771	2.3	2.1

AD-A129 641 EVALUATION OF THE PRESENT NAVIGATION SYSTEM APPENDIX A 6/9
(U) KEARNEY (A T) INC CHICAGO ILL MAR 82
DACW72-79-C-0003

UNCLASSIFIED F/G 13/3 NL





MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS 1963-A

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	26	27	30	32	34	37	39	1.6	1.6
	Received	663	710	807	893	980	1,091	1,174	2.3	2.1
Great Lakes and Seaway	Shipped	629	667	747	841	954	1,085	1,190	2.3	2.7
	Received	498	530	590	667	763	874	963	2.3	2.9
Washington/Oregon Coast	Shipped	786	817	938	1,046	1,150	1,288	1,379	2.2	2.2
	Received	526	546	635	714	789	885	950	2.4	2.2
Columbia-Snake Willamette River	Shipped	226	235	261	283	305	332	351	1.7	1.7
	Received	697	729	820	896	970	1,060	1,125	1.9	1.8
California Coast	Shipped	371	339	393	440	492	553	599	1.3	2.4
	Received	1,049	1,121	1,286	1,427	1,577	1,801	1,922	2.4	2.3
Alaska	Shipped	314	326	366	399	437	493	512	1.8	1.9
	Received	124	130	145	160	176	199	213	2.0	2.2
Hawaii and Pacific Territories	Shipped	27	14	17	19	23	26	28	-2.6	3.0
	Received	212	152	181	205	234	265	287	-0.2	2.6
Domestic Caribbean	Shipped	2,654	2,895	3,599	4,154	4,700	5,379	5,918	3.5	2.8
	Received	538	512	644	764	908	1,087	1,187	2.7	3.4
Total	Shipped	46,093	49,443	57,846	64,957	72,867	84,268	89,824	2.7	2.5
	Received	46,093	49,443	57,846	64,957	72,867	84,268	89,824	2.7	2.5

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Chemicals
ALTERNATIVE: Low Use

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	3,410	5,311	5,558	4,774	4,573	4,325	4,176	2.6	-1.0
	Imports	1,301	1,217	1,298	1,381	1,601	1,804	1,939	0.5	2.6
Illinois River	Exports	8	12	12	12	12	12	13	2.7	0.4
	Imports	85	80	86	93	108	122	132	0.7	2.8
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	7,208	10,933	9,116	8,462	8,487	8,436	8,418	1.2	0.0
	Imports	1,222	1,104	1,207	1,312	1,403	1,640	1,798	0.6	2.4
Gulf Coast East	Exports	4,032	6,513	9,468	7,256	6,321	5,385	4,825	4.6	-3.1
	Imports	736	1,605	1,627	1,666	1,793	1,909	1,985	6.5	1.4
Warrior River System	Exports	45	68	55	53	55	58	60	1.3	1.0
	Imports	10	10	10	11	12	14	15	1.1	2.1
South Atlantic Coast	Exports	1,021	1,659	2,057	1,797	1,760	1,697	1,664	4.4	-0.6
	Imports	927	892	914	962	1,039	1,112	1,160	0.3	1.4
Middle Atlantic Coast	Exports	1,809	2,731	2,836	2,945	3,146	3,226	3,280	3.8	0.8
	Imports	2,772	2,582	2,795	3,021	3,223	3,676	4,000	0.7	2.2

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	20	35	37	39	43	44	45	5.3	1.1
	Imports	111	100	110	120	146	169	185	0.6	3.4
Great Lakes and Seaway	Exports	78	113	107	108	114	116	118	2.5	0.7
	Imports	253	243	252	261	286	309	324	0.3	1.7
Washington/Oregon Coast	Exports	105	143	138	140	150	164	174	2.2	1.7
	Imports	1,427	1,263	1,382	1,501	1,864	2,190	2,414	0.4	3.7
Columbia-Snake Willamette River	Exports	41	61	51	47	48	48	48	1.1	0.1
	Imports	1,371	1,215	1,322	1,429	1,763	2,063	2,269	0.3	3.6
California Coast	Exports	1,713	2,486	2,291	2,250	2,324	2,344	2,357	2.1	0.4
	Imports	476	464	485	508	558	607	641	0.5	1.8
Alaska	Exports	325	377	343	331	331	331	331	0.1	0.0
	Imports	33	41	44	47	54	61	65	2.8	2.5
Hawaii and Pacific Territories	Exports	1	1	1	1	1	1	1	3.8	0.9
	Imports	58	57	58	59	61	64	66	0.1	0.9
Domestic Caribbean	Exports	992	1,633	1,217	1,119	1,132	1,134	1,136	0.9	0.1
	Imports	76	73	76	79	86	93	98	0.3	1.7
Total	Exports	20,808	32,057	33,286	29,334	28,498	27,324	26,646	2.7	-0.7
	Imports	10,857	10,946	11,666	12,451	13,998	15,834	17,092	1.1	2.5

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: Chemicals
ALTERNATIVE: Low Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	2,080	2,329	2,918	3,424	4,069	5,331	5,226	3.9	3.3
Lower Upper Mississippi	6,863	7,652	9,125	10,391	11,971	14,627	15,113	3.2	2.9
Lower Mississippi	14,878	16,136	19,057	18,453	20,900	24,778	25,868	1.7	2.6
Baton Rouge to Gulf	21,080	22,756	27,182	28,286	31,615	36,602	38,652	2.3	2.4
Illinois River	4,066	4,640	5,510	6,262	7,180	8,564	9,099	3.4	2.9
Missouri River	538	558	617	668	738	856	855	1.7	1.9
Ohio River	9,603	10,213	11,960	11,088	13,033	16,256	17,389	1.1	3.5
Tennessee River	2,657	2,823	3,263	4,120	4,694	5,424	5,803	3.4	2.7
Arkansas River	595	644	768	872	992	1,170	1,197	3.0	2.5
Gulf Coast West	21,058	22,776	26,125	29,188	32,226	36,109	39,011	2.5	2.3
Gulf Coast East	3,798	3,935	4,443	6,791	7,461	8,358	8,827	4.6	2.0
Warrior River System	1,140	1,190	1,325	4,204	4,647	5,232	5,607	10.6	2.2
Great Lakes	919	977	1,103	1,239	1,395	1,577	1,721	2.3	2.6

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Chemicals
ALTERNATIVE: Low Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	806	900	1,131	1,327	1,576	2,061	2,024	3.9	3.3
Lower Upper Mississippi	1,385	1,548	1,847	2,104	2,420	2,949	3,052	3.3	2.9
Lower Mississippi	9,196	9,977	11,812	11,296	12,775	15,121	15,815	1.6	2.6
Baton Rouge to Gulf	2,875	3,107	3,860	3,841	4,304	4,973	5,276	2.3	2.5
Illinois River	937	1,069	1,270	1,442	1,654	1,971	2,095	3.4	2.9
Missouri River	283	294	325	353	391	454	454	1.7	1.9
Ohio River	4,016	4,291	5,028	5,557	6,436	7,875	8,440	2.5	3.3
Tennessee River	622	663	772	969	1,105	1,287	1,378	3.5	2.7
Arkansas River	112	121	144	164	186	220	225	3.0	2.5
Gulf Coast West	4,626	4,990	5,698	6,357	7,030	7,911	8,532	2.5	2.3
Gulf Coast East	375	389	439	738	812	911	971	5.3	2.1
Warrior River System	195	197	220	1,242	1,381	1,562	1,672	15.3	2.3
Great Lakes	222	235	263	292	325	363	393	2.1	2.3
Total	25,651	27,782	32,810	35,683	40,394	47,658	50,329	2.6	2.7

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Chemicals
ALTERNATIVE: High Use

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	372	434	527	618	737	947	948	4.0	3.3
	Received	1,900	2,124	2,647	3,093	3,642	4,721	4,637	3.8	3.2
Lower Upper Mississippi	Shipped	508	556	657	753	926	1,258	1,293	3.1	4.2
	Received	873	936	1,094	1,244	1,425	1,667	1,750	2.8	2.7
Lower Mississippi	Shipped	792	870	1,031	1,182	1,375	1,700	1,720	3.1	2.9
	Received	971	1,037	1,193	1,355	1,549	1,766	1,860	2.6	2.5
Baton Rouge to Gulf	Shipped	13,099	14,219	17,302	19,677	22,317	25,917	27,304	3.2	2.6
	Received	4,338	4,705	6,040	6,879	7,780	8,933	9,666	3.6	2.7
Illinois River	Shipped	418	460	537	621	719	845	918	3.1	3.1
	Received	3,767	4,353	5,184	5,945	6,948	8,294	8,768	3.6	3.1
Missouri River	Shipped	135	153	188	219	261	337	335	3.8	3.3
	Received	445	448	473	497	527	565	568	0.9	1.0
Ohio River	Shipped	1,916	2,063	2,381	2,857	3,935	5,743	6,369	3.1	6.4
	Received	6,904	7,403	8,707	10,105	12,079	14,970	16,080	3.0	3.6
Tennessee River	Shipped	580	617	709	830	1,047	1,294	1,368	2.8	3.9
	Received	2,038	2,196	2,535	2,892	3,293	3,746	4,052	2.7	2.6
Arkansas River	Shipped	80	85	95	104	115	127	134	2.1	2.0
	Received	516	561	675	772	881	1,042	1,060	3.2	2.5
Gulf Coast West	Shipped	17,780	19,397	22,189	25,225	28,406	32,084	34,897	2.7	2.5
	Received	10,011	10,931	12,609	14,462	16,487	18,683	20,462	2.9	2.7
Gulf Coast East	Shipped	1,195	1,237	1,454	1,649	1,861	2,128	2,192	2.5	2.2
	Received	1,559	1,611	1,768	1,920	2,080	2,289	2,416	1.6	1.8
Warrior River System	Shipped	416	446	505	565	629	703	759	2.4	2.3
	Received	760	787	870	950	1,038	1,175	1,260	1.7	2.2
South Atlantic Coast	Shipped	1,028	1,069	1,137	1,215	1,288	1,376	1,442	1.3	1.3
	Received	2,160	2,301	2,575	2,874	3,198	3,589	3,889	2.2	2.4
Middle Atlantic Coast	Shipped	2,740	2,849	3,141	3,481	3,904	4,392	4,763	1.9	2.4
	Received	5,544	5,958	6,751	7,604	8,501	9,647	10,497	2.5	2.5

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	26	27	30	32	35	38	41	1.8	1.8
	Received	663	718	816	921	1,036	1,168	1,269	2.6	2.5
Great Lakes and Seaway	Shipped	629	671	757	865	1,005	1,162	1,289	2.5	3.1
	Received	498	532	597	686	804	939	1,047	2.5	3.3
Washington/Oregon Coast	Shipped	786	829	906	988	1,084	1,221	1,312	1.8	2.2
	Received	526	557	605	659	723	815	878	1.7	2.2
Columbia-Snake Willamette River	Shipped	226	238	264	289	317	347	369	1.9	1.9
	Received	697	739	830	919	1,012	1,112	1,187	2.1	2.0
California Coast	Shipped	371	344	391	440	500	568	620	1.3	2.7
	Received	1,049	1,127	1,292	1,455	1,636	1,882	2,024	2.6	2.6
Alaska	Shipped	314	330	368	405	448	503	525	2.0	2.0
	Received	124	131	146	163	183	208	224	2.1	2.5
Hawaii and Pacific Territories	Shipped	27	14	17	19	22	26	28	-2.8	3.2
	Received	212	155	176	198	226	259	283	-0.5	2.8
Domestic Caribbean	Shipped	2,654	2,923	3,633	4,310	5,030	5,845	6,498	3.8	3.2
	Received	538	521	635	754	913	1,090	1,227	2.6	3.8
Total	Shipped	46,093	49,831	58,218	66,346	75,961	88,561	95,124	2.8	2.8
	Received	46,093	49,831	58,218	66,346	75,961	88,561	95,124	2.8	2.8

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Chemicals
ALTERNATIVE: High Use

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	3,410	5,117	5,479	4,721	4,508	4,254	4,102	2.5	-1.1
	Imports	1,301	1,202	1,294	1,391	1,654	1,906	2,076	0.5	3.1
Illinois River	Exports	8	12	12	11	12	12	12	2.4	0.3
	Imports	85	79	86	94	112	130	142	0.8	3.2
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	7,208	10,419	8,934	8,352	8,360	8,306	8,284	1.1	-0.1
	Imports	1,222	1,083	1,201	1,322	1,427	1,712	1,905	0.6	2.8
Gulf Coast East	Exports	4,032	6,438	9,448	7,252	6,315	5,379	4,818	4.6	-3.1
	Imports	736	1,595	1,620	1,666	1,817	1,961	2,058	6.5	1.6
Warrior River System	Exports	45	65	54	51	54	56	57	1.1	0.8
	Imports	10	10	10	11	13	14	15	1.3	2.4
South Atlantic Coast	Exports	1,021	1,610	2,009	1,744	1,691	1,615	1,571	4.2	0.8
	Imports	927	886	910	963	1,053	1,141	1,200	0.3	1.7
Middle Atlantic Coast	Exports	1,809	2,615	2,708	2,792	2,954	3,012	3,050	3.4	0.7
	Imports	2,772	2,545	2,782	3,037	3,262	3,790	4,174	0.7	2.5

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SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90 03
North Atlantic Coast	Exports	20	33	35	37	40	41	42	4.7	0.9
	Imports	111	98	109	120	151	179	199	0.6	4.0
Great Lakes and Seaway	Exports	78	109	103	104	108	110	112	2.2	0.5
	Imports	253	241	252	262	292	319	338	0.3	2.0
Washington/Oregon Coast	Exports	105	138	134	135	142	153	160	1.9	1.3
	Imports	1,427	1,235	1,372	1,512	1,946	2,350	2,635	0.4	4.4
Columbia-Snake Willamette River	Exports	41	58	50	47	47	47	47	1.0	0.1
	Imports	1,371	1,189	1,312	1,438	1,840	2,213	2,475	0.4	4.3
California Coast	Exports	1,713	2,366	2,224	2,183	2,242	2,254	2,263	1.9	0.3
	Imports	476	461	484	508	563	617	655	0.5	2.0
Alaska	Exports	325	369	341	331	331	331	331	0.1	0.0
	Imports	33	40	44	48	56	65	70	2.9	3.0
Hawaii and Pacific Territories	Exports	1	1	1	1	1	1	1	3.5	0.5
	Imports	58	56	57	59	62	65	67	0.1	1.1
Domestic Caribbean	Exports	992	1,543	1,191	1,108	1,118	1,119	1,121	0.9	0.1
	Imports	76	73	76	79	88	96	102	0.3	2.0
Total	Exports	20,808	30,892	32,723	28,868	27,923	26,691	25,969	2.6	-0.8
	Imports	10,857	10,793	11,609	12,510	14,336	16,559	18,114	1.1	2.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: Chemicals
ALTERNATIVE: High Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	2,080	2,327	2,902	3,393	3,997	5,167	5,094	3.8	3.2
Lower Upper Mississippi	6,863	7,684	9,156	10,480	12,213	14,882	15,429	3.3	3.0
Lower Mississippi	14,878	16,269	19,197	18,746	21,534	25,529	26,758	1.8	2.8
Baton Rouge to Gulf	21,080	22,935	27,385	28,845	32,794	38,138	40,495	2.4	2.6
Illinois River	4,066	4,677	5,557	6,374	7,443	8,864	9,417	3.5	3.0
Missouri River	538	580	617	671	741	851	852	1.7	1.9
Ohio River	9,603	10,323	12,086	11,387	13,791	17,391	18,725	1.3	3.9
Tennessee River	2,615	2,813	3,247	4,321	5,039	5,867	6,322	3.9	3.0
Arkansas River	595	646	770	876	996	1,169	1,195	3.0	2.4
Gulf Coast West	21,058	22,962	26,357	30,061	34,041	38,645	42,146	2.8	2.6
Gulf Coast East	3,798	3,959	4,465	6,918	7,713	8,691	9,232	4.7	2.2
Warrior River System	1,140	1,194	1,334	4,315	4,868	5,531	5,968	10.8	2.5
Great Lakes	919	986	1,118	1,276	1,469	1,685	1,860	2.6	2.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Chemicals
ALTERNATIVE: High Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	806	899	1,124	1,314	1,547	1,998	1,970	3.8	3.2
Lower Upper Mississippi	1,385	1,554	1,854	2,122	2,471	3,004	3,119	3.3	3.0
Lower Mississippi	9,196	10,060	11,901	11,481	13,181	15,613	16,395	1.7	2.8
Baton Rouge to Gulf	2,875	3,130	3,887	3,913	4,460	5,185	5,531	2.4	2.7
Illinois River	937	1,078	1,281	1,468	1,715	2,041	2,168	3.5	3.0
Missouri River	283	295	326	355	393	452	452	1.8	1.9
Ohio River	4,016	4,336	5,081	5,724	6,835	8,463	9,139	2.8	3.7
Tennessee River	613	662	770	1,015	1,182	1,386	1,496	3.9	3.0
Arkansas River	112	121	145	165	187	220	224	3.0	2.4
Gulf Coast West	4,626	5,034	5,752	6,541	7,417	8,457	9,205	2.7	2.7
Gulf Coast East	375	392	443	756	846	956	1,027	5.5	2.4
Warrior River System	195	198	221	1,276	1,447	1,649	1,778	15.5	2.6
Great Lakes	222	237	266	300	341	387	423	2.3	2.7
Total	25,642	27,997	33,049	36,429	42,022	49,811	52,927	2.7	2.9

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Chemicals
ALTERNATIVE: Bad Energy

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	372	434	585	706	792	984	1,066	5.1	3.2
	Received	1,900	2,145	3,057	3,667	3,957	4,971	5,264	5.2	2.8
Lower Upper Mississippi	Shipped	508	559	686	799	945	1,252	1,350	3.5	4.1
	Received	873	930	1,108	1,258	1,414	1,636	1,746	2.9	2.6
Lower Mississippi	Shipped	792	870	1,098	1,301	1,451	1,762	1,910	3.9	3.0
	Received	971	1,034	1,211	1,381	1,548	1,761	1,884	2.7	2.4
Baton Rouge to Gulf	Shipped	13,099	14,242	17,551	20,292	22,431	25,904	27,916	3.4	2.5
	Received	4,338	4,705	6,013	6,816	7,667	8,756	9,454	3.5	2.5
Illinois River	Shipped	418	460	535	623	714	834	921	3.1	3.1
	Received	3,767	4,353	5,358	6,410	7,222	8,594	9,387	4.2	3.0
Missouri River	Shipped	135	153	208	255	288	361	396	5.0	3.5
	Received	445	451	264	278	294	321	333	-3.5	1.4
Ohio River	Shipped	1,916	2,062	2,393	2,867	3,852	5,546	6,184	3.1	6.1
	Received	6,904	7,404	8,844	10,349	12,112	14,798	16,226	3.2	3.5
Tennessee River	Shipped	580	615	720	865	1,059	1,294	1,412	3.1	3.8
	Received	2,038	2,198	2,541	2,896	3,267	3,707	4,022	2.7	2.6
Arkansas River	Shipped	80	85	95	105	114	126	135	2.1	1.9
	Received	516	557	709	826	903	1,074	1,143	3.7	2.5
Gulf Coast West	Shipped	17,780	19,398	22,103	24,961	27,848	31,260	33,915	2.6	2.4
	Received	10,011	10,927	12,410	14,130	15,997	18,035	19,681	2.7	2.6
Gulf Coast East	Shipped	1,195	1,265	1,448	1,677	1,849	2,120	2,261	2.6	2.3
	Received	1,559	1,632	1,764	1,918	2,064	2,268	2,404	1.6	1.8
Warrior River System	Shipped	416	446	501	558	617	686	739	2.3	2.2
	Received	760	803	873	950	1,032	1,162	1,240	1.7	2.1
South Atlantic Coast	Shipped	1,028	1,070	519	594	664	748	811	-4.1	2.4
	Received	2,160	2,303	1,949	2,216	2,508	2,861	3,131	0.2	2.7
Middle Atlantic Coast	Shipped	2,740	2,847	3,153	3,500	3,925	4,409	4,775	1.9	2.4
	Received	5,544	5,958	6,729	7,514	8,342	9,406	10,193	2.4	2.4

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	26	27	30	32	35	38	40	1.7	1.7
	Received	663	719	812	908	1,014	1,136	1,229	2.4	2.4
Great Lakes and Seaway	Shipped	629	671	748	852	984	1,132	1,252	2.4	3.0
	Received	498	531	587	672	782	910	1,011	2.3	3.2
Washington/Oregon Coast	Shipped	786	825	938	1,058	1,186	1,349	1,461	2.3	2.5
	Received	526	553	637	725	818	935	1,015	2.5	2.6
Columbia-Snake Willamette River	Shipped	226	238	264	289	315	344	366	1.9	1.8
	Received	697	741	830	917	1,005	1,101	1,176	2.1	1.9
California Coast	Shipped	371	344	395	449	511	580	633	1.5	2.7
	Received	1,049	1,126	1,302	1,467	1,629	1,868	2,021	2.6	2.5
Alaska	Shipped	314	330	377	417	452	509	541	2.2	2.0
	Received	124	131	143	160	178	202	220	2.0	2.5
Hawaii and Pacific Territories	Shipped	27	14	17	20	24	28	30	-2.4	3.4
	Received	212	155	182	210	244	280	307	-0.1	3.0
Domestic Caribbean	Shipped	2,654	2,923	3,613	4,236	4,901	5,656	6,259	3.7	3.0
	Received	538	523	653	786	956	1,141	1,282	2.9	3.8
Total	Shipped	46,093	49,878	57,977	66,455	74,954	86,923	94,370	2.9	2.7
	Received	46,093	49,878	57,977	66,455	74,954	86,923	94,370	2.9	2.7

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Chemicals
ALTERNATIVE: Bad Energy

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	3,410	5,051	5,448	4,697	4,480	4,225	4,072	2.5	-1.1
	Imports	1,301	1,198	850	952	1,230	1,500	1,684	-2.4	4.5
Illinois River	Exports	8	12	11	11	12	12	12	2.3	0.2
	Imports	85	78	68	76	96	114	127	-0.8	4.1
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	7,208	10,241	8,861	8,301	8,302	8,248	8,225	1.1	-0.1
	Imports	1,222	1,076	1,124	1,252	1,362	1,665	1,871	0.2	3.1
Gulf Coast East	Exports	4,032	6,413	9,442	7,250	6,313	5,377	4,815	4.6	-3.1
	Imports	736	1,591	1,447	1,495	1,655	1,808	1,913	5.6	1.9
Warrior River System	Exports	45	63	54	51	53	55	56	1.0	0.8
	Imports	10	10	7	8	10	12	13	-1.1	3.3
South Atlantic Coast	Exports	1,021	1,589	1,989	1,723	1,664	1,585	1,539	4.1	-0.9
	Imports	927	884	360	416	512	605	669	-6.0	3.7
Middle Atlantic Coast	Exports	1,809	2,567	2,651	2,726	2,872	2,926	2,981	3.2	0.6
	Imports	2,772	2,534	2,249	2,517	2,755	3,317	3,779	-0.7	3.1

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	20	32	34	36	38	39	40	4.5	0.9
	Imports	111	98	109	121	153	184	205	0.6	4.2
Great Lakes and Seaway	Exports	78	107	102	103	106	108	109	2.1	0.5
	Imports	253	241	104	115	146	176	197	-5.9	4.2
Washington/Oregon Coast	Exports	105	136	133	133	140	150	156	1.9	1.3
	Imports	1,427	1,226	1,348	1,495	1,954	2,387	2,694	0.4	4.6
Columbia-Snake Willamette River	Exports	41	57	49	46	47	47	47	0.9	0.1
	Imports	1,371	1,181	1,218	1,350	1,775	2,174	2,457	-0.1	4.7
California Coast	Exports	1,713	2,328	2,195	2,154	2,207	2,218	2,225	1.8	0.2
	Imports	476	460	265	291	349	408	449	-3.7	3.4
Alaska	Exports	325	367	340	331	331	331	331	0.1	0.0
	Imports	33	40	44	48	57	66	72	2.3	3.1
Hawaii and Pacific Territories	Exports	1	1	1	1	1	1	1	3.4	0.4
	Imports	58	56	11	12	16	19	22	-11.2	4.4
Domestic Caribbean	Exports	992	1,511	1,182	1,102	1,111	1,113	1,114	0.8	0.1
	Imports	76	73	31	35	44	53	59	-5.9	4.2
Total	Exports	20,808	30,477	32,491	28,664	27,678	26,434	25,702	2.5	-0.8
	Imports	10,857	10,746	9,234	10,183	12,113	14,486	16,159	-0.5	3.6

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: Chemicals
ALTERNATIVE: Bad Energy

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	2,080	2,348	3,327	4,004	4,346	5,449	5,797	5.2	2.9
Lower Upper Mississippi	6,863	7,702	9,483	11,222	12,497	15,104	16,279	3.9	2.9
Lower Mississippi	14,878	16,284	19,636	19,657	21,838	25,694	27,756	2.2	2.7
Baton Rouge to Gulf	21,080	22,956	27,670	29,485	32,761	37,878	40,900	2.6	2.5
Illinois River	4,066	4,677	5,721	6,828	7,702	9,145	9,994	4.1	3.0
Missouri River	538	562	427	486	534	630	675	-0.8	2.6
Ohio River	9,603	10,326	12,235	11,657	13,811	17,170	18,851	1.5	3.8
Tennessee River	2,615	2,814	3,262	4,366	5,023	5,817	6,335	4.0	2.9
Arkansas River	595	641	804	931	1,018	1,200	1,277	3.5	2.5
Gulf Coast West	21,058	22,962	26,129	29,608	33,228	37,502	40,796	2.7	2.5
Gulf Coast East	3,798	4,004	4,470	6,945	7,652	8,607	9,230	4.8	2.2
Warrior River System	1,140	1,211	1,333	4,321	4,832	5,464	5,912	10.8	2.4
Great Lakes	919	986	1,106	1,257	1,440	1,645	1,809	2.4	2.8

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Chemicals
ALTERNATIVE: Bad Energy

SEGMENT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	806	907	1,288	1,552	1,684	2,111	2,247	5.2	2.9
Lower Upper Mississippi	1,385	1,558	1,926	2,282	2,537	3,061	3,299	3.9	2.9
Lower Mississippi	9,196	10,072	12,149	12,015	13,345	15,687	16,952	2.1	2.7
Baton Rouge to Gulf	2,875	3,134	3,914	3,980	4,440	5,140	5,551	2.5	2.6
Illinois River	937	1,078	1,318	1,573	1,774	2,106	2,300	4.1	3.0
Missouri River	283	296	221	253	279	330	355	-0.9	2.6
Ohio River	4,016	4,337	5,134	5,805	6,793	8,300	9,096	2.9	3.5
Tennessee River	613	663	776	1,029	1,181	1,377	1,505	4.1	3.0
Arkansas River	112	120	151	175	191	225	240	3.5	2.5
Gulf Coast West	4,626	5,035	5,697	6,452	7,241	8,213	8,926	2.6	2.5
Gulf Coast East	375	398	448	760	842	949	1,023	5.6	2.3
Warrior River System	195	206	227	1,285	1,442	1,636	1,773	15.6	2.5
Great Lakes	222	237	263	296	334	377	412	2.2	2.6
Total	25,642	28,042	33,513	37,456	42,083	49,512	53,677	3.0	2.8

a - less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Chemicals
ALTERNATIVE: Defense

SEGMENT	IN/OUT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Shipped	372	434	527	787	737	947	948	5.9	1.4
	Received	1,900	2,124	2,647	3,952	3,642	4,721	4,637	5.8	1.2
Lower Upper Mississippi	Shipped	508	556	657	982	926	1,258	1,293	5.2	2.1
	Received	873	936	1,094	1,634	1,425	1,667	1,750	4.9	0.5
Lower Mississippi	Shipped	792	870	1,031	1,539	1,375	1,700	1,720	5.2	0.9
	Received	971	1,037	1,193	1,781	1,549	1,766	1,860	4.8	0.3
Baton Rouge to Gulf	Shipped	13,099	14,219	17,302	25,657	22,317	25,917	27,304	5.3	0.5
	Received	4,338	4,705	6,040	8,840	7,780	8,933	9,686	5.6	0.7
Illinois River	Shipped	418	460	537	802	719	845	918	5.1	1.0
	Received	3,767	4,353	5,184	7,741	6,948	8,294	8,788	5.7	1.0
Missouri River	Shipped	135	153	188	281	261	337	335	5.8	1.4
	Received	445	448	473	706	527	565	568	3.6	-1.7
Ohio River	Shipped	1,916	2,063	2,381	3,555	3,935	5,743	6,369	4.9	4.6
	Received	6,904	7,403	8,707	13,002	12,079	14,970	16,080	5.0	1.6
Tennessee River	Shipped	580	617	709	1,059	1,047	1,294	1,368	4.7	2.0
	Received	2,038	2,196	2,535	3,785	3,293	3,746	4,052	4.9	0.5
Arkansas River	Shipped	80	85	95	141	115	127	134	4.5	-0.4
	Received	516	561	675	1,008	881	1,042	1,060	5.3	0.4
Gulf Coast West	Shipped	17,780	19,397	22,189	33,133	28,406	32,084	34,897	4.9	0.4
	Received	10,011	10,931	12,609	18,828	16,487	18,683	20,462	5.0	0.6
Gulf Coast East	Shipped	1,195	1,237	1,454	2,171	1,861	2,128	2,192	4.7	0.1
	Received	1,559	1,611	1,768	2,641	2,080	2,289	2,416	4.1	-0.7
Warrior River System	Shipped	416	446	505	754	629	703	759	4.7	0.0
	Received	760	787	870	1,299	1,038	1,175	1,260	4.2	-0.2
South Atlantic Coast	Shipped	1,028	1,069	1,137	1,698	1,288	1,376	1,442	3.9	-1.2
	Received	2,160	2,301	2,575	3,845	3,198	3,589	3,889	4.5	0.1
Middle Atlantic Coast	Shipped	2,740	2,849	3,141	4,690	3,904	4,392	4,763	4.2	0.1
	Received	5,544	5,958	6,751	10,080	8,501	9,647	10,497	4.7	0.3

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	26	27	30	44	35	38	41	4.3	-0.6
	Received	663	718	816	1,218	1,036	1,168	1,269	4.8	0.3
Great Lakes and Seaway	Shipped	629	671	757	1,130	1,005	1,162	1,289	4.6	1.0
	Received	498	532	597	892	804	939	1,047	4.6	1.2
Washington/Oregon Coast	Shipped	786	829	906	1,353	1,084	1,221	1,312	4.3	-0.2
	Received	526	557	605	904	723	815	878	4.2	-0.2
Columbia-Snake Willamette River	Shipped	226	238	264	394	317	347	369	4.3	-0.5
	Received	697	739	830	1,239	1,012	1,112	1,187	4.5	-0.3
California Coast	Shipped	371	344	391	584	500	568	620	3.5	0.5
	Received	1,049	1,127	1,292	1,929	1,636	1,882	2,024	4.8	0.4
Alaska	Shipped	314	330	368	550	448	503	525	4.4	-0.4
	Received	124	131	146	218	183	208	224	4.5	0.2
Hawaii and Pacific Territories	Shipped	27	14	17	25	22	26	28	-0.8	1.1
	Received	212	155	176	263	226	259	283	1.7	0.5
Domestic Caribbean	Shipped	2,654	2,923	3,633	5,425	5,030	5,845	6,498	5.7	1.4
	Received	536	521	635	947	913	1,090	1,227	4.4	2.0
Total	Shipped	46,093	49,831	58,218	86,754	75,961	88,561	95,124	5.0	0.7
	Received	46,093	49,831	58,218	86,754	75,961	88,561	95,124	5.0	0.7

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Chemicals
ALTERNATIVE: Defense

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	3,410	5,117	5,479	5,625	4,508	4,254	4,102	3.9	-2.4
	Imports	1,301	1,202	1,294	1,042	1,654	1,906	2,076	-1.7	5.4
Illinois River	Exports	8	12	12	12	12	12	12	2.7	0.0
	Imports	85	79	86	69	112	130	142	-1.5	5.7
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	7,208	10,419	8,934	9,171	8,360	8,306	8,284	1.9	-0.8
	Imports	1,222	1,083	1,201	966	1,427	1,712	1,905	-1.8	5.4
Gulf Coast East	Exports	4,032	6,438	9,448	9,700	6,315	5,379	4,818	7.0	-5.2
	Imports	736	1,595	1,620	1,304	1,817	1,961	2,058	4.5	3.6
Warrior River System	Exports	45	65	54	56	54	56	57	1.7	0.2
	Imports	10	10	10	8	13	14	15	-1.0	4.8
South Atlantic Coast	Exports	1,021	1,610	2,009	2,062	1,691	1,615	1,571	5.6	-2.1
	Imports	927	886	910	732	1,053	1,141	1,200	-1.8	3.9
Middle Atlantic Coast	Exports	1,809	2,615	2,708	2,780	2,954	3,012	3,050	3.4	0.7
	Imports	2,772	2,545	2,782	2,239	3,262	3,790	4,174	-1.6	4.9

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	20	33	35	36	40	41	42	4.5	1.1
	Imports	111	98	109	88	151	179	199	-1.8	6.5
Great Lakes and Seaway	Exports	78	109	103	106	108	110	112	2.3	0.4
	Imports	253	241	252	203	292	319	338	-1.7	4.0
Washington/Oregon Coast	Exports	105	138	134	138	142	153	160	2.1	1.2
	Imports	1,427	1,235	1,372	1,104	1,946	2,350	2,635	-2.0	6.9
Columbia-Snake Willamette River	Exports	41	58	50	51	47	47	47	1.7	-0.6
	Imports	1,371	1,189	1,312	1,056	1,840	2,213	2,475	-2.0	6.8
California Coast	Exports	1,713	2,366	2,224	2,283	2,242	2,254	2,263	2.2	-0.1
	Imports	476	461	484	389	563	617	655	-1.5	4.1
Alaska	Exports	325	369	341	350	331	331	331	0.6	-0.4
	Imports	33	40	44	36	56	65	70	0.6	5.4
Hawaii and Pacific Territories	Exports	1	1	1	1	1	1	1	4.1	-0.1
	Imports	58	56	57	46	62	65	67	-1.7	2.9
Domestic Caribbean	Exports	992	1,543	1,191	1,223	1,118	1,119	1,121	1.6	-0.7
	Imports	76	73	76	61	88	96	102	-1.7	4.0
Total	Exports	20,808	30,892	32,723	33,593	27,923	26,691	25,969	3.8	-2.0
	Imports	10,857	10,793	11,609	9,345	14,336	16,559	18,114	-1.1	5.2

a = less than 500 tons

1/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: Chemicals
ALTERNATIVE: Defense

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	2,080	2,327	2,902	4,333	3,997	5,167	5,094	5.8	1.3
Lower Upper Mississippi	6,863	7,684	9,156	13,673	12,213	14,882	15,429	5.4	0.9
Lower Mississippi	14,878	16,269	19,197	24,479	21,534	25,529	26,758	3.9	0.7
Baton Rouge to Gulf	21,080	22,935	27,385	37,656	32,794	38,138	40,495	4.6	0.6
Illinois River	4,066	4,677	5,557	8,298	7,443	8,864	9,417	5.6	1.0
Missouri River	538	560	617	921	741	851	852	4.2	-0.6
Ohio River	9,603	10,323	12,086	14,626	13,791	17,391	18,725	3.3	1.9
Tennessee River	2,615	2,813	3,247	5,609	5,039	5,867	6,322	6.0	0.9
Arkansas River	595	648	770	1,149	996	1,169	1,195	5.2	0.3
Gulf Coast West	21,058	22,962	26,357	39,357	34,041	38,645	42,146	4.9	0.5
Gulf Coast East	3,798	3,959	4,465	9,238	7,713	8,691	9,232	7.1	0.0
Warrior River System	1,140	1,194	1,334	5,692	4,868	5,531	5,968	13.2	0.4
Great Lakes	919	986	1,118	1,669	1,469	1,685	1,860	4.7	0.8

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Chemicals
ALTERNATIVE: Defense

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	806	899	1,124	1,678	1,547	1,998	1,970	5.8	1.2
Lower Upper Mississippi	1,385	1,554	1,854	2,768	2,471	3,004	3,119	5.5	0.9
Lower Mississippi	9,196	10,060	11,901	14,983	13,181	15,613	16,395	3.8	0.7
Baton Rouge to Gulf	2,875	3,130	3,887	5,048	4,460	5,185	5,531	4.4	0.7
Illinois River	937	1,078	1,281	1,912	1,715	2,041	2,168	5.6	1.0
Missouri River	283	295	326	486	393	452	452	4.3	-0.6
Ohio River	4,016	4,336	5,081	7,373	6,835	8,463	9,139	4.8	1.7
Tennessee River	613	662	770	1,314	1,182	1,386	1,496	6.0	1.0
Arkansas River	112	121	145	216	187	220	224	5.2	0.3
Gulf Coast West	4,626	5,034	5,752	8,589	7,417	8,457	9,205	4.9	0.5
Gulf Coast East	375	392	443	1,004	846	956	1,027	7.9	0.2
Warrior River System	195	198	221	1,674	1,447	1,649	1,778	18.0	0.5
Great Lakes	222	237	266	398	341	387	423	4.6	0.5
Total	25,642	27,997	33,049	47,443	42,022	49,811	52,927	4.8	0.8

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Chemicals
ALTERNATIVE: High Coal Export

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	372	434	527	618	737	947	948	4.0	3.3
	Received	1,900	2,124	2,647	3,093	3,642	4,721	4,637	3.8	3.2
Lower Upper Mississippi	Shipped	508	556	657	753	926	1,258	1,293	3.1	4.2
	Received	873	936	1,094	1,244	1,425	1,667	1,750	2.8	2.7
Lower Mississippi	Shipped	792	870	1,031	1,182	1,375	1,700	1,720	3.1	2.9
	Received	971	1,037	1,193	1,355	1,549	1,766	1,860	2.6	2.5
Baton Rouge to Gulf	Shipped	13,099	14,219	17,302	19,677	22,317	25,917	27,304	3.2	2.6
	Received	4,338	4,705	6,040	6,879	7,780	8,933	9,666	3.6	2.7
Illinois River	Shipped	418	460	537	621	719	845	918	3.1	3.1
	Received	3,767	4,353	5,184	5,945	6,948	9,294	8,788	3.5	3.1
Missouri River	Shipped	135	153	188	219	261	337	335	3.8	3.3
	Received	445	448	473	497	527	565	568	0.9	1.0
Ohio River	Shipped	1,916	2,063	2,381	2,857	3,935	5,743	6,369	3.1	6.4
	Received	6,904	7,403	8,707	10,105	12,079	14,970	16,080	3.0	3.6
Tennessee River	Shipped	580	617	709	830	1,047	1,294	1,368	2.8	3.9
	Received	2,038	2,196	2,535	2,892	3,293	3,746	4,052	2.7	2.6
Arkansas River	Shipped	80	85	95	104	115	127	134	2.1	2.0
	Received	516	561	675	772	881	1,042	1,060	3.2	2.5
Gulf Coast West	Shipped	17,780	19,397	22,189	25,225	28,406	32,084	34,897	2.7	2.5
	Received	10,011	10,931	12,609	14,462	16,487	18,683	20,462	2.9	2.7
Gulf Coast East	Shipped	1,195	1,237	1,454	1,649	1,861	2,128	2,192	2.5	2.2
	Received	1,559	1,611	1,768	1,920	2,080	2,289	2,416	1.6	1.8
Warrior River System	Shipped	418	446	505	565	629	703	759	2.4	2.3
	Received	760	787	870	950	1,038	1,175	1,260	1.7	2.2
South Atlantic Coast	Shipped	1,028	1,069	1,137	1,215	1,288	1,376	1,442	1.3	1.3
	Received	2,160	2,301	2,575	2,874	3,198	3,589	3,889	2.2	2.4
Middle Atlantic Coast	Shipped	2,740	2,849	3,141	3,481	3,904	4,392	4,763	1.9	2.4
	Received	5,544	5,958	6,751	7,604	8,501	9,647	10,497	2.5	2.5

501

7/20/81

Segment	In/Out	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-[illegible]
North Atlantic Coast	Shipped	[illegible]	27	30	32	35	38	41	1.8	1.9
	Received	661	718	816	921	1,036	1,168	1,269	2.6	2.[illegible]
Great Lakes and Seaway	Shipped	629	671	757	865	1,005	1,162	1,289	2.5	3.1
	Received	492	532	597	686	804	939	1,047	2.5	3.3
Washington/Oregon Coast	Shipped	786	829	906	988	1,084	1,221	1,312	1.8	2.2
	Received	526	557	605	659	723	815	878	1.7	2.2
Columbia-Snake Willamette River	Shipped	226	238	264	289	317	347	369	1.9	1.9
	Received	697	739	830	919	1,012	1,112	1,187	2.1	2.0
California Coast	Shipped	371	344	391	440	500	568	620	1.3	2.7
	Received	1,049	1,127	1,292	1,455	1,636	1,882	2,024	2.6	2.6
Alaska	Shipped	314	330	368	405	448	503	525	2.0	2.0
	Received	124	131	146	163	183	208	224	2.1	2.5
Hawaii and Pacific Territories	Shipped	27	14	17	19	22	26	28	-2.8	3.2
	Received	212	155	176	198	226	259	283	-0.5	2.8
Domestic Caribbean	Shipped	2,654	2,923	3,633	4,310	5,030	5,845	6,498	3.8	3.2
	Received	538	521	635	754	913	1,090	1,227	2.6	3.8
Total	Shipped	46,093	49,831	58,218	66,346	75,961	88,561	95,124	2.8	2.8
	Received	46,093	49,831	58,218	66,346	75,961	88,561	95,124	2.8	2.8

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Chemicals
ALTERNATIVE: High Coal Export

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	3,410	5,117	5,479	4,721	4,508	4,254	4,102	2.5	1.1
	Imports	1,301	1,202	1,294	1,391	1,654	1,906	2,076	0.5	3.1
Illinois River	Exports	8	12	12	11	12	12	12	2.4	0.3
	Imports	85	79	86	94	112	130	142	0.8	3.2
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	7,208	10,419	8,934	8,352	8,360	8,306	8,284	1.1	0.1
	Imports	1,222	1,083	1,201	1,322	1,427	1,712	1,905	0.6	2.8
Gulf Coast East	Exports	4,032	6,438	9,448	7,252	6,315	5,379	4,818	4.6	3.1
	Imports	736	1,595	1,620	1,666	1,817	1,961	2,058	6.5	1.6
Warrior River System	Exports	45	65	51	51	54	56	57	1.1	0.8
	Imports	10	10	11	11	13	14	15	1.3	2.4
South Atlantic Coast	Exports	1,021	1,610	2,009	1,744	1,691	1,615	1,571	4.2	-0.8
	Imports	927	886	910	963	1,053	1,141	1,200	0.3	1.7

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	20	33	35	37	40	41	42	4.7	0.9
	Imports	111	98	109	120	151	179	199	0.6	4.0
Great Lakes and Seaway	Exports	78	109	103	104	108	110	112	2.2	0.5
	Imports	253	241	252	262	292	319	338	0.3	2.0
Washington/Oregon Coast	Exports	105	138	134	135	142	153	160	1.9	1.3
	Imports	1,427	1,235	1,372	1,512	1,946	2,350	2,635	0.4	4.4
Columbia-Snake Willamette River	Exports	41	58	50	47	47	47	47	1.0	0.1
	Imports	1,371	1,189	1,312	1,438	1,840	2,213	2,475	0.4	4.3
California Coast	Exports	1,713	2,366	2,224	2,183	2,242	2,254	2,263	1.9	0.3
	Imports	476	461	484	508	563	617	655	0.5	2.0
Alaska	Exports	325	369	341	331	331	331	331	0.1	0.0
	Imports	33	40	44	48	56	65	70	2.9	3.0
Hawaii and Pacific Territories	Exports	1	1	1	1	1	1	1	3.5	0.5
	Imports	58	56	57	59	62	65	67	0.1	1.1
Domestic Caribbean	Exports	992	1,543	1,191	1,108	1,118	1,119	1,121	0.9	0.1
	Imports	76	73	76	79	88	96	102	0.3	2.0
Total	Exports	20,808	30,892	32,723	28,868	27,923	26,691	25,969	2.6	-0.8
	Imports	10,857	10,793	11,609	12,510	14,336	16,559	18,114	1.1	2.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Chemicals
ALTERNATIVE: High Coal Export

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	2,080	2,327	2,902	3,393	3,997	5,167	5,094	3 8	3 2
Lower Upper Mississippi	6,863	7,684	9,156	10,480	12,213	14,882	15,429	3 3	3 0
Lower Mississippi	14,878	16,269	19,197	18,746	21,534	25,529	26,758	1 8	2 8
Baton Rouge to Gulf	21,080	22,935	27,385	28,845	32,794	38,138	40,495	2 4	2 6
Illinois River	4,066	4,677	5,557	6,374	7,443	8,864	9,417	3 5	3 0
Missouri River	538	560	617	671	741	851	852	1 7	1 9
Ohio River	9,603	10,323	12,086	11,387	13,791	17,391	18,725	1 3	3 9
Tennessee River	2,615	2,813	3,247	4,321	5,039	5,867	6,322	3 9	3 0
Arkansas River	595	646	770	876	996	1,169	1,195	3 0	2 4
Gulf Coast West	21,058	22,962	26,357	30,061	34,041	38,645	42,146	2 8	2 6
Gulf Coast East	3,798	3,959	4,465	6,918	7,713	8,691	9,232	4 7	2 2
Warrior River System	1,140	1,194	1,334	4,315	4,868	5,531	5,968	10 8	2 5
Great Lakes	919	986	1,118	1,276	1,469	1,685	1,860	2 6	2 9

a * less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Chemicals
ALTERNATIVE: High Coal Export

SEGMENT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	806	899	1,124	1,314	1,547	1,998	1,970	3.8	3.2
Lower Upper Mississippi	1,385	1,554	1,854	2,122	2,471	3,004	3,119	3.3	3.0
Lower Mississippi	9,196	10,060	11,901	11,481	13,181	15,613	16,395	1.7	2.8
Baton Rouge to Gulf	2,875	3,130	3,887	3,913	4,460	5,185	5,531	2.4	2.7
Illinois River	937	1,078	1,281	1,468	1,715	2,041	2,168	3.5	3.0
Missouri River	283	295	326	355	393	452	452	1.8	1.9
Ohio River	4,016	4,336	5,081	5,724	6,835	8,463	9,139	2.8	3.7
Tennessee River	613	662	770	1,015	1,182	1,386	1,496	3.9	3.0
Arkansas River	112	121	145	165	187	220	224	3.0	2.4
Gulf Coast West	4,626	5,034	5,752	6,541	7,417	8,457	9,205	2.7	2.7
Gulf Coast East	375	392	443	756	846	956	1,027	5.5	2.4
Warrior River System	195	198	221	1,276	1,447	1,649	1,778	15.5	2.6
Great Lakes	222	237	266	300	341	387	423	2.3	2.7
Total	25,642	27,997	33,049	36,429	42,022	49,811	52,927	2.7	2.9

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Chemicals
ALTERNATIVE: Misc. Sensitivity

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	375	438	532	622	743	953	954	4.0	3.3
	Received	1,905	2,130	2,654	3,101	3,652	4,736	4,651	3.8	3.2
Lower Upper Mississippi	Shipped	524	573	677	775	954	1,299	1,337	3.1	4.3
	Received	883	947	1,107	1,259	1,445	1,698	1,784	2.8	2.7
Lower Mississippi	Shipped	809	888	1,054	1,211	1,412	1,750	1,775	3.2	3.0
	Received	983	1,050	1,208	1,373	1,572	1,796	1,894	2.6	2.5
Baton Rouge to Gulf	Shipped	13,427	14,563	17,768	20,260	23,051	26,892	28,419	3.2	2.6
	Received	4,348	4,716	6,054	6,897	7,806	8,974	9,714	3.6	2.7
Illinois River	Shipped	422	465	542	627	726	855	929	3.1	3.1
	Received	3,791	4,379	5,216	5,983	7,000	8,365	8,864	3.6	3.1
Missouri River	Shipped	136	154	189	221	263	340	338	3.8	3.3
	Received	447	451	475	499	531	569	572	0.9	1.0
Ohio River	Shipped	2,115	2,278	2,629	3,156	4,348	6,360	7,056	3.1	6.4
	Received	7,597	8,147	9,583	11,121	13,297	16,494	17,720	3.0	3.6
Tennessee River	Shipped	625	664	765	897	1,135	1,407	1,490	2.8	4.0
	Received	2,229	2,402	2,774	3,165	3,603	4,099	4,435	2.7	2.6
Arkansas River	Shipped	80	83	107	129	158	199	234	3.8	4.7
	Received	518	554	763	957	1,214	1,637	1,846	4.9	5.2
Gulf Coast West	Shipped	18,076	19,719	22,574	25,678	28,937	32,717	35,610	2.7	2.5
	Received	10,030	10,950	12,642	14,510	16,562	18,801	20,610	2.9	2.7
Gulf Coast East	Shipped	1,228	1,270	1,520	1,747	2,007	2,352	2,464	2.7	2.7
	Received	1,559	1,612	1,769	1,922	2,082	2,293	2,421	1.6	1.8
Warrior River System	Shipped	440	472	536	600	668	746	806	2.4	2.3
	Received	762	788	872	953	1,041	1,181	1,266	1.7	2.2
South Atlantic Coast	Shipped	1,028	1,069	1,137	1,215	1,288	1,376	1,442	1.3	1.3
	Received	2,160	2,301	2,575	2,874	3,198	3,589	3,889	2.2	2.4
Middle Atlantic Coast	Shipped	2,740	2,849	3,141	3,481	3,904	4,392	4,763	1.9	2.4
	Received	5,544	5,958	6,751	7,604	8,501	9,647	10,497	2.5	2.5

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SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90 03
North Atlantic Coast	Shipped	26	27	30	32	35	38	41	1.8	1.8
	Received	663	718	816	921	1,036	1,168	1,269	2.6	2.5
Great Lakes and Seaway	Shipped	631	673	759	868	1,008	1,165	1,293	2.5	3.1
	Received	498	532	597	686	804	939	1,047	2.5	3.3
Washington/Oregon Coast	Shipped	786	829	906	988	1,084	1,221	1,312	1.8	2.2
	Received	526	557	605	659	723	815	878	1.7	2.2
Columbia-Snake Willamette River	Shipped	226	238	264	289	317	347	369	1.9	1.9
	Received	697	739	830	919	1,012	1,112	1,187	2.1	2.0
California Coast	Shipped	371	344	391	440	500	568	620	1.3	2.7
	Received	1,049	1,127	1,292	1,455	1,636	1,882	2,024	2.6	2.6
Alaska	Shipped	314	330	368	405	448	503	525	2.0	2.0
	Received	124	131	146	163	183	208	224	2.1	2.5
Hawaii and Pacific Territories	Shipped	27	14	17	19	22	26	28	-2.8	3.2
	Received	212	155	176	198	226	259	283	-0.5	2.8
Domestic Caribbean	Shipped	2,654	2,923	3,633	4,310	5,030	5,845	6,498	3.8	3.2
	Received	538	521	635	754	913	1,090	1,227	2.6	3.8
Total	Shipped	47,062	50,864	59,538	67,971	78,036	91,352	98,303	2.9	2.9
	Received	47,062	50,864	59,538	67,971	78,036	91,352	98,303	2.9	2.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Chemicals
ALTERNATIVE: Misc. Sensitivity

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	3,410	5,117	5,479	4,721	4,508	4,254	4,102	2.5	-1.1
	Imports	1,301	1,202	1,294	1,391	1,654	1,906	2,076	0.5	3.1
Illinois River	Exports	8	12	12	11	12	12	12	2.4	0.3
	Imports	85	79	86	94	112	130	142	0.8	3.2
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	7,208	10,419	8,934	8,352	8,360	8,306	8,284	1.1	-0.1
	Imports	1,222	1,083	1,201	1,322	1,427	1,712	1,905	0.6	2.8
Gulf Coast East	Exports	4,032	6,438	9,448	7,252	6,315	5,379	4,818	4.6	-3.1
	Imports	736	1,595	1,620	1,666	1,817	1,961	2,058	6.5	1.6
Warrior River System	Exports	45	65	54	51	54	56	57	1.1	0.8
	Imports	10	10	10	11	13	14	15	1.3	2.4
South Atlantic Coast	Exports	1,021	1,610	2,009	1,744	1,691	1,615	1,571	4.2	-0.8
	Imports	927	886	910	963	1,053	1,141	1,200	0.3	1.7
Middle Atlantic Coast	Exports	1,809	2,615	2,708	2,792	2,954	3,012	3,050	3.4	0.7
	Imports	2,772	2,545	2,782	3,037	3,262	3,790	4,174	0.7	2.5

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	20	33	35	37	40	41	42	4.7	0.9
	Imports	111	98	109	120	151	179	199	0.6	4.0
Great Lakes and Seaway	Exports	78	109	103	104	108	110	112	2.2	0.5
	Imports	253	241	252	262	292	319	338	0.3	2.0
Washington/Oregon Coast	Exports	105	138	134	135	142	153	160	1.9	1.3
	Imports	1,427	1,235	1,372	1,512	1,946	2,350	2,635	0.4	4.4
Columbia-Snake Willamette River	Exports	41	58	50	47	47	47	47	1.0	0.1
	Imports	1,371	1,189	1,312	1,438	1,840	2,213	2,475	0.4	4.3
California Coast	Exports	1,713	2,366	2,224	2,183	2,242	2,254	2,263	1.9	0.3
	Imports	476	461	484	508	563	617	655	0.5	2.0
Alaska	Exports	325	369	341	331	331	331	331	0.1	0.0
	Imports	33	40	44	48	56	65	70	2.9	3.0
Hawaii and Pacific Territories	Exports	1	1	1	1	1	1	1	3.5	0.5
	Imports	58	56	57	59	62	65	67	0.1	1.1
Domestic Caribbean	Exports	992	1,543	1,191	1,108	1,118	1,119	1,121	0.9	0.1
	Imports	76	73	76	79	88	96	102	0.3	2.0
Total	Exports	20,808	30,892	32,723	28,868	27,923	26,691	25,969	2.6	0.8
	Imports	10,857	10,793	11,609	12,510	14,336	16,559	18,114	1.1	2.9

a = less than 500 tons

20184

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
[illegible] INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Chemicals
ALTERNATIVE: Misc. Sensitivity

SEGMENT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 80-03
Upper Mississippi	2,098	2,336	2,913	3,406	4,013	5,188	5,135	3.2
Lower Upper Mississippi	6,931	7,758	9,243	10,581	12,345	15,065	15,625	3.0
Lower Mississippi	15,619	17,058	20,233	19,714	22,787	27,242	28,760	2.9
Baton Rouge to Gulf	21,792	23,693	28,382	29,850	34,081	39,874	42,517	2.8
Illinois River	4,096	4,710	5,596	6,421	7,505	8,948	9,507	3.1
Missouri River	541	563	621	675	747	858	859	1.9
Ohio River	10,571	11,365	13,307	12,541	15,194	19,183	20,661	3.9
Tennessee River	2,892	3,112	3,595	4,609	5,371	6,258	6,738	3.0
Arkansas River	596	637	869	1,087	1,372	1,836	2,080	5.1
Gulf Coast West	21,373	23,304	26,775	30,562	34,646	39,395	43,007	2.7
Gulf Coast East	3,858	4,021	4,564	7,253	8,129	9,224	9,841	2.4
Warrior River System	1,166	1,222	1,366	4,637	5,236	5,951	6,423	2.5
Great Lakes	921	987	1,120	1,278	1,472	1,688	1,863	2.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Chemicals
ALTERNATIVE: Misc. Sensitivity

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	809	903	1,128	1,319	1,553	2,006	1,979	3.8	3.2
Lower Upper Mississippi	1,398	1,568	1,870	2,142	2,497	3,039	3,157	3.3	3.0
Lower Mississippi	9,675	10,573	12,537	12,029	13,856	16,486	17,380	1.7	2.9
Baton Rouge to Gulf	2,992	3,255	4,048	4,059	4,649	5,441	5,831	2.4	2.8
Illinois River	944	1,086	1,290	1,480	1,730	2,061	2,190	3.5	3.1
Missouri River	285	297	328	357	396	456	456	1.8	1.9
Ohio River	4,429	4,782	5,603	6,314	7,542	9,345	10,093	2.8	3.7
Tennessee River	680	734	854	1,087	1,265	1,484	1,600	3.7	3.0
Arkansas River	112	120	163	204	258	345	391	4.7	5.1
Gulf Coast West	4,757	5,177	5,922	6,743	7,657	8,749	9,535	2.7	2.7
Gulf Coast East	380	397	449	790	886	1,003	1,078	5.8	2.4
Warrior River System	199	201	225	1,383	1,570	1,790	1,930	16.1	2.6
Great Lakes	223	238	287	301	342	388	424	2.3	2.7
Total	26,892	29,329	34,685	38,208	44,199	52,592	56,044.	2.7	3.0

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Petroleum and Coal Products
ALTERNATIVE: Baseline

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	1,399	1,463	1,391	1,401	1,439	1,435	1,445	0 0	0 2
	Received	3,035	3,121	2,903	2,852	2,863	2,805	2,800	-0.5	-0.1
Lower Upper Mississippi	Shipped	6,334	6,433	5,865	5,727	5,701	5,554	5,506	-0 8	-0.3
	Received	2,891	2,936	2,633	2,496	2,496	2,432	2,414	-1 1	-0.3
Lower Mississippi	Shipped	2,006	2,033	1,912	1,931	1,934	1,888	1,900	-0 3	-0 1
	Received	8,807	8,704	8,010	7,747	7,574	7,168	7,091	-1.0	-0.7
Baton Rouge to Gulf	Shipped	43,713	43,517	38,468	38,734	37,971	35,923	35,731	-0 9	0 6
	Received	19,215	19,391	19,720	21,177	21,024	19,847	19,892	0.8	-0.5
Illinois River	Shipped	3,499	3,521	3,232	3,201	3,250	3,190	3,213	-0.7	0 0
	Received	6,551	6,551	5,920	5,774	5,851	5,765	5,807	1 0	0 0
Missouri River	Shipped	168	183	186	201	215	224	227	1 4	1.0
	Received	268	290	291	309	326	337	340	1 1	0.8
Ohio River	Shipped	9,805	9,771	8,776	8,375	8,168	7,848	7,773	-1 2	0 6
	Received	19,035	19,034	17,244	16,848	16,710	16,316	16,309	-0 9	-0.3
Tennessee River	Shipped	184	187	177	180	180	174	174	-0.2	-0 3
	Received	1,941	1,922	1,930	2,062	2,193	2,265	2,335	0 5	1.0
Arkansas River	Shipped	1,084	1,070	874	714	677	591	571	-3 2	-1.7
	Received	1,422	1,449	1,264	1,119	1,063	931	904	-1 8	-1.6
Gulf Coast West	Shipped	81,572	81,148	65,983	65,539	64,167	61,284	61,089	1 7	0 5
	Received	21,623	22,076	22,137	23,601	23,796	23,186	23,501	0 7	0.0
Gulf Coast East	Shipped	12,002	11,763	10,433	9,925	9,477	8,953	8,827	-1 5	-0.9
	Received	19,146	18,571	16,302	15,221	14,349	13,399	13,185	-1 7	-1 1
Warrior River System	Shipped	2,602	2,674	2,722	2,898	2,970	2,979	3,022	0 8	0 3
	Received	3,120	3,134	2,847	2,792	2,803	2,727	2,710	0 8	-0.2
South Atlantic Coast	Shipped	7,094	6,333	5,148	4,427	3,542	3,006	2,995	-3.6	-3 0
	Received	31,994	31,044	27,140	25,179	23,481	21,690	21,384	-1 8	-1.2
Middle Atlantic Coast	Shipped	112,406	110,500	97,365	89,434	82,545	73,646	70,775	-1 7	-1.8
	Received	129,100	127,246	104,467	96,864	89,710	79,167	76,439	2 2	-1.8

7/20/81

SEGMENT	IN/OUT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
North Atlantic Coast	Shipped	8,500	8,819	8,093	7,395	6,920	6,122	5,918	-1.1	-1.7
	Received	48,247	48,963	40,310	37,489	35,494	31,976	30,936	-1.9	-1.5
Great Lakes and Seaway	Shipped	5,760	5,660	4,925	4,597	4,463	4,192	4,151	-1.7	-0.8
	Received	6,846	6,789	6,105	5,791	5,629	5,320	5,273	-1.3	-0.7
Washington/Oregon Coast	Shipped	5,774	5,229	5,224	5,351	5,160	4,800	4,735	-0.6	-0.9
	Received	5,884	5,337	5,343	5,488	5,311	4,960	4,893	-0.5	-0.9
Columbia-Snake Willamette River	Shipped	2,130	1,825	1,828	1,860	1,752	1,575	1,529	-1.0	-1.5
	Received	5,397	4,815	4,708	4,711	4,445	4,020	3,898	-1.0	-1.4
California Coast	Shipped	26,329	21,349	22,407	23,331	21,973	19,548	18,970	-0.9	-1.6
	Received	22,495	17,490	18,747	19,713	18,463	16,192	15,656	-1.0	-1.8
Alaska	Shipped	2,117	1,871	1,973	2,073	2,004	1,862	1,854	-0.2	-0.9
	Received	2,075	2,069	2,163	2,279	2,276	2,252	2,289	0.7	0.0
Hawaii and Pacific Territories	Shipped	1,574	1,574	1,574	1,574	1,574	1,574	1,574	0.0	0.0
	Received	1,995	1,995	1,995	1,995	1,995	1,995	1,995	0.0	0.0
Domestic Caribbean	Shipped	28,364	29,334	26,465	25,123	24,041	20,254	19,878	-0.9	-1.8
	Received	3,329	3,329	2,843	2,478	2,271	1,873	1,806	-2.2	-2.4
Total	Shipped	364,418	356,256	315,021	303,988	290,124	266,622	261,857	-1.4	-1.1
	Received	364,418	356,256	315,021	303,988	290,124	266,622	261,857	-1.4	-1.1

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Petroleum and Coal Products
ALTERNATIVE: Baseline

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	1,028	0	0	0	0	0	0	-100.0	0.0
	Imports	211	263	228	208	178	138	130	-0.1	-3.5
Illinois River	Exports	500	0	0	0	0	0	0	-100.0	0.0
	Imports	a	a	a	a	a	a	a	-2.4	-2.6
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	3,520	0	0	0	0	0	0	-100.0	0.0
	Imports	2,117	2,041	1,724	1,512	1,332	1,056	1,007	-2.6	-3.1
Gulf Coast East	Exports	714	0	0	0	0	0	0	-100.0	0.0
	Imports	2,858	2,599	2,141	1,905	1,547	1,147	1,062	-3.1	-4.4
Warrior River System	Exports	3	0	0	0	0	0	0	-100.0	0.0
	Imports	9	8	7	7	6	4	4	-2.1	-3.8
South Atlantic Coast	Exports	27	0	0	0	0	0	0	-100.0	0.0
	Imports	10,434	8,951	7,304	6,483	5,192	3,804	3,505	-3.6	-4.6
Middle Atlantic Coast	Exports	533	0	0	0	0	0	0	-100.0	0.0
	Imports	46,646	41,061	33,726	29,808	24,442	18,287	17,013	-3.4	-4.2

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	35	0	0	0	0	0	0	-100.0	0.0
	Imports	17,571	15,546	12,783	11,287	9,297	6,984	6,509	-3.3	-4.1
Great Lakes and Seaway	Exports	71	0	0	0	0	0	0	-100.0	0.0
	Imports	2,135	2,130	1,799	1,559	1,411	1,143	1,099	-2.4	-2.7
Washington/Oregon Coast	Exports	2	0	0	0	0	0	0	-100.0	0.0
	Imports	123	110	90	80	66	50	46	-3.3	-4.1
Columbia-Snake Willamette River	Exports	15	0	0	0	0	0	0	-100.0	0.0
	Imports	30	27	23	20	17	13	12	-3.2	-3.9
California Coast	Exports	3,852	0	0	0	0	0	0	-100.0	0.0
	Imports	1,602	1,424	1,178	1,044	863	649	606	-3.2	-4.1
Alaska	Exports	1,089	0	0	0	0	0	0	-100.0	0.0
	Imports	737	737	623	540	489	397	382	-2.4	-2.6
Hawaii and Pacific Territories	Exports	32	0	0	0	*0	0	0	-100.0	0.0
	Imports	3,129	3,129	3,129	3,129	3,129	3,129	3,129	0.0	0.0
Domestic Caribbean	Exports	8	0	0	0	0	0	0	-100.0	0.0
	Imports	6,079	5,692	4,998	4,627	3,917	3,000	2,817	-2.1	-3.7
Total	Exports	11,428	0	0	0	0	0	0	-100.0	0.0
	Imports	93,681	83,719	69,753	62,210	51,886	39,801	37,323	-3.1	-3.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Petroleum and Coal Products
ALTERNATIVE: Baseline

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	3,124	3,220	3,009	2,972	2,997	2,952	2,953	-0.4	-0.1
Lower Upper Mississippi	12,091	12,307	11,430	11,326	11,544	11,505	11,565	-0.5	0.2
Lower Mississippi	24,229	24,235	22,530	20,606	20,650	20,178	20,253	-1.2	-0.1
Baton Rouge to Gulf	59,813	59,719	54,203	53,730	53,067	50,607	50,542	-0.8	-0.5
Illinois River	8,352	8,370	7,664	7,547	7,689	7,610	7,680	-0.8	0.1
Missouri River	436	473	477	510	541	561	568	1.2	0.8
Ohio River	22,283	22,294	20,441	18,803	18,715	18,329	18,339	-1.3	-0.2
Tennessee River	3,594	3,632	3,549	4,134	4,348	4,477	4,587	1.1	0.8
Arkansas River	2,075	2,038	1,764	1,559	1,473	1,284	1,243	-2.2	-1.7
Gulf Coast West	89,324	89,040	73,748	73,636	72,331	69,282	69,164	-1.5	-0.5
Gulf Coast East	28,070	27,552	24,746	25,015	24,224	23,089	22,905	-0.9	-0.7
Warrior River System	5,475	5,560	5,331	7,185	7,361	7,355	7,433	2.1	0.3
Great Lakes	9,347	9,152	8,093	7,553	7,308	6,842	6,761	-1.6	-0.8

a = less than 500 tons

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2000	[illegible]	[illegible]	[illegible]
Upper Mississippi	58	57	53	50	202	691	100	-1.7	0.1
Lower Upper Mississippi	1,691	1,720	1,613	1,614	1,663	1,676	1,696	0.4	0.4
Lower Mississippi	12,482	12,546	11,673	10,433	10,540	10,407	10,487	-1.4	0.0
Baton Rouge to Gulf	7,516	7,503	6,975	6,786	6,735	6,482	6,500	-0.8	-0.3
Illinois River	1,355	1,356	1,249	1,232	1,258	1,250	1,262	-0.7	0.2
Missouri River	92	100	101	108	114	118	120	1.2	0.8
Ohio River	8,443	8,388	7,624	7,459	7,441	7,298	7,319	-0.9	-0.1
Tennessee River	942	939	911	1,035	1,088	1,119	1,145	0.7	0.8
Arkansas River	490	484	417	365	346	302	292	-2.2	-1.7
Gulf Coast West	10,856	10,875	10,000	10,170	10,160	9,879	9,952	-0.5	-0.2
Gulf Coast East	1,386	1,371	1,245	1,380	1,364	1,322	1,318	0.0	-0.3
Warrior River System	271	275	264	859	899	918	939	9.3	0.7
Great Lakes	2,140	2,102	1,840	1,722	1,678	1,583	1,568	-1.7	-0.7
Total	48,414	48,426	44,625	43,863	43,988	43,043	43,288	-0.8	-0.1

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Petroleum and Coal Products
ALTERNATIVE: Low Use

SEGMENT	IN/OUT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Shipped	1,399	1,451	1,364	1,355	1,367	1,349	1,355	-0.2	0.0
	Received	3,035	3,104	2,856	2,768	2,735	2,657	2,645	-0.7	-0.3
Lower Upper Mississippi	Shipped	6,334	6,424	5,776	5,556	5,456	5,281	5,230	-1.0	-0.5
	Received	2,891	2,926	2,584	2,415	2,383	2,306	2,286	-1.4	-0.4
Lower Mississippi	Shipped	2,006	2,018	1,877	1,862	1,814	1,739	1,738	-0.6	0.5
	Received	8,807	8,659	7,841	7,476	7,179	6,705	6,598	-1.3	-1.0
Baton Rouge to Gulf	Shipped	43,713	43,347	37,564	37,213	35,919	33,588	33,243	1.2	-0.9
	Received	19,215	19,327	19,157	20,203	19,794	18,457	18,381	0.4	-0.7
Illinois River	Shipped	3,499	3,520	3,168	3,083	3,091	3,016	3,033	-1.0	-0.1
	Received	6,551	6,549	5,809	5,580	5,591	5,481	5,515	-1.2	0.1
Missouri River	Shipped	168	185	184	194	209	218	222	1.1	1.0
	Received	268	294	289	301	319	332	337	0.9	0.9
Ohio River	Shipped	9,805	9,715	8,626	8,127	7,799	7,428	7,343	-1.4	-0.8
	Received	19,035	18,969	16,957	13,331	15,943	15,447	15,418	-1.2	-0.4
Tennessee River	Shipped	184	187	174	174	170	163	162	-0.4	-0.5
	Received	1,941	1,932	1,901	1,994	2,099	2,162	2,228	0.2	0.9
Arkansas River	Shipped	1,084	1,062	837	670	625	532	506	-3.6	-2.1
	Received	1,422	1,439	1,214	1,053	981	837	800	2.3	-2.1
Gulf Coast West	Shipped	81,572	80,931	64,604	63,142	60,909	57,624	57,248	-2.0	0.8
	Received	21,623	22,070	21,672	22,712	22,634	21,878	22,095	0.4	0.2
Gulf Coast East	Shipped	12,002	11,699	10,203	9,562	8,982	8,389	8,236	-1.7	-1.1
	Received	19,146	18,466	15,963	14,695	13,604	12,544	12,290	-2.0	-1.4
Warrior River System	Shipped	2,602	2,694	2,683	2,803	2,852	2,855	2,894	0.6	0.2
	Received	3,120	3,131	2,791	2,692	2,669	2,578	2,555	-1.1	-0.4
South Atlantic Coast	Shipped	7,094	6,276	4,952	4,188	3,306	2,767	2,732	-4.0	-3.2
	Received	31,994	30,887	26,603	24,333	22,297	20,362	20,001	-2.1	-1.5
Middle Atlantic Coast	Shipped	112,406	109,741	94,803	85,592	77,479	68,161	65,158	-2.1	-2.1
	Received	129,100	126,600	101,714	92,524	83,994	73,106	70,225	-2.5	-2.1

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	8,500	8,749	7,846	7,032	6,427	5,576	5,345	-1.4	-2.1
	Received	48,247	48,739	39,437	36,002	33,264	29,468	28,338	-2.2	-1.8
Great Lakes and Seaway	Shipped	5,760	5,628	4,811	4,424	4,220	3,917	3,863	-2.0	-1.0
	Received	6,846	6,759	5,979	5,587	5,343	5,000	4,940	-1.6	-0.9
Washington/Oregon Coast	Shipped	5,774	5,185	5,117	5,166	4,890	4,490	4,409	-0.9	-1.2
	Received	5,884	5,297	5,234	5,296	5,035	4,646	4,565	-0.8	-1.1
Columbia-Snake Willamette River	Shipped	2,130	1,816	1,792	1,797	1,664	1,478	1,427	-1.3	-1.8
	Received	5,197	4,804	4,626	4,562	4,244	3,800	3,671	-1.3	-1.7
California Coast	Shipped	26,329	21,286	21,887	22,408	20,784	18,279	17,648	-1.2	-1.8
	Received	22,495	17,424	18,261	18,867	17,385	15,045	14,461	-1.3	-2.0
Alaska	Shipped	2,117	1,865	1,934	2,002	1,903	1,747	1,730	-0.4	-1.1
	Received	2,075	2,067	2,143	2,233	2,202	2,165	2,195	0.6	0.1
Hawaii and Pacific Territories	Shipped	1,574	1,574	1,574	1,574	1,574	1,574	1,574	0.0	0.0
	Received	1,995	1,995	1,995	1,995	1,995	1,995	1,995	0.0	0.0
Domestic Caribbean	Shipped	28,364	29,413	26,091	24,178	22,520	18,673	18,248	-1.2	-2.1
	Received	3,329	3,329	2,843	2,478	2,271	1,873	1,806	-2.2	-2.4
Total	Shipped	364,418	354,766	307,868	292,099	273,960	248,845	243,345	-1.7	-1.4
	Received	364,418	354,766	307,868	292,099	273,960	248,845	243,345	-1.7	-1.4

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Petroleum and Coal Products
ALTERNATIVE: Low Use

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	1,028	0	0	0	0	0	0	-100.0	0.0
	Imports	211	266	224	198	171	133	127	-0.5	-3.4
Illinois River	Exports	500	0	0	0	0	0	0	-100.0	0.0
	Imports	a	a	a	a	a	a	a	-2.4	-2.6
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	3,520	0	0	0	0	0	0	-100.0	0.0
	Imports	2,117	2,047	1,708	1,485	1,306	1,034	985	-2.7	-3.1
Gulf Coast East	Exports	714	0	0	0	0	0	0	-100.0	0.0
	Imports	2,858	2,611	2,068	1,797	1,433	1,034	942	-3.5	-4.8
Warrior River System	Exports	3	0	0	0	0	0	0	-100.0	0.0
	Imports	9	8	7	6	5	4	4	-2.5	-3.6
South Atlantic Coast	Exports	27	0	0	0	0	0	0	-100.0	0.0
	Imports	10,434	8,983	7,027	6,086	4,764	3,365	3,028	-4.1	-5.2
Middle Atlantic Coast	Exports	533	0	0	0	0	0	0	-100.0	0.0
	Imports	46,646	41,183	32,682	28,313	22,827	16,633	15,218	-3.8	-4.7

7/20/81

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
North Atlantic Coast	Exports	35	0	0	0	0	0	0	-100.0	0.0
	Imports	17,571	15,589	12,405	10,746	8,712	6,384	5,858	-3.7	-4.6
Great Lakes and Seaway	Exports	71	0	0	0	0	0	0	-100.0	0.0
	Imports	2,135	2,130	1,798	1,558	1,409	1,141	1,097	-2.4	-2.7
Washington/Oregon Coast	Exports	2	0	0	0	0	0	0	-100.0	0.0
	Imports	123	110	88	76	62	46	42	-3.7	-4.4
Columbia-Snake Willamette River	Exports	15	0	0	0	0	0	0	-100.0	0.0
	Imports	30	27	22	19	16	12	11	-3.6	-4.3
California Coast	Exports	3,852	0	0	0	0	0	0	-100.0	0.0
	Imports	1,602	1,430	1,144	994	809	597	549	-3.6	-4.5
Alaska	Exports	1,089	0	0	0	0	0	0	-100.0	0.0
	Imports	737	737	623	540	489	397	382	-2.4	-2.6
Hawaii and Pacific Territories	Exports	32	0	0	0	0	0	0	-100.0	0.0
	Imports	3,129	3,129	3,129	3,129	3,129	3,129	3,129	0.0	0.0
Domestic Caribbean	Exports	8	0	0	0	0	0	0	-100.0	0.0
	Imports	6,079	5,794	4,894	4,366	3,718	2,888	2,735	-2.5	-3.5
Total	Exports	11,428	0	0	0	0	0	0	-100.0	0.0
	Imports	93,681	84,045	67,819	59,314	48,851	36,798	34,107	-3.5	-4.2

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Petroleum and Coal Products
ALTERNATIVE: Low Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	3,124	3,206	2,962	2,886	2,866	2,801	2,797	-0.6	-0.2
Lower Upper Mississippi	12,091	12,323	11,251	10,982	11,096	11,031	11,093	-0.7	0.1
Lower Mississippi	24,229	24,199	22,105	19,908	19,677	19,083	19,113	-1.5	-0.3
Baton Rouge to Gulf	59,813	59,579	52,959	51,630	50,315	47,524	47,270	-1.1	-0.7
Illinois River	8,352	8,380	7,523	7,292	7,359	7,259	7,321	-1.0	0.0
Missouri River	436	479	473	496	527	550	559	1.0	0.9
Ohio River	22,283	22,238	20,107	18,230	17,880	17,391	17,381	-1.5	-0.4
Tennessee River	2,272	2,264	2,221	2,632	2,748	2,816	2,886	1.1	0.7
Arkansas River	2,075	2,026	1,695	1,468	1,361	1,156	1,103	-2.6	-2.2
Gulf Coast West	89,324	88,847	72,231	70,965	68,731	65,252	64,936	-1.8	-0.7
Gulf Coast East	28,070	27,450	24,240	24,133	23,003	21,706	21,460	-1.2	-0.9
Warrior River System	5,475	5,578	5,240	6,943	7,043	7,009	7,075	1.8	0.1
Great Lakes	9,347	9,117	7,916	7,279	6,933	6,422	6,321	-1.9	-1.1

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Petroleum and Coal Products
ALTERNATIVE: Low Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	748	766	704	682	675	661	660	-0.7	-0.3
Lower Upper Mississippi	1,693	1,725	1,587	1,564	1,601	1,612	1,632	-0.6	0.3
Lower Mississippi	12,482	12,539	11,460	10,088	10,070	9,887	9,952	-1.6	0.1
Baton Rouge to Gulf	7,516	7,493	6,827	6,538	6,416	6,129	6,127	-1.1	-0.5
Illinois River	1,355	1,359	1,226	1,191	1,208	1,197	1,209	-1.0	0.1
Missouri River	92	101	100	105	111	116	118	1.0	0.9
Ohio River	8,443	8,384	7,496	7,223	7,116	6,942	6,956	-1.2	0.3
Tennessee River	658	646	623	708	740	758	776	0.6	0.7
Arkansas River	490	481	400	344	319	271	259	-2.7	-2.2
Gulf Coast West	10,856	10,875	9,802	9,814	9,707	9,384	9,433	-0.8	-0.3
Gulf Coast East	1,386	1,368	1,220	1,331	1,299	1,250	1,243	-0.3	0.5
Warrior River System	271	275	259	831	859	873	892	9.0	0.6
Great Lakes	2,140	2,094	1,801	1,661	1,592	1,486	1,466	-1.9	-1.0
Total	48,130	48,107	43,505	42,080	41,713	40,564	40,723	-1.0	0.3

0 = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Petroleum and Coal Products
ALTERNATIVE: High Use

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	1,399	1,463	1,391	1,401	1,439	1,435	1,445	0 0	0 2
	Received	3,035	3,121	2,903	2,852	2,863	2,805	2,800	-0 5	-0 1
Lower Upper Mississippi	Shipped	6,334	6,433	5,865	5,727	5,701	5,554	5,506	-0 8	0.3
	Received	2,891	2,936	2,633	2,496	2,496	2,432	2,414	-1.1	-0.3
Lower Mississippi	Shipped	2,006	2,033	1,912	1,931	1,934	1,888	1,900	-0 3	-0.1
	Received	8,807	8,704	8,010	7,747	7,574	7,168	7,091	-1.0	-0 7
Baton Rouge to Gulf	Shipped	43,713	43,517	38,468	38,734	37,971	35,923	35,731	-0.9	-0.6
	Received	19,215	19,391	19,720	21,177	21,024	19,847	19,892	0.8	-0.5
Illinois River	Shipped	3,499	3,521	3,232	3,201	3,250	3,190	3,213	-0.7	0.0
	Received	6,551	6,551	5,920	5,774	5,851	5,765	5,807	-1.0	0.0
Missouri River	Shipped	168	183	186	201	215	224	227	1 4	1.0
	Received	268	290	291	309	326	337	340	1.1	0.8
Ohio River	Shipped	9,805	9,771	8,776	8,375	8,168	7,848	7,773	-1 2	-0.6
	Received	19,035	19,034	17,244	16,848	16,710	16,316	16,309	-0.9	-0.3
Tennessee River	Shipped	184	187	177	180	180	174	174	-0 2	-0.3
	Received	1,941	1,922	1,930	2,062	2,193	2,265	2,335	0 5	1.0
Arkansas River	Shipped	1,084	1,070	874	714	677	591	571	-3.2	-1.7
	Received	1,422	1,449	1,264	1,119	1,063	931	904	-1.8	-1 6
Gulf Coast West	Shipped	81,572	81,148	65,983	65,539	64,167	61,284	61,089	-1 7	-0 5
	Received	21,623	22,076	22,137	23,601	23,796	23,186	23,501	0 7	0.0
Gulf Coast East	Shipped	12,002	11,763	10,433	9,925	9,477	8,953	8,827	-1 5	-0 9
	Received	19,146	18,571	16,302	15,221	14,349	13,399	13,185	1 7	-1 1
Warrior River System	Shipped	2,602	2,674	2,722	2,898	2,970	2,979	3,022	0 8	0 3
	Received	3,120	3,134	2,847	2,792	2,803	2,727	2,710	-0 8	-0 2
South Atlantic Coast	Shipped	7,094	6,333	5,148	4,427	3,542	3,006	2,995	-3 6	-3 0
	Received	31,994	31,044	27,140	25,179	23,481	21,690	21,384	-1 8	1 2
Middle Atlantic Coast	Shipped	112,406	110,500	97,365	89,434	82,545	73,646	70,775	-1 7	-1 8
	Received	129,100	127,246	104,467	96,864	89,710	79,167	76,439	-2 2	-1 8

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	8,500	8,819	8,093	7,395	6,920	6,122	5,918	-1.1	-1.7
	Received	48,247	48,963	40,310	37,489	35,494	31,976	30,936	-1.9	-1.5
Great Lakes and Seaway	Shipped	5,760	5,660	4,925	4,597	4,463	4,192	4,151	-1.7	-0.8
	Received	6,846	6,789	6,105	5,791	5,629	5,320	5,273	-1.3	0.7
Washington/Oregon Coast	Shipped	5,774	5,229	5,224	5,351	5,160	4,800	4,735	-0.6	-0.9
	Received	5,884	5,337	5,343	5,488	5,311	4,960	4,893	-0.5	-0.9
Columbia-Snake Willamette River	Shipped	2,130	1,825	1,828	1,860	1,752	1,575	1,529	-1.0	-1.5
	Received	5,397	4,815	4,708	4,711	4,445	4,020	3,898	-1.0	-1.4
California Coast	Shipped	26,329	21,349	22,407	23,331	21,973	19,548	18,970	-0.9	-1.6
	Received	22,495	17,490	18,747	19,713	18,463	16,192	15,656	1.0	-1.8
Alaska	Shipped	2,117	1,871	1,973	2,073	2,004	1,862	1,854	-0.2	-0.9
	Received	2,075	2,069	2,163	2,279	2,276	2,252	2,289	0.7	0.0
Hawaii and Pacific Territories	Shipped	1,574	1,574	1,574	1,574	1,574	1,574	1,574	0.0	0.0
	Received	1,995	1,995	1,995	1,995	1,995	1,995	1,995	0.0	0.0
Domestic Caribbean	Shipped	28,364	29,334	26,465	25,123	24,041	20,254	19,878	-0.9	-1.8
	Received	3,329	3,329	2,843	2,478	2,271	1,873	1,806	-2.2	-2.4
Total	Shipped	364,418	356,256	315,021	303,988	290,124	266,622	261,857	-1.4	-1.1
	Received	364,418	356,256	315,021	303,988	290,124	266,622	261,857	-1.4	-1.1

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Petroleum and Coal Products
ALTERNATIVE: High Use

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	1,028	0	0	0	0	0	0	-100.0	0.0
	Imports	211	263	228	208	178	138	130	-0.1	-3.5
Illinois River	Exports	500	0	0	0	0	0	0	-100.0	0.0
	Imports	a	a	a	a	a	a	a	-2.4	-2.6
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	3,520	0	0	0	0	0	0	-100.0	0.0
	Imports	2,117	2,041	1,724	1,512	1,332	1,056	1,007	-2.6	-3.1
Gulf Coast East	Exports	714	0	0	0	0	0	0	-100.0	0.0
	Imports	2,858	2,539	2,141	1,905	1,547	1,147	1,062	-3.1	-4.4
Warrior River System	Exports	3	0	0	0	0	0	0	-100.0	0.0
	Imports	9	8	7	7	6	4	4	-2.1	-3.8
South Atlantic Coast	Exports	27	0	0	0	0	0	0	-100.0	0.0
	Imports	10,434	8,951	7,304	6,483	5,192	3,804	3,505	-3.6	-4.3
Middle Atlantic Coast	Exports	533	0	0	0	0	0	0	-100.0	0.0
	Imports	46,646	41,061	33,726	29,809	24,442	18,283	17,013	-3.4	-4.2

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	35	0	0	0	0	0	0	-100.0	0.0
	Imports	17,571	15,546	12,783	11,287	9,297	6,984	6,509	-3.3	-4.1
Great Lakes and Seaway	Exports	71	0	0	0	0	0	0	-100.0	0.0
	Imports	2,135	2,130	1,799	1,559	1,411	1,143	1,099	-2.4	-2.7
Washington/Oregon Coast	Exports	2	0	0	0	0	0	0	-100.0	0.0
	Imports	123	110	90	80	66	50	46	-3.3	-4.1
Columbia-Snake Willamette River	Exports	15	0	0	0	0	0	0	-100.0	0.0
	Imports	30	27	23	20	17	13	12	-3.2	-3.9
California Coast	Exports	3,852	0	0	0	0	0	0	-100.0	0.0
	Imports	1,602	1,424	1,178	1,044	863	649	606	-3.2	-4.1
Alaska	Exports	1,089	0	0	0	0	0	0	-100.0	0.0
	Imports	737	737	623	540	489	397	382	-2.4	-2.6
Hawaii and Pacific Territories	Exports	32	0	0	0	0	0	0	-100.0	0.0
	Imports	3,129	3,129	3,129	3,129	3,129	3,129	3,129	0.0	0.0
Domestic Caribbean	Exports	8	0	0	0	0	0	0	-100.0	0.0
	Imports	6,079	5,692	4,998	4,627	3,917	3,000	2,817	-2.1	-3.7
Total	Exports	11,428	0	0	0	0	0	0	-100.0	0.0
	Imports	93,681	83,719	69,753	62,210	51,886	39,801	37,323	-3.1	-3.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Petroleum and Coal Products
ALTERNATIVE: High Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	3,124	3,220	3,009	2,972	2,997	2,952	2,953	-0.4	-0.1
Lower Upper Mississippi	12,091	12,307	11,430	11,326	11,544	11,505	11,565	-0.5	0.2
Lower Mississippi	24,229	24,235	22,530	20,606	20,650	20,178	20,253	-1.2	-0.1
Baton Rouge to Gulf	59,813	59,719	54,203	53,730	53,067	50,607	50,542	-0.8	-0.5
Illinois River	8,352	8,370	7,664	7,547	7,689	7,610	7,680	-0.8	0.1
Missouri River	436	473	477	510	541	561	568	1.2	0.8
Ohio River	22,283	22,294	20,441	18,803	18,715	18,329	18,339	-1.3	-0.2
Tennessee River	3,594	3,632	3,549	4,134	4,348	4,477	4,587	1.1	0.8
Arkansas River	2,075	2,038	1,764	1,559	1,473	1,284	1,243	-2.2	-1.7
Gulf Coast West	89,324	89,040	73,748	73,636	72,331	69,282	69,164	-1.5	-0.5
Gulf Coast East	28,070	27,552	24,746	25,015	24,224	23,089	22,905	-0.9	-0.7
Warrior River System	5,475	5,560	5,331	7,185	7,361	7,355	7,433	2.1	0.3
Great Lakes	9,347	9,152	8,093	7,553	7,308	6,842	6,761	-1.6	-0.8

s = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Petroleum and Coal Products
ALTERNATIVE: High Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	748	767	713	700	702	691	690	-0.5	-0.1
Lower Upper Mississippi	1,693	1,720	1,613	1,614	1,663	1,676	1,696	-0.4	0.4
Lower Mississippi	12,482	12,546	11,673	10,433	10,540	10,407	10,487	-1.4	0.0
Baton Rouge to Gulf	7,516	7,503	6,975	6,786	6,735	6,482	6,500	-0.8	-0.3
Illinois River	1,355	1,356	1,249	1,232	1,258	1,250	1,262	-0.7	0.2
Missouri River	92	100	101	108	114	118	120	1.2	0.8
Ohio River	8,443	8,388	7,624	7,459	7,441	7,298	7,319	-0.9	-0.1
Tennessee River	942	939	911	1,035	1,088	1,119	1,145	0.7	0.8
Arkansas River	490	484	417	365	346	302	292	-2.2	-1.7
Gulf Coast West	10,856	10,875	10,000	10,170	10,160	9,879	9,952	-0.5	-0.2
Gulf Coast East	1,386	1,371	1,245	1,380	1,364	1,322	1,318	0.0	-0.3
Warrior River System	271	275	264	859	899	918	939	9.3	0.7
Great Lakes	2,140	2,102	1,840	1,722	1,678	1,583	1,568	-1.7	-0.7
Total	48,414	48,426	44,625	43,863	43,988	43,043	43,288	-0.8	-0.1

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Petroleum and Coal Products
ALTERNATIVE: Bad Energy

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	1,399	1,468	1,370	1,335	1,338	1,305	1,299	-0.4	-0.2
	Received	3,035	3,128	2,860	2,730	2,680	2,578	2,544	-0.8	-0.5
Lower Upper Mississippi	Shipped	6,334	6,450	5,775	5,481	5,353	5,133	5,048	-1.1	-0.6
	Received	2,891	2,940	2,588	2,386	2,337	2,238	2,203	-1.5	-0.6
Lower Mississippi	Shipped	2,006	2,033	1,875	1,825	1,766	1,669	1,650	-0.7	-0.8
	Received	8,807	8,696	7,854	7,391	7,022	6,472	6,327	-1.3	-1.2
Baton Rouge to Gulf	Shipped	43,713	43,472	37,639	36,862	35,133	32,387	31,894	-1.3	-1.1
	Received	19,215	19,350	19,227	20,091	19,358	17,753	17,628	0.3	-1.0
Illinois River	Shipped	3,499	3,529	3,166	3,037	3,017	2,907	2,906	-1.1	-0.3
	Received	6,551	6,562	5,807	5,505	5,467	5,297	5,299	-1.3	-0.3
Missouri River	Shipped	168	184	184	192	205	213	216	1.0	0.9
	Received	268	293	288	297	314	324	328	0.8	0.7
Ohio River	Shipped	9,805	9,778	8,645	8,039	7,668	7,231	7,096	-1.5	-1.0
	Received	19,035	19,064	16,964	16,107	15,618	14,969	14,830	-1.3	-0.6
Tennessee River	Shipped	184	187	174	170	165	157	154	-0.6	-0.7
	Received	1,941	1,932	1,893	1,958	2,043	2,080	2,131	0.1	0.7
Arkansas River	Shipped	1,084	1,061	843	670	610	508	484	-3.6	-2.5
	Received	1,422	1,438	1,221	1,050	956	797	761	-2.3	-2.4
Gulf Coast West	Shipped	81,572	81,178	64,687	62,465	59,602	55,646	54,963	-2.0	-1.0
	Received	21,623	22,097	21,698	22,509	22,151	21,115	21,233	0.3	-0.4
Gulf Coast East	Shipped	12,002	11,750	10,229	9,465	8,811	8,134	7,931	-1.8	-1.4
	Received	19,146	18,552	15,999	14,534	13,343	12,164	11,827	-2.1	-1.6
Warrior River System	Shipped	2,602	2,691	2,678	2,768	2,794	2,769	2,796	0.5	0.1
	Received	3,120	3,140	2,795	2,662	2,618	2,502	2,467	-1.2	-0.6
South Atlantic Coast	Shipped	7,094	6,274	4,974	4,165	3,226	2,652	2,611	-4.0	-3.5
	Received	31,994	31,006	26,638	24,047	21,867	19,754	19,254	-2.2	-1.7
Middle Atlantic Coast	Shipped	112,406	110,186	95,038	84,706	75,833	65,786	62,516	-2.2	-2.3
	Received	129,100	126,982	101,842	91,402	82,010	70,317	67,141	-2.6	-2.3

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	8,500	8,775	7,856	6,948	6,264	5,342	5,093	-1.5	-2.4
	Received	48,247	48,930	39,422	35,430	32,438	28,344	27,035	-2.3	-2.1
Great Lakes and Seaway	Shipped	5,760	5,651	4,818	4,370	4,126	3,779	3,703	-2.1	-1.3
	Received	6,846	6,784	5,983	5,517	5,227	4,831	4,743	-1.5	-1.2
Washington/Oregon Coast	Shipped[1]	5,774	5,223	5,128	5,108	4,791	4,348	4,238	-0.9	-1.4
	Received	5,884	5,334	5,246	5,238	4,937	4,504	4,393	-0.9	-1.3
Columbia-Snake Willamette River	Shipped	2,130	1,821	1,792	1,777	1,630	1,431	1,374	-1.4	-2.0
	Received	5,397	4,814	4,627	4,518	4,166	3,692	3,550	-1.4	-1.8
California Coast	Shipped	26,329	21,312	21,905	22,193	20,323	17,635	16,953	-1.3	-2.1
	Received	22,495	17,444	18,286	18,693	16,974	14,469	13,845	-1.4	-2.3
Alaska	Shipped	2,117	1,870	1,933	1,976	1,855	1,679	1,653	-0.5	-1.4
	Received	2,075	2,072	2,137	2,200	2,157	2,101	2,118	-0.4	-0.3
Hawaii and Pacific Territories	Shipped	1,574	1,574	1,574	1,574	1,574	1,574	1,574	-0.0	-0.0
	Received	1,995	1,995	1,995	1,995	1,995	1,995	1,995	-0.0	-0.0
Domestic Caribbean	Shipped	28,364	29,414	25,930	23,612	21,862	17,883	17,308	-1.4	-2.4
	Received	3,329	3,329	2,843	2,478	2,271	1,873	1,806	-2.2	-2.4
Total	Shipped	364,418	355,884	308,214	288,736	267,948	240,168	233,458	-1.8	-1.6
	Received	364,418	355,884	308,214	288,736	267,948	240,168	233,458	-1.8	-1.6

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Petroleum and Coal Products
ALTERNATIVE: Bad Energy

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0 0	0 0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0 0	0 0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0 0	0 0
Baton Rouge to Gulf	Exports	1,028	0	0	0	0	0	0	-100 0	0 0
	Imports	211	265	224	197	169	132	125	-0 5	3 4
Illinois River	Exports	500	0	0	0	0	0	0	-100 0	0 0
	Imports	*a*	*a*	*a*	*a*	*a*	*a*	*a*	-2 4	2 6
Missouri River	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0 0	0 0
Ohio River	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0 0	0 0
Tennessee River	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0 0	0 0
Arkansas River	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0 0	0 0
Gulf Coast West	Exports	3,520	0	0	0	0	0	0	-100 0	0 0
	Imports	2,117	2,046	1,711	1,484	1,300	1,025	977	2 7	-3 2
Gulf Coast East	Exports	714	0	0	0	0	0	0	-100 0	0 0
	Imports	2,858	2,609	2,085	1,800	1,401	987	900	3 5	-5 2
Warrior River System	Exports	3	0	0	0	0	0	0	100 0	0 0
	Imports	9	8	7	6	5	4	4	-2 6	3 6
South Atlantic Coast	Exports	27	0	0	0	0	0	0	100 0	0 0
	Imports	10,434	8,976	7,095	6,107	4,639	3,177	2,863	-4 0	5 7
Middle Atlantic Coast	Exports	533	0	0	0	0	0	0	-100 0	0 0
	Imports	46,646	41,159	32,939	28,388	22,356	15,927	14,598	-3 7	-5 0

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
North Atlantic Coast	Exports	35	0	0	0	0	0	0	-100.0	0.0
	Imports	17,571	15,581	12,498	10,773	8,541	6,128	5,633	-3.7	-4.9
Great Lakes and Seaway	Exports	71	0	0	0	0	0	0	-100.0	0.0
	Imports	2,135	2,130	1,799	1,558	1,409	1,140	1,097	-2.4	-2.7
Washington/Oregon Coast	Exports	2	0	0	0	0	0	0	-100.0	0.0
	Imports	123	110	88	76	61	44	41	-3.6	-4.7
Columbia-Snake Willamette River	Exports	15	0	0	0	0	0	0	-100.0	0.0
	Imports	30	27	22	19	15	11	10	-3.5	-4.5
California Coast	Exports	3,852	0	0	0	0	0	0	-100.0	0.0
	Imports	1,602	1,429	1,152	995	794	575	530	-3.6	-4.7
Alaska	Exports	1,089	0	0	0	0	0	0	-100.0	0.0
	Imports	737	737	623	540	489	397	382	-2.4	-2.6
Hawaii and Pacific Territories	Exports	32	0	0	0	0	0	0	-100.0	0.0
	Imports	3,129	3,129	3,129	3,129	3,129	3,129	3,129	0.0	0.0
Domestic Caribbean	Exports	8	0	0	0	0	0	0	-100.0	0.0
	Imports	6,079	5,769	4,897	4,321	3,687	2,857	2,704	-2.6	-3.5
Total	Exports	11,428	0	0	0	0	0	0	-100.0	0.0
	Imports	93,681	83,976	68,270	59,394	47,998	35,532	32,993	-3.4	-4.4

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Petroleum and Coal Products
ALTERNATIVE: Bad Energy

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	3,124	3,229	2,965	2,845	2,809	2,717	2,692	-0.7	-0.4
Lower Upper Mississippi	12,091	12,349	11,248	10,843	10,878	10,708	10,707	-0.8	-0.1
Lower Mississippi	24,229	24,267	22,106	19,653	19,235	18,422	18,336	-1.6	-0.5
Baton Rouge to Gulf	59,813	59,705	53,056	51,173	49,229	45,845	45,393	-1.2	-0.9
Illinois River	8,352	8,390	7,519	7,198	7,198	7,019	7,041	-1.1	-0.2
Missouri River	436	478	472	489	519	537	544	0.9	0.8
Ohio River	22,283	22,337	20,108	17,986	17,521	16,861	16,732	-1.6	-0.6
Tennessee River	3,594	3,648	3,491	3,947	4,081	4,150	4,228	0.7	0.5
Arkansas River	2,075	2,025	1,705	1,465	1,327	1,101	1,050	-2.6	-2.5
Gulf Coast West	89,324	89,094	72,317	70,215	67,268	63,033	62,378	-1.8	-0.9
Gulf Coast East	28,070	27,554	24,284	23,857	22,539	21,021	20,643	-1.2	-1.1
Warrior River System	5,475	5,583	5,240	6,850	6,891	6,786	6,815	1.7	0.0
Great Lakes	9,347	9,142	7,926	7,200	6,787	6,207	6,077	-2.0	-1.3

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Petroleum and Coal Products
ALTERNATIVE: Bad Energy

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	748	769	703	672	662	642	637	-0.8	-0.4
Lower Upper Mississippi	1,693	1,727	1,587	1,545	1,569	1,563	1,575	-0.7	0.1
Lower Mississippi	12,482	12,569	11,457	9,957	9,845	9,550	9,555	-1.7	-0.3
Baton Rouge to Gulf	7,516	7,505	6,838	6,485	6,286	5,927	5,901	-1.1	-0.7
Illinois River	1,355	1,360	1,226	1,177	1,182	1,159	1,165	-1.1	-0.1
Missouri River	92	101	100	103	109	113	115	0.9	0.8
Ohio River	8,443	8,407	7,493	7,125	6,963	6,718	6,689	-1.3	-0.5
Tennessee River	942	943	896	990	1,024	1,041	1,060	0.4	0.5
Arkansas River	490	481	403	343	311	259	247	-2.7	-2.5
Gulf Coast West	10,856	10,889	9,813	9,725	9,507	9,073	9,081	-0.8	-0.5
Gulf Coast East	1,386	1,373	1,223	1,317	1,273	1,210	1,197	-0.4	-0.7
Warrior River System	271	276	259	816	837	840	854	8.8	0.4
Great Lakes	2,140	2,101	1,803	1,642	1,558	1,436	1,408	-2.0	-1.2
Total	48,414	48,500	43,800	41,897	41,128	39,532	39,484	-1.1	-0.5

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Petroleum and Coal Products
ALTERNATIVE: Defense

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	1,399	1,463	1,391	1,848	1,439	1,435	1,445	2.2	-1.9
	Received	3,035	3,121	2,903	3,858	2,863	2,805	2,800	1.9	-2.4
Lower Upper Mississippi	Shipped	6,334	6,433	5,865	7,793	5,701	5,554	5,506	1.6	-2.6
	Received	2,891	2,936	2,633	3,498	2,496	2,432	2,414	1.5	-2.8
Lower Mississippi	Shipped	2,006	2,033	1,912	2,540	1,934	1,888	1,900	1.8	-2.2
	Received	8,807	8,704	8,010	10,644	7,574	7,168	7,091	1.5	-3.1
Baton Rouge to Gulf	Shipped	43,713	43,517	38,468	51,089	37,971	35,923	35,731	1.2	-2.7
	Received	19,215	19,391	19,720	26,176	21,024	19,847	19,892	2.4	-2.1
Illinois River	Shipped	3,499	3,521	3,232	4,295	3,250	3,190	3,213	1.6	-2.2
	Received	6,551	6,551	5,920	7,867	5,851	5,765	5,807	1.4	-2.3
Missouri River	Shipped	168	183	186	248	215	224	227	3.0	-0.7
	Received	268	290	291	387	326	337	340	2.9	-1.0
Ohio River	Shipped	9,805	9,771	8,776	11,662	8,168	7,848	7,773	1.3	-3.1
	Received	19,035	19,034	17,244	22,915	16,710	16,316	16,309	1.4	-2.6
Tennessee River	Shipped	184	187	177	235	180	174	174	1.9	-2.3
	Received	1,941	1,922	1,930	2,565	2,193	2,265	2,335	2.2	-0.7
Arkansas River	Shipped	1,084	1,070	874	1,161	677	591	571	0.5	-5.3
	Received	1,422	1,449	1,264	1,679	1,063	931	904	1.3	-4.7
Gulf Coast West	Shipped	81,572	81,148	65,983	87,683	64,167	61,284	61,089	0.6	-2.7
	Received	21,623	22,076	22,137	29,418	23,796	23,186	23,501	2.4	-1.7
Gulf Coast East	Shipped	12,002	11,763	10,433	13,865	9,477	8,953	8,827	1.1	-3.4
	Received	19,146	18,571	16,302	21,663	14,349	13,399	13,185	1.0	-3.7
Warrior River System	Shipped	2,602	2,674	2,722	3,618	2,970	2,979	3,022	2.6	-1.4
	Received	3,120	3,134	2,847	3,783	2,803	2,727	2,710	1.5	-2.5
South Atlantic Coast	Shipped	7,094	6,333	5,148	6,841	3,542	3,006	2,995	-0.3	-6.2
	Received	31,994	31,044	27,140	36,066	23,481	21,690	21,384	0.9	-3.9
Middle Atlantic Coast	Shipped	112,406	110,500	97,365	129,387	82,545	73,646	70,775	1.1	-4.5
	Received	129,100	127,246	104,467	138,824	89,710	79,167	76,439	0.6	-4.5

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	8,500	8,819	8,093	10,755	6,920	6,122	5,918	1.8	-4.5
	Received	48,247	48,963	40,310	53,567	35,494	31,976	30,936	0.8	-4.1
Great Lakes and Seaway	Shipped	5,760	5,660	4,925	6,544	4,463	4,192	4,151	1.0	-3.4
	Received	6,846	6,789	6,105	8,113	5,629	5,320	5,273	1.3	-3.3
Washington/Oregon Coast	Shipped	5,774	5,229	5,224	6,943	5,160	4,800	4,735	1.4	-2.9
	Received	5,884	5,337	5,343	7,101	5,311	4,960	4,893	1.5	-2.8
Columbia-Snake Willamette River	Shipped	2,130	1,825	1,828	2,429	1,752	1,575	1,529	1.0	-3.5
	Received	5,397	4,815	4,708	6,256	4,445	4,020	3,898	1.1	-3.6
California Coast	Shipped	26,329	21,349	22,407	29,776	21,973	19,548	18,970	1.0	-3.4
	Received	22,495	17,490	18,747	24,912	18,463	16,192	15,656	0.8	-3.5
Alaska	Shipped	2,117	1,871	1,973	2,622	2,004	1,862	1,854	1.7	-2.6
	Received	2,075	2,069	2,163	2,874	2,276	2,252	2,289	2.5	-1.7
Hawaii and Pacific Territories	Shipped	1,574	1,574	1,574	2,091	1,574	1,574	1,574	2.2	-2.2
	Received	1,995	1,995	1,995	2,652	1,995	1,995	1,995	2.2	-2.2
Domestic Caribbean	Shipped	28,364	29,334	26,465	35,169	24,041	20,254	19,878	1.7	-4.3
	Received	3,329	3,329	2,843	3,778	2,271	1,873	1,806	1.0	-5.5
Total	Shipped	364,418	356,256	315,021	418,595	290,124	266,622	261,857	1.1	-3.5
	Received	364,418	356,256	315,021	418,595	290,124	266,622	261,857	1.1	-3.5

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Petroleum and Coal Products
ALTERNATIVE: Defense

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	1,028	0	0	0	0	0	0	-100.0	0.0
	Imports	211	263	228	179	178	138	130	-1.3	-2.4
Illinois River	Exports	500	0	0	0	0	0	0	-100.0	0.0
	Imports	a	a	a	a	a	a	a	-3.1	-1.9
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	3,520	0	0	0	0	0	0	-100.0	0.0
	Imports	2,117	2,041	1,724	1,352	1,332	1,056	1,007	-3.4	-2.2
Gulf Coast East	Exports	714	0	0	0	0	0	0	-100.0	0.0
	Imports	2,858	2,599	2,141	1,679	1,547	1,147	1,062	-4.0	-3.5
Warrior River System	Exports	3	0	0	0	0	0	0	-100.0	0.0
	Imports	9	8	7	6	6	4	4	-3.3	-2.5
South Atlantic Coast	Exports	27	0	0	0	0	0	0	-100.0	0.0
	Imports	10,434	8,951	7,304	5,728	5,192	3,804	3,505	-4.5	-3.7
Middle Atlantic Coast	Exports	533	0	0	0	0	0	0	-100.0	0.0
	Imports	46,648	41,061	33,726	26,450	24,442	18,287	17,013	-4.3	-3.3

7/20/81

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	35	0	0	0	0	0	0	-100.0	0.0
	Imports	17,571	15,546	12,783	10,025	9,297	6,984	6,509	-4.2	-3.3
Great Lakes and Seaway	Exports	71	0	0	0	0	0	0	-100.0	0.0
	Imports	2,135	2,130	1,799	1,411	1,411	1,143	1,099	-3.1	-1.9
Washington/Oregon Coast	Exports	2	0	0	0	0	0	0	-100.0	0.0
	Imports	123	110	90	71	66	50	46	-4.2	-3.2
Columbia-Snake Willamette River	Exports	15	0	0	0	0	0	0	-100.0	0.0
	Imports	30	27	23	18	17	13	12	-4.1	-3.1
California Coast	Exports	3,852	0	0	0	0	0	0	-100.0	0.0
	Imports	1,602	1,424	1,178	924	863	649	606	-4.1	-3.2
Alaska	Exports	1,089	0	0	0	0	0	0	-100.0	0.0
	Imports	737	737	623	489	489	397	382	-3.1	-1.9
Hawaii and Pacific Territories	Exports	32	0	0	0	0	0	0	-100.0	0.0
	Imports	3,129	3,129	3,129	2,454	3,129	3,129	3,129	-1.9	1.9
Domestic Caribbean	Exports	8	0	0	0	0	0	0	-100.0	0.0
	Imports	6,079	5,692	4,998	3,920	3,917	3,000	2,817	-3.3	-2.5
Total	Exports	11,428	0	0	0	0	0	0	-100.0	0.0
	Imports	93,681	83,719	69,753	54,704	51,886	39,801	37,323	-4.1	-2.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Petroleum and Coal Products
ALTERNATIVE: Defense

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	3,124	3,220	3,009	3,999	2,997	2,952	2,953	1.9	-2.3
Lower Upper Mississippi	12,091	12,307	11,430	15,189	11,544	11,505	11,565	1.8	-2.1
Lower Mississippi	24,229	24,235	22,530	27,710	20,650	20,178	20,253	1.0	2.4
Baton Rouge to Gulf	59,813	59,719	54,203	70,391	53,067	50,607	50,542	1.3	-2.5
Illinois River	8,352	8,370	7,664	10,185	7,689	7,610	7,680	1.5	-2.1
Missouri River	436	473	477	634	541	561	568	2.9	-0.9
Ohio River	22,283	22,294	20,441	25,479	18,715	18,329	18,339	1.0	-2.5
Tennessee River	3,594	3,632	3,549	5,260	4,348	4,477	4,587	3.0	-1.0
Arkansas River	2,075	2,038	1,764	2,344	1,473	1,284	1,243	0.9	-4.8
Gulf Coast West	89,324	89,040	73,748	98,001	72,331	69,282	69,164	0.7	-2.6
Gulf Coast East	28,070	27,552	24,746	34,471	24,224	23,089	22,905	1.6	-3.1
Warrior River System	5,475	5,560	5,331	9,260	7,361	7,355	7,433	4.1	-1.7
Great Lakes	9,347	9,152	8,093	10,755	7,308	6,842	6,761	1.1	3.5

A = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Petroleum and Coal Products
ALTERNATIVE: Defense

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	748	767	713	948	702	691	690	1.8	2.4
Lower Upper Mississippi	1,693	1,720	1,613	2,144	1,663	1,676	1,696	1.8	-1.8
Lower Mississippi	12,482	12,546	11,673	14,030	10,540	10,407	10,487	0.9	-2.2
Baton Rouge to Gulf	7,516	7,503	6,975	8,892	6,735	6,482	6,500	1.3	-2.4
Illinois River	1,355	1,356	1,249	1,660	1,258	1,250	1,262	1.6	-2.1
Missouri River	92	100	101	134	114	118	120	2.9	-0.9
Ohio River	8,443	8,388	7,624	10,026	7,441	7,298	7,319	1.3	-2.4
Tennessee River	942	939	911	1,328	1,088	1,119	1,145	2.7	-1.1
Arkansas River	490	484	417	554	346	302	292	0.9	-4.8
Gulf Coast West	10,856	10,875	10,000	13,289	10,160	9,879	9,952	1.6	-2.2
Gulf Coast East	1,386	1,371	1,245	1,867	1,364	1,322	1,318	2.3	-2.6
Warrior River System	271	275	264	1,082	899	918	930	11.2	-1.1
Great Lakes	2,140	2,102	1,840	2,445	1,678	1,583	1,568	1.0	-3.4
Total	48,414	48,426	44,625	58,398	43,988	43,043	43,288	1.5	2.3

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Petroleum and Coal Products
ALTERNATIVE: High Coal Export

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	1,399	1,463	1,391	1,401	1,439	1,435	1,445	0.0	0.2
	Received	3,035	3,121	2,903	2,852	2,863	2,805	2,800	-0.5	-0.1
Lower Upper Mississippi	Shipped	6,334	6,433	5,865	5,727	5,701	5,554	5,506	-0.8	-0.3
	Received	2,891	2,936	2,633	2,496	2,496	2,432	2,414	-1.1	-0.3
Lower Mississippi	Shipped	2,006	2,033	1,912	1,931	1,934	1,888	1,900	-0.3	-0.1
	Received	8,807	8,704	8,010	7,747	7,574	7,168	7,091	-1.0	-0.7
Baton Rouge to Gulf	Shipped	43,713	43,517	38,468	38,734	37,971	35,923	35,731	-0.9	-0.6
	Received	19,215	19,391	19,720	21,177	21,024	19,847	19,892	0.8	-0.5
Illinois River	Shipped	3,499	3,521	3,232	3,201	3,250	3,190	3,213	-0.7	0.0
	Received	6,551	6,551	5,920	5,774	5,851	5,765	5,807	-1.0	0.0
Missouri River	Shipped	168	183	186	201	215	224	227	1.4	1.0
	Received	268	290	291	309	326	337	340	1.1	0.8
Ohio River	Shipped	9,805	9,771	8,776	8,375	8,168	7,848	7,773	-1.2	-0.6
	Received	19,035	19,034	17,244	16,848	16,710	16,316	16,309	-0.9	0.3
Tennessee River	Shipped	184	187	177	180	180	174	174	-0.2	-0.3
	Received	1,941	1,922	1,930	2,062	2,193	2,265	2,335	0.5	1.0
Arkansas River	Shipped	1,084	1,070	874	714	677	591	571	-3.2	-1.7
	Received	1,422	1,449	1,264	1,119	1,063	931	904	-1.8	-1.6
Gulf Coast West	Shipped	81,572	81,148	65,983	65,539	64,167	61,284	61,089	-1.7	-0.5
	Received	21,623	22,076	22,137	23,601	23,796	23,186	23,501	0.7	0.0
Gulf Coast East	Shipped	12,002	11,763	10,433	9,925	9,477	8,953	8,827	-1.5	-0.9
	Received	19,146	18,571	16,302	15,221	14,349	13,399	13,185	-1.7	1.1
Warrior River System	Shipped	2,602	2,674	2,722	2,898	2,970	2,979	3,022	0.8	0.3
	Received	3,120	3,134	2,847	2,792	2,803	2,727	2,710	0.8	-0.2
South Atlantic Coast	Shipped	7,094	6,333	5,148	4,427	3,542	3,006	2,935	-3.6	-3.0
	Received	31,994	31,044	27,140	25,179	23,461	21,590	21,384	-1.8	-1.2
Middle Atlantic Coast	Shipped	112,406	110,500	97,365	89,434	82,545	73,646	[illegible]	-1.7	-1.9
	Received	129,100	127,246	104,467	96,864	89,710	79,467	[illegible]	-2.2	-1.8

7/20/81

SEGMENT	IN/OUT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
North Atlantic Coast	Shipped	8,500	8,819	8,093	7,395	6,920	6,122	5,918	-1.1	-1.7
	Received	48,247	48,963	40,310	37,489	35,494	31,976	30,936	-1.9	-1.5
Great Lakes and Seaway	Shipped	5,760	5,660	4,925	4,597	4,463	4,192	4,151	-1.7	-0.8
	Received	6,346	6,789	6,105	5,791	5,629	5,320	5,273	-1.3	-0.7
Washington/Oregon Coast	Shipped	5,774	5,229	5,224	5,351	5,160	4,800	4,735	-0.6	-0.9
	Received	5,884	5,337	5,343	5,488	5,311	4,960	4,893	-0.5	-0.9
Columbia-Snake Willamette River	Shipped	2,130	1,825	1,828	1,860	1,752	1,575	1,529	-1.0	-1.5
	Received	5,397	4,815	4,708	4,711	4,445	4,020	3,898	-1.0	-1.4
California Coast	Shipped	26,329	21,349	22,407	23,331	21,973	19,548	18,970	-0.9	-1.6
	Received	22,495	17,490	18,747	19,713	18,463	16,192	15,656	-1.0	-1.8
Alaska	Shipped	2,117	1,871	1,973	2,073	2,004	1,862	1,854	-0.2	-0.9
	Received	2,075	2,069	2,163	2,279	2,276	2,252	2,289	0.7	0.0
Hawaii and Pacific Territories	Shipped	1,574	1,574	1,574	1,574	1,574	1,574	1,574	0.0	0.0
	Received	1,995	1,995	1,995	1,995	1,995	1,995	1,995	0.0	0.0
Domestic Caribbean	Shipped	28,364	29,334	26,465	25,123	24,041	20,254	19,878	-0.9	-1.8
	Received	3,329	3,329	2,843	2,478	2,271	1,873	1,806	-2.2	-2.4
Total	Shipped	364,418	356,256	315,021	303,988	290,124	266,622	261,857	-1.4	-1.1
	Received	364,418	356,256	315,021	303,988	290,124	266,622	261,857	-1.4	-1.1

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Petroleum and Coal Products
ALTERNATIVE: High Coal Export

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	1,028	0	0	0	0	0	0	-100.0	0.0
	Imports	211	263	228	208	178	138	130	-0.1	-3.5
Illinois River	Exports	500	0	0	0	0	0	0	-100.0	0.0
	Imports	a	a	a	a	a	a	a	-2.4	-2.6
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	3,520	0	0	0	0	0	0	-100.0	0.0
	Imports	2,117	2,041	1,724	1,512	1,332	1,056	1,007	-2.6	-3.1
Gulf Coast East	Exports	714	0	0	0	0	0	0	-100.0	0.0
	Imports	2,858	2,599	2,141	1,905	1,547	1,147	1,062	-3.1	-4.4
Warrior River System	Exports	3	0	0	0	0	0	0	-100.0	0.0
	Imports	9	8	7	7	6	4	4	-2.1	-3.8
South Atlantic Coast	Exports	27	0	0	0	0	0	0	-100.0	0.0
	Imports	10,434	8,951	7,304	6,483	5,192	3,804	3,505	-3.6	-4.6
Middle Atlantic Coast	Exports	533	0	0	0	0	0	0	-100.0	0.0
	Imports	46,646	41,061	33,726	29,808	24,442	18,287	17,013	-3.4	-4.2

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90 03
North Atlantic Coast	Exports	35	0	0	0	0	0	0	100.0	0.0
	Imports	17,571	15,546	12,783	11,287	9,297	6,984	6,509	-3.3	-4.1
Great Lakes and Seaway	Exports	71	0	0	0	0	0	0	100.0	0.0
	Imports	2,135	2,130	1,799	1,559	1,411	1,143	1,099	-2.4	-2.7
Washington/Oregon Coast	Exports	2	0	0	0	0	0	0	-100.0	0.0
	Imports	123	110	90	80	66	50	46	-3.3	-4.1
Columbia-Snake Willamette River	Exports	15	0	0	0	0	0	0	-100.0	0.0
	Imports	30	27	23	20	17	13	12	-3.2	-3.9
California Coast	Exports	3,852	0	0	0	0	0	0	-100.0	0.0
	Imports	1,602	1,424	1,178	1,044	863	649	606	-3.2	-4.1
Alaska	Exports	1,089	0	0	0	0	0	0	-100.0	0.0
	Imports	737	737	623	540	489	397	382	-2.4	-2.6
Hawaii and Pacific Territories	Exports	32	0	0	0	0	0	0	-100.0	0.0
	Imports	3,129	3,129	3,129	3,129	3,129	3,129	3,129	0.0	0.0
Domestic Caribbean	Exports	8	0	0	0	0	0	0	-100.0	0.0
	Imports	6,079	5,692	4,998	4,627	3,917	3,000	2,817	-2.1	-3.7
Total	Exports	11,428	0	0	0	0	0	0	-100.0	0.0
	Imports	93,681	83,719	69,753	62,210	51,886	39,801	37,323	-3.1	-3.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Petroleum and Coal Products
ALTERNATIVE: High Coal Export

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	3,124	3,220	3,009	2,972	2,997	2,952	2,953	-0.4	-0.1
Lower Upper Mississippi	12,091	12,307	11,430	11,326	11,544	11,505	11,565	-0.5	0.2
Lower Mississippi	24,229	24,235	22,530	20,606	20,650	20,178	20,253	-1.2	-0.1
Baton Rouge to Gulf	59,813	59,719	54,203	53,730	53,067	50,607	50,542	-0.8	-0.5
Illinois River	8,352	8,370	7,664	7,547	7,689	7,610	7,680	-0.8	0.1
Missouri River	436	473	477	510	541	561	568	1.2	0.8
Ohio River	22,283	22,294	20,441	18,803	18,715	18,329	18,339	-1.3	-0.2
Tennessee River	3,594	3,632	3,549	4,134	4,348	4,477	4,587	1.1	0.8
Arkansas River	2,075	2,038	1,764	1,559	1,473	1,284	1,243	-2.2	-1.7
Gulf Coast West	89,324	89,040	73,748	73,636	72,331	69,282	69,164	-1.5	-0.5
Gulf Coast East	28,070	27,552	24,746	25,015	24,224	23,089	22,905	-0.9	-0.7
Warrior River System	5,475	5,560	5,331	7,185	7,361	7,355	7,433	2.1	0.3
Great Lakes	9,347	9,152	8,093	7,553	7,308	6,842	6,761	-1.6	-0.8

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Petroleum and Coal Products
ALTERNATIVE: High Coal Export

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	748	767	713	700	702	691	690	-0.5	-0.1
Lower Upper Mississippi	1,693	1,720	1,613	1,614	1,663	1,676	1,696	-0.4	0.4
Lower Mississippi	12,482	12,546	11,673	10,433	10,540	10,407	10,487	-1.4	0.0
Baton Rouge to Gulf	7,516	7,503	6,975	6,786	6,735	6,482	6,500	-0.8	-0.3
Illinois River	1,355	1,356	1,249	1,232	1,258	1,250	1,262	-0.7	0.2
Missouri River	92	100	101	108	114	118	120	1.2	0.8
Ohio River	8,443	8,388	7,624	7,459	7,441	7,298	7,319	-0.9	-0.1
Tennessee River	942	939	911	1,035	1,088	1,119	1,145	0.7	0.8
Arkansas River	490	484	417	365	346	302	292	-2.2	-1.7
Gulf Coast West	10,856	10,875	10,000	10,170	10,160	9,879	9,952	-0.5	-0.2
Gulf Coast East	1,386	1,371	1,245	1,380	1,364	1,322	1,318	0.0	-0.3
Warrior River System	271	275	264	859	899	918	939	9.3	0.7
Great Lakes	2,140	2,102	1,840	1,722	1,678	1,583	1,568	-1.7	-0.7
Total	48,414	48,426	44,625	43,863	43,988	43,043	43,288	-0.8	-0.1

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Petroleum and Coal Products
ALTERNATIVE: Misc. Sensitivity

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	1,403	1,468	1,396	1,407	1,446	1,442	1,453	0.0	0.2
	Received	3,044	3,129	2,912	2,862	2,873	2,816	2,811	-0.5	-0.1
Lower Upper Mississippi	Shipped	6,560	6,662	6,079	5,941	5,919	5,771	5,724	-0.8	-0.3
	Received	2,915	2,961	2,659	2,523	2,526	2,463	2,446	-1.1	-0.2
Lower Mississippi	Shipped	2,121	2,150	2,022	2,044	2,053	2,013	2,034	-0.3	0.0
	Received	8,838	8,733	8,056	7,804	7,642	7,246	7,180	-1.0	-0.6
Baton Rouge to Gulf	Shipped	44,307	44,096	39,057	39,359	38,639	36,623	36,482	-0.9	-0.6
	Received	19,241	19,418	19,754	21,218	21,071	19,899	19,949	0.8	-0.5
Illinois River	Shipped	3,530	3,549	3,261	3,232	3,285	3,226	3,252	-0.7	0.0
	Received	6,582	6,579	5,966	5,829	5,918	5,843	5,898	-0.9	0.1
Missouri River	Shipped	168	183	186	201	215	224	227	1.4	1.0
	Received	268	290	291	309	326	337	340	1.1	0.8
Ohio River	Shipped	10,872	10,835	9,730	9,285	9,055	8,699	8,616	-1.2	-0.6
	Received	21,089	21,083	19,105	18,671	18,523	18,092	18,094	-0.9	-0.2
Tennessee River	Shipped	204	207	196	199	199	193	193	-0.2	-0.3
	Received	2,135	2,113	2,128	2,278	2,427	2,513	2,597	0.5	1.0
Arkansas River	Shipped	1,103	1,070	1,002	900	949	944	1,012	-1.5	0.9
	Received	1,422	1,429	1,426	1,387	1,463	1,461	1,572	-0.2	1.0
Gulf Coast West	Shipped	81,838	81,413	66,288	65,897	64,581	61,746	61,599	-1.7	-0.5
	Received	21,635	22,089	22,149	23,614	23,808	23,198	23,513	0.7	0.0
Gulf Coast East	Shipped	12,043	11,805	10,475	9,970	9,525	9,003	8,879	-1.4	-0.9
	Received	19,146	18,571	16,303	15,223	14,352	13,401	13,188	-1.7	-1.1
Warrior River System	Shipped	2,604	2,675	2,724	2,900	2,972	2,982	3,025	0.8	0.3
	Received	3,122	3,137	2,851	2,797	2,808	2,733	2,717	-0.8	-0.2
South Atlantic Coast	Shipped	7,094	6,333	5,148	4,427	3,542	3,006	2,995	-3.6	-3.0
	Received	31,994	31,044	27,140	25,179	23,481	21,690	21,384	-1.8	-1.2
Middle Atlantic Coast	Shipped	112,406	110,500	97,365	89,434	82,545	73,646	70,775	-1.7	-1.8
	Received	129,100	127,246	104,467	96,864	89,710	79,167	76,439	-2.2	-1.8

7/20/81

SEGMENT	IN/OUT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
North Atlantic Coast	Shipped	8,500	8,819	8,093	7,395	6,920	6,122	5,918	-1.1	-1.7
	Received	48,247	48,963	40,310	37,489	35,494	31,976	30,936	-1.9	-1.5
Great Lakes and Seaway	Shipped	5,761	5,661	4,926	4,598	4,465	4,194	4,153	-1.7	-0.8
	Received	6,846	6,789	6,105	5,791	5,629	5,320	5,274	-1.3	0.7
Washington/Oregon Coast	Shipped	5,774	5,229	5,224	5,351	5,160	4,800	4,735	-0.6	-0.9
	Received	5,884	5,337	5,343	5,488	5,311	4,960	4,893	-0.5	-0.9
Columbia-Snake Willamette River	Shipped	2,130	1,825	1,828	1,860	1,752	1,575	1,529	-1.0	-1.5
	Received	5,397	4,815	4,708	4,711	4,445	4,020	3,898	-1.0	-1.4
California Coast	Shipped	26,329	21,349	22,407	23,331	21,973	19,548	18,970	-0.9	-1.6
	Received	22,495	17,490	18,747	19,713	18,463	16,192	15,656	-1.0	-1.8
Alaska	Shipped	2,117	1,871	1,973	2,073	2,004	1,862	1,854	-0.2	-0.9
	Received	2,075	2,069	2,163	2,279	2,276	2,252	2,289	0.7	0.0
Hawaii and Pacific Territories	Shipped	1,574	1,574	1,574	1,574	1,574	1,574	1,574	0.0	0.0
	Received	1,995	1,995	1,995	1,995	1,995	1,995	1,995	0.0	0.0
Domestic Caribbean	Shipped	28,364	29,334	26,465	25,123	24,041	20,254	19,878	-0.9	-1.8
	Received	3,329	3,329	2,843	2,478	2,271	1,873	1,806	-2.2	-2.4
Total	Shipped	366,801	358,609	317,422	306,502	292,813	269,447	264,875	-1.4	-1.1
	Received	366,801	358,609	317,422	306,502	292,813	269,447	264,875	-1.4	-1.1

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Petroleum and Coal Products
ALTERNATIVE: Misc. Sensitivity

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	[illegible]	[illegible]
	Imports	0	0	0	0	0	0	0	[illegible]	[illegible]
Lower Mississippi	Exports	0	0	0	0	0	0	0	[illegible]	[illegible]
	Imports	0	0	0	0	0	0	0	[illegible]	[illegible]
Baton Rouge to Gulf	Exports	1,083	0	0	0	0	0	0	[illegible]	[illegible]
	Imports	278	263	228	208	178	138	120	[illegible]	[illegible]
Illinois River	Exports	500	0	0	0	0	0	0	[illegible]	[illegible]
	Imports	a	a	a	a	a	a	a	[illegible]	[illegible]
Missouri River	Exports	0	0	0	0	0	0	0	[illegible]	[illegible]
	Imports	0	0	0	0	0	0	0	[illegible]	[illegible]
Ohio River	Exports	0	0	0	0	0	0	0	[illegible]	[illegible]
	Imports	0	0	0	0	0	0	0	[illegible]	[illegible]
Tennessee River	Exports	0	0	0	0	0	0	0	[illegible]	[illegible]
	Imports	0	0	0	0	0	0	0	[illegible]	[illegible]
Arkansas River	Exports	0	0	0	0	0	0	0	[illegible]	[illegible]
	Imports	0	0	0	0	0	0	0	[illegible]	[illegible]
Gulf Coast West	Exports	3,520	0	0	0	0	0	0	[illegible]	[illegible]
	Imports	2,117	2,041	1,724	1,512	1,332	1,056	1,007	[illegible]	[illegible]
Gulf Coast East	Exports	1,250	0	0	0	0	0	0	[illegible]	[illegible]
	Imports	2,981	2,599	2,141	1,905	1,547	1,147	1,062	[illegible]	[illegible]
Barrier River System	Exports	3	0	0	0	0	0	0	[illegible]	[illegible]
	Imports	9	8	7	7	6	4	4	[illegible]	[illegible]
South Atlantic Coast	Exports	27	2	0	0	0	0	0	[illegible]	[illegible]
	Imports	10,434	8,951	7,504	6,483	5,234	3,804	2,505	[illegible]	[illegible]
Middle Atlantic Coast	Exports	524	0	0	0	0	0	0	[illegible]	[illegible]
	Imports	36,536	31,051	27,526	24,508	21,442	18,287	17,013	[illegible]	[illegible]

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	35	0	0	0	0	0	0	-100.0	0.0
	Imports	17,571	15,546	12,783	11,287	9,297	6,984	6,509	-3.3	-4.1
Great Lakes and Seaway	Exports	71	0	0	0	0	0	0	-100.0	0.0
	Imports	2,135	2,130	1,799	1,559	1,411	1,143	1,099	-2.4	-2.7
Washington/Oregon Coast	Exports	2	0	0	0	0	0	0	-100.0	0.0
	Imports	123	110	90	80	66	50	46	-3.3	-4.1
Columbia-Snake Willamette River	Exports	15	0	0	0	0	0	0	-100.0	0.0
	Imports	30	27	23	20	17	13	12	-3.2	-3.9
California Coast	Exports	3,852	0	0	0	0	0	0	-100.0	0.0
	Imports	1,602	1,424	1,178	1,044	863	649	606	-3.2	-4.1
Alaska	Exports	1,089	0	0	0	0	0	0	-100.0	0.0
	Imports	737	737	623	540	489	397	382	-2.4	-2.6
Hawaii and Pacific Territories	Exports	32	0	0	0	0	0	0	-100.0	0.0
	Imports	3,129	3,129	3,129	3,129	3,129	3,129	3,129	0.0	0.0
Domestic Caribbean	Exports	8	0	0	0	0	0	0	-100.0	0.0
	Imports	6,079	5,692	4,998	4,627	3,917	3,000	2,817	-2.1	-3.7
Total	Exports	12,019	0	0	0	0	0	0	-100.0	0.0
	Imports	93,871	83,719	69,753	62,210	51,886	39,801	37,323	-3.1	-3.9

A = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Petroleum and Coal Products
ALTERNATIVE: Misc. Sensitivity

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	3,137	3,234	3,024	2,988	3,014	2,970	2,971	-0.4	0.0
Lower Upper Mississippi	12,417	12,632	11,763	11,670	11,911	11,886	11,964	-0.5	0.2
Lower Mississippi	25,336	25,321	23,735	21,771	21,966	21,626	21,862	-1.2	0.0
Baton Rouge to Gulf	60,755	60,650	55,192	54,686	54,123	51,745	51,783	-0.8	-0.4
Illinois River	8,415	8,428	7,742	7,635	7,792	7,727	7,811	-0.7	0.2
Missouri River	436	473	477	510	541	561	568	1.2	0.8
Ohio River	24,666	24,672	22,631	20,836	20,749	20,334	20,363	-1.3	-0.2
Tennessee River	2,486	2,464	2,469	2,994	3,171	3,270	3,362	1.4	0.9
Arkansas River	2,094	2,026	2,007	1,948	2,045	2,032	2,181	-0.6	0.9
Gulf Coast West	89,602	89,318	74,065	74,006	72,757	69,756	69,686	-1.5	-0.5
Gulf Coast East	28,115	27,599	24,795	25,196	24,418	23,292	23,116	-0.8	-0.7
Warrior River System	5,480	5,565	5,337	7,367	7,554	7,556	7,639	2.3	0.3
Great Lakes	9,349	9,153	8,094	7,555	7,310	6,844	6,763	-1.6	-0.8

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Petroleum and Coal Products
ALTERNATIVE: Misc. Sensitivity

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	753	772	719	706	708	697	696	-0.5	-0.1
Lower Upper Mississippi	1,754	1,782	1,677	1,681	1,735	1,751	1,775	-0.3	0.4
Lower Mississippi	13,144	13,197	12,383	11,091	11,277	11,214	11,378	-1.3	0.2
Baton Rouge to Gulf	7,705	7,688	7,170	6,966	6,930	6,686	6,721	-0.8	-0.3
Illinois River	1,367	1,367	1,264	1,249	1,278	1,272	1,287	-0.7	0.2
Missouri River	92	100	101	108	114	118	120	1.2	0.8
Ohio River	9,386	9,321	8,475	8,295	8,278	8,122	8,151	-0.9	-0.1
Tennessee River	721	704	655	807	854	879	903	0.9	0.9
Arkansas River	494	481	474	456	480	477	512	-0.6	0.9
Gulf Coast West	10,973	10,991	10,134	10,327	10,342	10,082	10,177	-0.5	-0.1
Gulf Coast East	1,388	1,373	1,248	1,399	1,386	1,345	1,342	0.1	-0.3
Warrior River System	271	275	264	919	962	983	1,006	9.8	0.7
Great Lakes	2,141	2,103	1,841	1,723	1,679	1,583	1,569	-1.7	-0.7
Total	50,190	50,154	46,444	45,726	46,022	45,209	45,638	-0.7	0.0

n = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Stone, Clay, Glass, and Concrete Products
ALTERNATIVE: Baseline

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	1,372	1,412	1,635	1,662	1,667	1,737	1,804	1.5	0.6
	Received	407	419	485	493	495	516	536	1.5	0.6
Lower Upper Mississippi	Shipped	1,411	1,523	1,931	2,069	2,209	2,454	2,649	3.0	1.9
	Received	198	204	236	239	240	250	259	1.5	0.6
Lower Mississippi	Shipped	5	6	9	10	11	13	14	4.9	3.0
	Received	1,057	1,145	1,459	1,568	1,678	1,870	2,022	3.1	2.0
Baton Rouge to Gulf	Shipped	57	60	72	75	77	83	87	2.1	1.2
	Received	84	87	104	107	110	117	123	1.9	1.1
Illinois River	Shipped	68	71	86	90	93	100	106	2.2	1.3
	Received	1,095	1,173	1,469	1,563	1,656	1,826	1,962	2.8	1.8
Missouri River	Shipped	147	152	175	178	179	186	193	1.5	0.6
	Received	148	153	177	180	181	189	196	1.5	0.7
Ohio River	Shipped	1,173	1,291	1,693	1,847	2,009	2,274	2,480	3.6	2.3
	Received	1,105	1,193	1,512	1,621	1,730	1,922	2,074	3.0	1.9
Tennessee River	Shipped	19	22	32	37	42	50	56	5.4	3.3
	Received	66	68	80	82	84	88	92	1.7	0.9
Arkansas River	Shipped	3	3	5	6	7	8	9	5.8	3.4
	Received	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Shipped	246	256	297	304	307	322	335	1.7	0.7
	Received	413	435	522	543	561	603	639	2.1	1.3
Gulf Coast East	Shipped	580	679	980	1,119	1,276	1,506	1,680	5.2	3.2
	Received	592	662	880	971	1,067	1,216	1,331	3.9	2.5
Warrior River System	Shipped	129	137	161	167	171	180	188	2.0	0.9
	Received	216	250	356	403	457	536	596	4.9	3.1
South Atlantic Coast	Shipped	141	194	251	301	341	391	423	6.0	2.7
	Received	410	643	842	1,066	1,236	1,421	1,524	7.6	2.8
Middle Atlantic Coast	Shipped	1,938	3,036	3,975	5,033	5,835	6,708	7,194	7.6	2.8
	Received	947	1,482	1,941	2,456	2,847	3,273	3,510	7.6	2.8

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	17	27	36	46	53	61	65	7.8	2.8
	Received	634	1,010	1,324	1,686	1,960	2,254	2,415	7.8	2.8
Great Lakes and Seaway	Shipped	3,603	3,883	4,435	5,047	5,505	6,006	6,285	2.6	1.7
	Received	3,449	3,725	4,254	4,863	5,322	5,817	6,089	2.7	1.7
Washington/Oregon Coast	Shipped	399	479	608	685	752	846	911	4.2	2.2
	Received	255	291	365	404	436	484	519	3.6	1.9
Columbia-Snake Willamette River	Shipped	25	29	39	44	49	58	64	4.6	2.9
	Received	15	20	28	34	39	46	51	6.6	3.2
California Coast	Shipped	162	209	270	312	350	401	435	5.2	2.6
	Received	33	44	56	66	75	85	92	5.5	2.6
Alaska	Shipped	6	9	11	14	16	18	20	6.4	2.7
	Received	186	252	328	390	442	507	548	5.9	2.6
Hawaii and Pacific Territories	Shipped	117	175	228	284	327	375	403	7.0	2.7
	Received	229	302	391	458	516	590	640	5.5	2.6
Domestic Caribbean	Shipped	35	35	35	36	36	36	36	0.1	0.1
	Received	116	130	157	169	187	203	219	2.9	2.0
Total	Shipped	11,655	13,687	16,965	19,364	21,313	23,813	25,438	4.0	2.1
	Received	11,655	13,687	16,965	19,364	21,313	23,813	25,438	4.0	2.1

R = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Stone, Clay, Glass, and Concrete Products
ALTERNATIVE: Baseline

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	82	92	110	125	143	164	179	3.3	2.8
	Imports	125	217	173	176	176	183	189	2.7	0.6
Illinois River	Exports	a	a	a	a	a	a	a	3.1	2.7
	Imports	13	19	16	16	16	17	17	1.6	0.4
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	50	57	69	79	92	106	116	3.7	3.0
	Imports	225	380	305	309	310	321	332	2.5	0.5
Gulf Coast East	Exports	37	43	51	58	67	77	84	3.5	2.9
	Imports	219	410	319	325	326	340	353	3.1	0.6
Warrior River System	Exports	19	21	25	29	33	38	41	3.2	2.8
	Imports	3	3	3	3	3	3	3	0.0	0.0
South Atlantic Coast	Exports	123	139	167	191	219	252	275	3.4	2.9
	Imports	545	957	760	772	774	803	832	2.7	0.6
Middle Atlantic Coast	Exports	316	348	411	464	528	604	655	3.0	2.7
	Imports	704	999	850	858	859	880	899	1.5	0.4

7/20/9[illegible]

SEGMENT	EXP/IMP	YEAR 1977	1980	1985	1990	1995	2000	2007	GROWTH 77-90	90-00
North Atlantic Coast	Exports	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4	2.9	2.5
	Imports	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.0	0.0
Great Lakes and Seaway	Exports	93	93	93	104	131	158	176	6.7	3.7
	Imports	777	1,446	1,128	1,147	1,159	1,199	1,246	3.1	0.6
Washington/Oregon Coast	Exports	21	29	39	47	57	68	76	6.9	3.8
	Imports	730	1,316	1,036	1,053	1,056	1,098	1,139	2.9	0.6
Columbia-Snake Willamette River	Exports	1	1	1	1	1	1	2	3.0	2.7
	Imports	14	14	14	14	14	14	14	0.0	0.0
California Coast	Exports	33	40	47	54	62	71	77	3.2	2.8
	Imports	277	294	279	280	280	280	280	0.1	0.0
Alaska	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	79	133	107	103	109	113	117	2.5	0.5
Hawaii and Pacific Territories	Exports	a	a	a	a	a	1	1	3.3	2.8
	Imports	4	5	4	4	4	4	4	0.0	0.0
Domestic Caribbean	Exports	[illegible]	68	90	10[illegible]	130	156	173	6.2	3.7
	Imports	57	88	73	74	74	76	78	2.[illegible]	0.5
Total	Exports	[illegible]	31[illegible]	1,103	1,2[illegible]3	1,465	1,693	1,858	3.[illegible]	3.0
	Imports	3,783	6,294	5,081	5,151	5,163	5,341	5,516	2.[illegible]	0.5

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Stone, Clay, Glass, and Concrete Products
ALTERNATIVE: Baseline

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	1,390	1,430	1,656	1,684	1,690	1,761	1,829	1.5	0.6
Lower Upper Mississippi	2,055	2,188	2,705	2,859	3,005	3,287	3,517	2.6	1.6
Lower Mississippi	1,343	1,440	1,804	1,854	1,968	2,174	2,340	2.5	1.8
Baton Rouge to Gulf	366	380	447	392	399	421	442	0.5	0.9
Illinois River	1,181	1,263	1,576	1,674	1,769	1,946	2,089	2.7	1.7
Missouri River	148	153	177	180	181	189	196	1.5	0.7
Ohio River	1,709	1,871	2,429	2,696	2,913	3,275	3,560	3.6	2.2
Tennessee River	325	337	396	474	481	507	531	2.9	0.9
Arkansas River	3	3	5	6	7	8	9	5.8	3.4
Gulf Coast West	436	461	555	579	599	644	682	2.2	1.3
Gulf Coast East	945	1,061	1,425	1,520	1,683	1,935	2,128	3.7	2.6
Warrior River System	343	385	513	575	633	722	791	4.1	2.5
Great Lakes	3,760	4,045	4,624	5,240	5,700	6,210	6,497	2.6	1.7

A - less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Stone, Clay, Glass, and Concrete Products
ALTERNATIVE: Baseline

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	234	241	279	284	285	297	308	1.5	0.6
Lower Upper Mississippi	282	300	369	389	407	444	474	2.5	1.5
Lower Mississippi	439	466	574	561	590	645	690	1.9	1.6
Baton Rouge to Gulf	54	56	66	57	59	63	66	0.5	1.1
Illinois River	313	335	417	443	468	515	552	2.7	1.7
Missouri River	38	39	46	46	46	48	50	1.5	0.6
Ohio River	481	537	721	799	880	1,007	1,105	4.0	2.5
Tennessee River	73	75	87	103	103	108	112	2.7	0.7
Arkansas River	1	1	2	2	2	3	3	5.8	3.4
Gulf Coast West	48	50	60	63	65	69	73	2.1	1.2
Gulf Coast East	61	67	88	88	97	110	121	2.9	2.5
Warrior River System	11	12	16	35	37	41	44	9.4	1.6
Great Lakes	1,508	1,625	1,857	2,113	2,305	2,515	2,632	2.6	1.7
Total	3,543	3,805	4,582	4,984	5,344	5,865	6,231	2.7	1.7

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Stone, Clay, Glass, and Concrete Products
ALTERNATIVE: Low Use

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	1,372	1,412	1,609	1,591	1,689	1,676	1,744	1.1	0.7
	Received	407	419	478	472	472	498	518	1.1	0.7
Lower Upper Mississippi	Shipped	1,411	1,523	1,876	1,926	2,022	2,269	2,451	2.4	1.9
	Received	198	204	232	229	229	241	251	1.1	0.7
Lower Mississippi	Shipped	5	6	8	9	10	11	13	4.1	2.9
	Received	1,057	1,145	1,416	1,457	1,533	1,726	1,868	2.5	1.9
Baton Rouge to Gulf	Shipped	57	60	70	70	72	78	83	1.7	1.2
	Received	84	87	102	102	103	111	117	1.5	1.1
Illinois River	Shipped	68	71	84	85	87	95	100	1.8	1.3
	Received	1,095	1,173	1,430	1,460	1,523	1,696	1,825	2.2	1.7
Missouri River	Shipped	147	152	173	171	170	180	187	1.1	0.7
	Received	148	153	174	172	172	182	189	1.2	0.7
Ohio River	Shipped	1,173	1,291	1,638	1,703	1,817	2,077	2,268	2.9	2.2
	Received	1,105	1,193	1,469	1,508	1,583	1,777	1,920	2.4	1.9
Tennessee River	Shipped	19	22	31	33	37	44	50	4.5	3.2
	Received	66	68	79	79	79	84	88	1.3	0.9
Arkansas River	Shipped	3	3	5	5	6	7	8	4.9	3.4
	Received	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Shipped	246	254	290	287	287	305	318	1.2	0.8
	Received	413	435	510	513	524	569	603	1.7	1.3
Gulf Coast East	Shipped	580	679	936	1,007	1,119	1,338	1,496	4.3	3.1
	Received	592	657	844	882	946	1,091	1,195	3.1	2.4
Warrior River System	Shipped	129	134	153	152	152	162	169	1.2	0.8
	Received	216	250	341	365	403	478	533	4.1	3.0
South Atlantic Coast	Shipped	141	159	199	204	210	248	270	2.9	2.2
	Received	410	454	583	600	594	720	773	3.0	2.0
Middle Atlantic Coast	Shipped	1,938	2,144	2,755	2,836	2,810	3,404	3,655	3.0	2.0
	Received	947	1,048	1,347	1,386	1,374	1,664	1,787	3.0	2.0

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SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	17	19	25	25	25	30	33	3.0	2.0
	Received	634	700	903	929	916	1,113	1,194	3.0	1.9
Great Lakes and Seaway	Shipped	3,603	3,883	4,441	4,808	5,078	5,581	5,821	2.2	1.5
	Received	3,449	3,725	4,262	4,632	4,903	5,398	5,631	2.3	1.5
Washington/Oregon Coast	Shipped	399	437	536	548	567	648	700	2.5	1.9
	Received	255	273	333	340	350	393	422	2.2	1.7
Columbia-Snake Willamette River	Shipped	25	29	37	39	43	51	57	3.6	2.8
	Received	15	17	24	25	28	33	37	4.2	2.9
California Coast	Shipped	182	184	227	233	244	285	311	2.8	2.2
	Received	33	37	46	48	49	58	63	2.9	2.2
Alaska	Shipped	6	7	9	9	9	11	12	2.9	2.1
	Received	186	209	261	268	276	327	355	2.9	2.2
Hawaii and Pacific Territories	Shipped	117	130	166	171	171	206	222	2.9	2.0
	Received	229	259	322	331	343	403	440	2.9	2.2
Domestic Caribbean	Shipped	35	35	35	35	36	36	36	0.0	0.1
	Received	116	127	147	150	158	178	192	2.0	1.9
Total	Shipped	11,655	12,633	15,303	15,948	16,560	18,742	20,001	2.4	1.8
	Received	11,655	12,633	15,303	15,948	16,560	18,742	20,001	2.4	1.8

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Stone, Clay, Glass, and Concrete Products
ALTERNATIVE: Low Use

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	82	92	109	123	136	156	170	3.1	2.6
	Imports	125	217	171	169	169	177	183	2.3	0.6
Illinois River	Exports	a	a	a	a	a	a	a	3.0	2.5
	Imports	13	19	16	16	16	16	17	1.4	0.4
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	50	57	69	78	87	100	110	3.5	2.7
	Imports	225	380	301	298	298	311	323	2.2	0.6
Gulf Coast East	Exports	37	43	51	57	64	73	80	3.3	2.6
	Imports	219	410	314	310	310	327	341	2.7	0.7
Warrior River System	Exports	19	21	25	28	31	36	39	3.1	2.6
	Imports	3	3	3	3	3	3	3	0.0	0.0
South Atlantic Coast	Exports	123	139	167	187	209	239	262	3.3	2.6
	Imports	545	957	749	741	740	777	807	2.4	0.7
Middle Atlantic Coast	Exports	316	348	410	456	505	574	626	2.9	2.5
	Imports	704	999	843	837	836	862	882	1.3	0.4

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90 03
North Atlantic Coast	Exports	2	2	3	3	3	4	4	2.7	2.4
	Imports	12	13	12	12	12	12	12	0.0	0.0
Great Lakes and Seaway	Exports	50	69	90	107	123	148	165	6.0	3.4
	Imports	777	1,446	1,110	1,097	1,095	1,156	1,204	2.7	0.7
Washington/Oregon Coast	Exports	21	29	39	46	53	64	71	6.3	3.5
	Imports	730	1,316	1,021	1,009	1,008	1,061	1,103	2.5	0.7
Columbia-Snake Willamette River	Exports	1	1	1	1	1	1	2	2.8	2.4
	Imports	14	14	14	14	14	14	14	0.0	0.0
California Coast	Exports	36	40	47	53	59	67	73	3.1	2.5
	Imports	277	294	279	279	279	280	280	0.1	0.0
Alaska	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	79	133	106	105	105	109	113	2.2	0.6
Hawaii and Pacific Territories	Exports	a	a	a	a	a	a	1	3.1	2.6
	Imports	4	5	4	4	4	4	4	0.0	0.0
Domestic Caribbean	Exports	50	68	89	105	122	146	163	6.0	3.4
	Imports	57	88	72	71	71	74	76	1.7	0.5
Total	Exports	787	911	1,100	1,245	1,395	1,608	1,767	3.6	2.7
	Imports	3,783	6,294	5,014	4,964	4,959	5,184	5,362	2.1	0.6

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Stone, Clay, Glass, and Concrete Products
ALTERNATIVE: Low Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	1,390	1,430	1,630	1,612	1,610	1,699	1,768	1.1	0.7
Lower Upper Mississippi	2,055	2,188	2,638	2,680	2,778	3,070	3,288	2.1	1.6
Lower Mississippi	1,343	1,440	1,756	1,730	1,808	2,017	2,173	2.0	1.8
Baton Rouge to Gulf	366	380	439	373	377	403	423	0.1	1.0
Illinois River	1,181	1,263	1,535	1,565	1,630	1,811	1,945	2.2	1.7
Missouri River	148	153	174	172	172	182	189	1.2	0.7
Ohio River	1,709	1,871	2,353	2,494	2,645	3,005	3,269	2.9	2.1
Tennessee River	82	87	105	170	174	189	201	5.8	1.3
Arkansas River	3	3	5	5	6	7	8	4.9	3.4
Gulf Coast West	436	460	540	542	554	602	639	1.7	1.3
Gulf Coast East	945	1,056	1,368	1,379	1,491	1,734	1,910	3.0	2.5
Warrior River System	343	381	491	521	559	646	708	3.3	2.4
Great Lakes	3,760	4,045	4,627	4,992	5,263	5,777	6,025	2.2	1.5

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC
COMMODITY: Stone, Clay, Glass, and Concrete Products
ALTERNATIVE: Low Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	234	241	275	272	271	286	298	1.1	0.7
Lower Upper Mississippi	282	300	360	365	377	415	444	2.0	1.5
Lower Mississippi	439	466	560	526	545	602	645	1.4	1.6
Baton Rouge to Gulf	54	56	65	55	55	60	63	0.1	1.1
Illinois River	313	335	406	414	431	479	515	2.2	1.7
Missouri River	38	39	45	44	44	47	49	1.2	0.7
Ohio River	481	537	695	733	790	914	1,004	3.3	2.4
Tennessee River	21	21	24	38	38	40	42	4.8	0.8
Arkansas River	1	1	2	2	2	2	3	4.9	3.4
Gulf Coast West	48	50	59	59	60	65	69	1.6	1.2
Gulf Coast East	61	67	85	81	87	100	110	2.2	2.4
Warrior River System	11	12	16	33	34	38	40	8.8	1.6
Great Lakes	1,508	1,625	1,859	2,013	2,126	2,337	2,438	2.2	1.5
Total	3,491	3,751	4,451	4,634	4,962	5,386	5,719	2.2	1.6

= less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Stone, Clay, Glass, and Concrete Products
ALTERNATIVE: High Use

SEGMENT	IN/OUT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Shipped	1,372	1,412	1,635	1,662	1,667	1,737	1,804	1.5	0.6
	Received	407	419	485	493	495	516	536	1.5	0.6
Lower Upper Mississippi	Shipped	1,411	1,523	1,931	2,069	2,209	2,454	2,649	3.0	1.9
	Received	198	204	236	239	240	250	259	1.5	0.6
Lower Mississippi	Shipped	5	6	9	10	11	13	14	4.9	3.0
	Received	1,057	1,145	1,459	1,568	1,678	1,870	2,022	3.1	2.0
Baton Rouge to Gulf	Shipped	57	60	72	75	77	83	87	2.1	1.2
	Received	84	87	104	107	110	117	123	1.9	1.1
Illinois River	Shipped	68	71	86	90	93	100	106	2.2	1.3
	Received	*1,095*	*1,173*	*1,469*	*1,563*	*1,656*	*1,826*	*1,962*	*2.8*	*1.8*
Missouri River	Shipped	147	152	175	178	179	186	193	1.5	0.6
	Received	148	153	177	180	181	189	196	1.5	0.7
Ohio River	Shipped	1,173	1,291	1,693	1,847	2,009	2,274	2,480	3.6	2.3
	Received	1,105	1,193	1,512	1,621	1,730	1,922	2,074	3.0	1.9
Tennessee River	Shipped	19	22	32	37	42	50	56	5.4	3.3
	Received	66	68	80	82	84	88	92	1.7	0.9
Arkansas River	Shipped	3	3	5	6	7	8	9	5.8	3.4
	Received	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Shipped	246	256	297	304	307	322	335	1.7	0.7
	Received	413	435	522	543	561	603	639	2.1	1.3
Gulf Coast East	Shipped	580	679	980	1,119	1,276	1,506	1,680	5.2	3.2
	Received	592	662	880	971	1,067	1,216	1,331	3.9	2.5
Warrior River System	Shipped	129	137	161	167	171	180	188	2.0	0.9
	Received	216	250	356	403	457	536	596	4.9	3.1
South Atlantic Coast	Shipped	141	194	251	301	341	391	423	6.0	2.7
	Received	410	643	842	1,066	1,236	1,421	1,524	7.6	2.8
Middle Atlantic Coast	Shipped	1,938	3,036	3,975	5,033	5,835	6,708	7,194	7.6	2.8
	Received	947	1,482	1,941	2,456	2,847	3,273	3,510	7.6	2.8

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	17	27	36	46	53	61	65	7.8	2.8
	Received	634	1,010	1,324	1,686	1,960	2,254	2,415	7.8	2.8
Great Lakes and Seaway	Shipped	3,603	3,883	4,435	5,047	5,505	6,006	6,285	2.6	1.7
	Received	3,449	3,725	4,254	4,863	5,322	5,817	6,089	2.7	1.7
Washington/Oregon Coast	Shipped	399	479	608	685	752	846	911	4.2	2.2
	Received	255	291	365	404	436	484	519	3.6	1.9
Columbia-Snake Willamette River	Shipped	25	29	39	44	49	58	64	4.6	2.9
	Received	15	20	28	34	39	46	51	6.6	3.2
California Coast	Shipped	162	209	270	312	350	401	435	5.2	2.6
	Received	33	44	56	66	75	85	92	5.5	2.6
Alaska	Shipped	6	9	11	14	16	18	20	6.4	2.7
	Received	186	252	328	390	442	507	548	5.9	2.6
Hawaii and Pacific Territories	Shipped	117	175	228	284	327	375	403	7.0	2.7
	Received	229	302	391	458	516	590	640	5.5	2.6
Domestic Caribbean	Shipped	35	35	35	36	36	36	36	0.1	0.1
	Received	116	130	157	169	182	203	219	2.9	2.0
Total	Shipped	11,655	13,687	16,965	19,364	21,313	23,813	25,438	4.0	2.1
	Received	11,655	13,687	16,965	19,364	21,313	23,813	25,438	4.0	2.1

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Stone, Clay, Glass, and Concrete Products
ALTERNATIVE: High Use

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	82	92	110	125	143	164	179	3.3	2.8
	Imports	125	217	173	176	176	183	189	2.7	0.6
Illinois River	Exports	a	a	a	a	a	a	a	3.1	2.7
	Imports	13	19	16	16	16	17	17	1.6	0.4
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	50	57	69	79	92	106	116	3.7	3.0
	Imports	225	380	305	309	310	321	332	2.5	0.5
Gulf Coast East	Exports	37	43	51	58	67	77	84	3.5	2.9
	Imports	219	410	319	325	326	340	353	3.1	0.6
Warrior River System	Exports	19	21	25	29	33	38	41	3.2	2.8
	Imports	3	3	3	3	3	3	3	0.0	0.0
South Atlantic Coast	Exports	123	139	167	191	219	252	275	3.4	2.9
	Imports	545	957	760	772	774	803	832	2.7	0.6
Middle Atlantic Coast	Exports	316	348	411	464	528	604	655	3.0	2.7
	Imports	704	999	850	858	859	880	899	1.5	0.4

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	2	2	3	3	3	4	4	2.9	2.6
	Imports	12	13	12	12	12	12	12	0.0	0.0
Great Lakes and Seaway	Exports	50	69	91	109	131	158	176	6.2	3.7
	Imports	777	1,446	1,128	1,147	1,150	1,199	1,246	3.0	0.6
Washington/Oregon Coast	Exports	21	29	39	47	57	68	76	6.5	3.8
	Imports	730	1,316	1,036	1,053	1,056	1,098	1,139	2.9	0.6
Columbia-Snake Willamette River	Exports	1	1	1	1	1	1	2	3.0	2.7
	Imports	14	14	14	14	14	14	14	0.0	0.0
California Coast	Exports	36	40	47	54	62	71	77	3.2	2.8
	Imports	277	294	279	280	280	280	280	0.1	0.0
Alaska	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	79	133	107	109	109	113	117	2.5	0.5
Hawaii and Pacific Territories	Exports	a	a	a	a	a	1	1	3.3	2.8
	Imports	4	5	4	4	4	4	4	0.0	0.0
Domestic Caribbean	Exports	50	68	90	108	130	156	173	6.2	3.7
	Imports	57	88	73	74	74	76	78	2.0	0.5
Total	Exports	787	911	1,103	1,269	1,465	1,699	1,858	3.7	3.0
	Imports	3,783	6,294	5,081	5,151	5,163	5,343	5,516	2.4	0.5

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Stone, Clay, Glass, and Concrete Products
ALTERNATIVE: High Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	1,390	1,430	1,656	1,684	1,690	1,761	1,829	1.5	0.6
Lower Upper Mississippi	2,055	2,188	2,705	2,859	3,005	3,287	3,517	2.6	1.6
Lower Mississippi	1,343	1,440	1,804	1,854	1,968	2,174	2,340	2.5	1.8
Baton Rouge to Gulf	366	380	447	392	399	421	442	0.5	0.9
Illinois River	1,181	1,263	1,576	1,674	1,769	1,946	2,089	2.7	1.7
Missouri River	148	153	177	180	181	189	196	1.5	0.7
Ohio River	1,709	1,871	2,429	2,696	2,913	3,275	3,560	3.6	2.2
Tennessee River	325	337	396	474	481	507	531	2.9	0.9
Arkansas River	3	3	5	6	7	8	9	5.8	3.4
Gulf Coast West	436	461	555	579	599	644	682	2.2	1.3
Gulf Coast East	945	1,061	1,425	1,520	1,683	1,935	2,128	3.7	2.6
Warrior River System	343	385	513	575	633	722	791	4.1	2.5
Great Lakes	3,760	4,045	4,624	5,240	5,700	6,210	6,497	2.6	1.7

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Stone, Clay, Glass, and Concrete Products
ALTERNATIVE: High Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	234	241	279	284	285	297	308	1.5	0.6
Lower Upper Mississippi	282	300	369	389	407	444	474	2.5	1.5
Lower Mississippi	439	466	574	561	590	645	690	1.9	1.6
Baton Rouge to Gulf	54	56	66	57	59	63	66	0.5	1.1
Illinois River	313	335	417	443	468	515	552	2.7	1.7
Missouri River	38	39	46	46	46	48	50	1.5	0.6
Ohio River	481	537	721	799	880	1,007	1,105	4.0	2.5
Tennessee River	73	75	87	103	103	108	112	2.7	0.7
Arkansas River	1	1	2	2	2	3	3	5.8	3.4
Gulf Coast West	48	50	60	63	65	69	73	2.1	1.2
Gulf Coast East	61	67	88	88	97	110	121	2.9	2.5
Warrior River System	11	12	16	35	37	41	44	9.4	1.6
Great Lakes	1,508	1,625	1,857	2,113	2,305	2,515	2,632	2.6	1.7
Total	3,543	3,805	4,582	4,984	5,344	5,865	6,231	2.7	1.7

n = less than 500,000 ton-miles

7/20/81

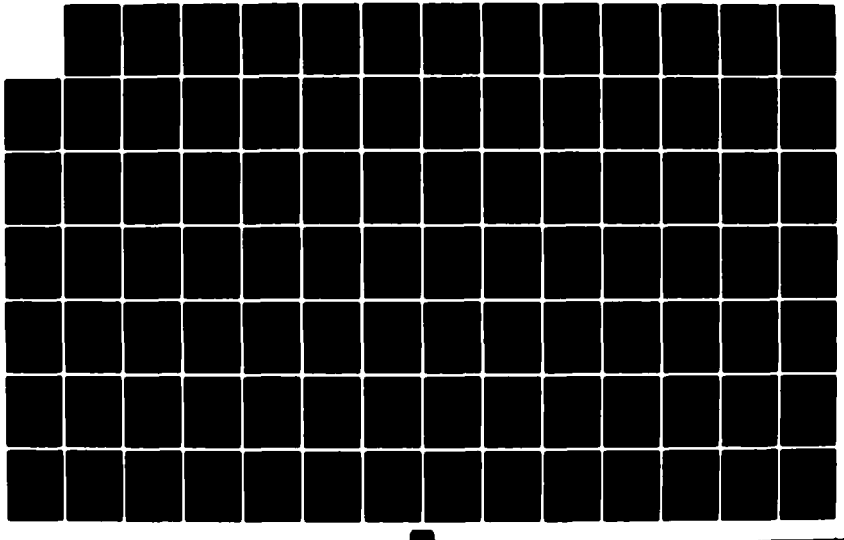
WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

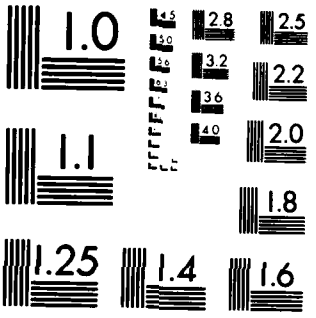
COMMODITY: Stone, Clay, Glass, and Concrete Products
ALTERNATIVE: Bad Energy

SEGMENT	IN/OUT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Shipped	1,372	1,412	1,629	1,650	1,650	1,713	1,777	1.4	0.6
	Received	407	419	484	490	490	509	528	1.4	0.6
Lower Upper Mississippi	Shipped	1,411	1,523	1,915	2,041	2,167	2,396	2,583	2.9	1.8
	Received	198	204	235	238	238	246	256	1.4	0.6
Lower Mississippi	Shipped	5	6	8	9	11	12	14	4.7	2.9
	Received	1,057	1,145	1,447	1,545	1,646	1,825	1,971	3.0	1.9
Baton Rouge to Gulf	Shipped	57	60	71	74	76	81	86	2.0	1.1
	Received	84	87	103	106	108	115	121	1.9	1.0
Illinois River	Shipped	68	71	86	89	92	98	104	2.1	1.2
	Received	1,095	1,173	1,458	1,543	1,626	1,784	1,916	2.7	1.7
Missouri River	Shipped	147	152	175	177	177	183	190	1.4	0.6
	Received	148	153	176	179	179	186	193	1.5	0.6
Ohio River	Shipped	1,173	1,291	1,677	1,817	1,996	2,214	2,412	3.4	2.2
	Received	1,105	1,193	1,500	1,598	1,697	1,876	2,023	2.9	1.8
Tennessee River	Shipped	19	22	32	36	41	48	54	5.2	3.2
	Received	66	68	80	82	83	87	91	1.7	0.8
Arkansas River	Shipped	3	3	5	6	6	8	8	5.6	3.3
	Received	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Shipped	246	254	294	299	300	313	325	1.5	0.6
	Received	413	435	519	538	553	592	626	2.1	1.2
Gulf Coast East	Shipped	580	679	966	1,094	1,240	1,457	1,624	5.0	3.1
	Received	592	657	865	945	1,030	1,169	1,278	3.7	2.4
Warrior River System	Shipped	129	134	155	159	159	167	174	1.6	0.7
	Received	216	250	351	395	445	519	577	4.7	3.0
South Atlantic Coast	Shipped	141	159	201	226	244	280	304	3.7	2.3
	Received	410	454	573	669	724	839	902	3.8	2.3
Middle Atlantic Coast	Shipped	1,938	2,144	2,707	3,164	3,419	3,965	4,261	3.8	2.3
	Received	947	1,048	1,324	1,546	1,671	1,938	2,082	3.8	2.3

AD-A129 641 EVALUATION OF THE PRESENT NAVIGATION SYSTEM APPENDIX A (U) KEARNEY (A T) INC CHICAGO ILL MAR 82 DACW72-79-C-0003 1/1

UNCLASSIFIED F/G 13/3 NL





MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	17	19	24	28	31	35	38	3.9	2.3
	Received	634	700	884	1,038	1,121	1,302	1,398	3.9	2.3
Great Lakes and Seaway	Shipped	3,603	3,883	4,411	4,997	5,430	5,903	6,168	2.5	1.6
	Received	3,449	3,725	4,230	4,815	5,248	5,716	5,975	2.6	1.7
Washington/Oregon Coast	Shipped	399	437	545	592	630	704	759	3.1	1.9
	Received	255	273	337	362	381	420	450	2.7	1.7
Columbia-Snake Willamette River	Shipped	25	29	39	43	48	55	61	4.4	2.8
	Received	15	17	24	28	32	37	41	5.0	3.0
California Coast	Shipped	162	184	232	257	278	317	345	3.6	2.3
	Received	33	37	47	53	57	65	71	3.6	2.3
Alaska	Shipped	6	7	9	10	11	12	13	3.7	2.3
	Received	186	209	264	297	321	368	399	3.7	2.3
Hawaii and Pacific Territories	Shipped	117	130	165	190	205	237	255	3.8	2.3
	Received	229	259	328	365	395	451	490	3.6	2.3
Domestic Caribbean	Shipped	35	35	35	36	36	36	36	0.0	0.1
	Received	116	127	152	162	172	191	205	2.6	1.9
Total	Shipped	11,655	12,633	15,380	16,992	18,217	20,235	21,591	2.9	1.9
	Received	11,655	12,633	15,380	16,992	18,217	20,235	21,591	2.9	1.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Stone, Clay, Glass, and Concrete Products
ALTERNATIVE: Bad Energy

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	82	92	108	122	138	158	171	3.1	2.6
	Imports	125	217	172	175	174	180	187	2.6	0.5
Illinois River	Exports	a	a	a	a	a	a	a	3.0	2.6
	Imports	13	19	16	16	16	16	17	1.6	0.3
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	50	57	68	77	88	102	111	3.5	2.8
	Imports	225	380	304	308	307	317	328	2.4	0.5
Gulf Coast East	Exports	37	43	50	57	65	74	81	3.3	2.7
	Imports	219	410	318	322	322	335	348	3.0	0.6
Warrior River System	Exports	19	21	25	28	32	36	39	3.1	2.6
	Imports	3	3	3	3	3	3	3	0.0	0.0
South Atlantic Coast	Exports	123	139	165	186	212	242	264	3.2	2.7
	Imports	545	957	758	767	766	793	821	2.7	0.5
Middle Atlantic Coast	Exports	316	348	406	454	512	581	629	2.6	2.5
	Imports	704	999	849	855	854	872	891	1.5	0.3

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SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	2	2	3	3	3	4	4	2.7	2.5
	Imports	12	13	12	12	12	12	12	0.0	0.0
Great Lakes and Seaway	Exports	50	89	89	106	126	150	167	6.0	3.6
	Imports	777	1,446	1,124	1,139	1,138	1,182	1,227	3.0	0.6
Washington/Oregon Const	Exports	21	29	38	45	54	65	72	6.2	3.6
	Imports	730	1,316	1,033	1,046	1,045	1,083	1,123	2.8	0.5
Columbia-Snake Willamette River	Exports	1	1	1	1	1	1	2	2.8	2.5
	Imports	14	14	14	14	14	14	14	0.0	0.0
California Coast	Exports	36	40	47	53	60	68	74	3.0	2.6
	Imports	277	294	279	280	280	280	280	0.1	0.0
Alaska	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	79	133	107	108	108	111	115	2.4	0.5
Hawaii and Pacific Territories	Exports	a	a	a	a	a	a	1	3.1	2.7
	Imports	4	5	4	4	4	4	4	0.0	0.0
Domestic Caribbean	Exports	50	68	88	105	124	148	165	5.9	3.5
	Imports	57	88	73	73	73	75	77	1.9	0.4
Total	Exports	787	911	1,089	1,239	1,416	1,630	1,779	3.6	2.8
	Imports	3,783	6,294	5,066	5,121	5,117	5,279	5,447	2.4	0.5

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Stone, Clay, Glass, and Concrete Products
ALTERNATIVE: Bad Energy

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	1,390	1,430	1,650	1,672	1,672	1,736	1,802	1.4	0.6
Lower Upper Mississippi	2,055	2,188	2,686	2,824	2,954	3,217	3,437	2.5	1.5
Lower Mississippi	1,343	1,440	1,790	1,829	1,932	2,124	2,283	2.4	1.7
Baton Rouge to Gulf	366	380	445	389	394	414	434	0.5	0.9
Illinois River	1,181	1,263	1,564	1,652	1,738	1,903	2,040	2.6	1.6
Missouri River	148	153	176	179	179	186	193	1.5	0.6
Ohio River	1,709	1,871	2,407	2,654	2,853	3,192	3,465	3.4	2.1
Tennessee River	325	337	395	470	475	499	522	2.9	0.8
Arkansas River	3	3	5	6	6	8	8	5.6	3.3
Gulf Coast West	436	460	549	569	586	627	663	2.1	1.2
Gulf Coast East	945	1,056	1,403	1,482	1,630	1,865	2,049	3.5	2.5
Warrior River System	343	381	503	558	609	692	757	3.8	2.4
Great Lakes	3,760	4,045	4,599	5,188	5,622	6,103	6,376	2.5	1.6

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Stone, Clay, Glass, and Concrete Products
ALTERNATIVE: Bad Energy

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	234	241	278	282	282	292	303	1.4	0.6
Lower Upper Mississippi	282	300	366	384	400	435	463	2.4	1.5
Lower Mississippi	439	466	570	554	580	631	675	1.8	1.5
Baton Rouge to Gulf	54	56	66	57	58	62	65	0.5	1.0
Illinois River	313	335	414	437	460	503	539	2.6	1.6
Missouri River	38	39	45	46	46	48	50	1.4	0.6
Ohio River	481	537	713	785	860	979	1,073	3.8	2.4
Tennessee River	73	75	87	102	102	106	110	2.6	0.6
Arkansas River	1	1	2	2	2	3	3	5.6	3.3
Gulf Coast West	48	50	60	62	64	68	72	2.0	1.1
Gulf Coast East	61	67	87	87	95	107	117	2.8	2.4
Warrior River System	11	12	16	35	36	40	42	9.2	1.5
Great Lakes	1,508	1,625	1,847	2,092	2,273	2,472	2,583	2.6	1.6
Total	3,543	3,805	4,552	4,925	5,258	5,745	6,096	2.6	1.7

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Stone, Clay, Glass, and Concrete Products
ALTERNATIVE: Defense

SEGMENT	IN/OUT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Shipped	1,372	1,412	1,635	1,746	1,667	1,737	1,804	1.9	0.3
	Received	407	419	485	518	495	516	536	1.9	0.3
Lower Upper Mississippi	Shipped	1,411	1,523	1,931	2,062	2,209	2,454	2,649	3.0	1.9
	Received	198	204	236	252	240	250	259	1.9	0.2
Lower Mississippi	Shipped	5	6	9	9	11	13	14	4.4	3.5
	Received	1,057	1,145	1,459	1,558	1,678	1,870	2,022	3.0	2.0
Baton Rouge to Gulf	Shipped	57	60	72	77	77	83	87	2.3	1.0
	Received	84	87	104	111	110	117	123	2.2	0.8
Illinois River	Shipped	68	71	86	92	93	100	106	2.4	1.1
	Received	1,095	1,173	1,469	1,568	1,656	1,826	1,962	2.8	1.7
Missouri River	Shipped	147	152	175	187	179	186	193	1.9	0.2
	Received	148	153	177	189	181	189	196	1.9	0.3
Ohio River	Shipped	1,173	1,291	1,693	1,808	2,009	2,274	2,480	3.4	2.5
	Received	1,105	1,193	1,512	1,615	1,730	1,922	2,074	3.0	1.9
Tennessee River	Shipped	19	22	32	34	42	50	56	4.8	3.8
	Received	66	68	80	86	84	88	92	2.0	0.6
Arkansas River	Shipped	3	3	5	5	7	8	9	5.1	4.1
	Received	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Shipped	246	256	297	317	307	322	335	2.0	0.4
	Received	413	435	522	558	561	603	639	2.3	1.0
Gulf Coast East	Shipped	580	679	980	1,046	1,276	1,506	1,680	4.6	3.7
	Received	592	662	880	940	1,067	1,216	1,331	3.6	2.7
Warrior River System	Shipped	129	137	161	171	171	180	188	2.2	0.7
	Received	216	250	356	380	457	536	596	4.4	3.5
South Atlantic Coast	Shipped	141	194	251	268	341	391	423	5.1	3.5
	Received	410	643	842	899	1,236	1,421	1,524	6.2	4.1
Middle Atlantic Coast	Shipped	1,938	3,036	3,975	4,245	5,835	6,708	7,194	6.2	4.1
	Received	947	1,482	1,941	2,073	2,847	3,273	3,510	6.2	4.1

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SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	17	27	36	38	53	61	65	6.3	4.2
	Received	634	1,010	1,324	1,414	1,960	2,254	2,415	6.4	4.2
Great Lakes and Seaway	Shipped	3,603	3,883	4,435	4,736	5,505	6,006	6,285	2.1	2.2
	Received	3,449	3,725	4,254	4,543	5,322	5,817	6,089	2.1	2.3
Washington/Oregon Coast	Shipped	399	479	608	649	752	846	911	3.8	2.6
	Received	255	291	365	390	436	484	519	3.3	2.2
Columbia-Snake Willamette River	Shipped	25	29	39	42	49	58	64	4.2	3.2
	Received	15	20	28	30	39	46	51	5.6	4.1
California Coast	Shipped	162	209	270	288	350	401	435	4.5	3.2
	Received	33	44	56	60	75	85	92	4.7	3.4
Alaska	Shipped	6	9	11	12	16	18	20	5.3	3.7
	Received	186	252	328	350	442	507	548	5.0	3.5
Hawaii and Pacific Territories	Shipped	117	175	228	244	327	375	403	5.8	3.9
	Received	229	302	391	417	516	590	640	4.7	3.3
Domestic Caribbean	Shipped	35	35	35	38	36	36	36	0.5	-0.3
	Received	116	130	157	167	182	203	219	2.9	2.1
Total	Shipped	11,655	13,687	16,965	18,117	21,313	23,813	25,438	3.5	2.6
	Received	11,655	13,687	16,965	18,117	21,313	23,813	25,438	3.5	2.6

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE
COMMODITY: Stone, Clay, Glass, and Concrete Products
ALTERNATIVE: Defense

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	82	92	110	113	143	164	179	2.5	3.6
	Imports	125	217	173	139	176	183	189	0.9	2.4
Illinois River	Exports	a	a	a	a	a	a	a	2.4	3.5
	Imports	13	19	16	13	16	17	17	-0.1	2.1
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	50	57	69	71	92	106	116	2.8	3.8
	Imports	225	380	305	246	310	321	332	0.7	2.3
Gulf Coast East	Exports	37	43	51	53	67	77	84	2.6	3.7
	Imports	219	410	319	257	326	340	353	1.3	2.5
Warrior River System	Exports	19	21	25	28	33	38	41	2.5	3.6
	Imports	3	3	3	2	3	3	3	-1.6	1.7
South Atlantic Coast	Exports	123	139	167	172	219	252	275	2.6	3.7
	Imports	545	957	760	613	774	803	832	0.9	2.4
Middle Atlantic Coast	Exports	316	348	411	423	528	604	655	2.3	3.4
	Imports	704	999	850	685	859	880	899	-0.2	2.1

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SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	2	2	3	3	3	4	4	2.1	3.3
	Imports	12	13	12	10	12	12	12	-1.6	1.7
Great Lakes and Seaway	Exports	50	69	91	93	131	158	176	5.0	5.0
	Imports	777	1,446	1,128	909	1,150	1,199	1,246	1.2	2.5
Washington/Oregon Coast	Exports	21	29	39	40	57	68	76	5.2	5.1
	Imports	730	1,316	1,036	835	1,056	1,098	1,139	1.0	2.4
Columbia-Snake Willamette River	Exports	1	1	1	1	1	1	2	2.2	3.4
	Imports	14	14	14	11	14	14	14	-1.6	1.7
California Coast	Exports	36	40	47	49	62	71	77	2.4	3.6
	Imports	277	294	279	225	280	280	280	-1.6	1.7
Alaska	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	79	133	107	86	109	113	117	0.7	2.3
Hawaii and Pacific Territories	Exports	a	a	a	a	a	1	1	2.5	3.6
	Imports	4	5	4	4	4	4	4	-1.6	1.7
Domestic Caribbean	Exports	50	68	90	92	130	156	173	4.9	5.0
	Imports	57	88	73	59	74	76	78	0.2	2.2
Total	Exports	787	911	1,103	1,137	1,465	1,699	1,858	2.9	3.9
	Imports	3,783	6,294	5,081	4,094	5,163	5,343	5,516	0.6	2.3

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Stone, Clay, Glass, and Concrete Products
ALTERNATIVE: Defense

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	1,390	1,430	1,656	1,768	1,690	1,761	1,829	1.9	0.3
Lower Upper Mississippi	2,055	2,188	2,705	2,889	3,005	3,287	3,517	2.7	1.5
Lower Mississippi	1,343	1,440	1,804	1,856	1,968	2,174	2,340	2.5	1.8
Baton Rouge to Gulf	366	380	447	407	399	421	442	0.8	0.6
Illinois River	1,181	1,263	1,576	1,683	1,769	1,946	2,089	2.8	1.7
Missouri River	148	153	177	189	181	189	196	1.9	0.3
Ohio River	1,709	1,871	2,429	2,656	2,913	3,275	3,560	3.4	2.3
Tennessee River	325	337	396	493	481	507	531	3.3	0.6
Arkansas River	3	3	5	5	7	8	9	5.1	4.1
Gulf Coast West	436	461	555	592	599	644	682	2.4	1.1
Gulf Coast East	945	1,061	1,425	1,461	1,683	1,935	2,128	3.4	2.9
Warrior River System	343	385	513	556	633	722	791	3.8	2.7
Great Lakes	3,760	4,045	4,624	4,938	5,700	6,210	6,497	2.1	2.1

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Stone, Clay, Glass, and Concrete Products
ALTERNATIVE: Defense

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	234	241	279	298	285	297	308	1.9	0.2
Lower Upper Mississippi	282	300	369	394	407	444	474	2.6	1.4
Lower Mississippi	439	466	574	567	590	645	690	2.0	1.5
Baton Rouge to Gulf	54	56	66	59	59	63	66	0.8	0.8
Illinois River	313	335	417	445	468	515	552	2.8	1.7
Missouri River	38	39	46	49	46	48	50	1.9	0.3
Ohio River	481	537	721	774	880	1,007	1,105	3.7	2.8
Tennessee River	73	75	87	108	103	108	112	3.1	0.3
Arkansas River	1	1	2	2	2	3	3	5.1	4.1
Gulf Coast West	48	50	60	64	65	69	73	2.3	1.0
Gulf Coast East	61	67	88	86	97	110	121	2.7	2.7
Warrior River System	11	12	16	36	37	41	44	9.4	1.6
Great Lakes	1,508	1,625	1,857	1,983	2,305	2,515	2,632	2.1	2.2
Total	3,543	3,805	4,582	4,864	5,344	5,865	6,231	2.5	1.9

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC
COMMODITY: Stone, Clay, Glass, and Concrete Products
ALTERNATIVE: High Coal Export

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	1,372	1,412	1,635	1,662	1,667	1,737	1,804	1.5	0.6
	Received	407	419	485	493	495	516	536	1.5	0.6
Lower Upper Mississippi	Shipped	1,411	1,523	1,931	2,069	2,209	2,454	2,649	3.0	1.9
	Received	198	204	236	239	240	250	259	1.5	0.6
Lower Mississippi	Shipped	5	6	9	10	11	13	14	4.9	3.0
	Received	1,057	1,145	1,459	1,568	1,678	1,870	2,022	3.1	2.0
Baton Rouge to Gulf	Shipped	57	60	72	75	77	83	87	2.1	1.2
	Received	84	87	104	107	110	117	123	1.9	1.1
Illinois River	Shipped	68	71	86	90	93	100	106	2.2	1.3
	Received	1,095	1,173	1,469	1,563	1,656	1,826	1,962	2.8	1.8
Missouri River	Shipped	147	152	175	178	179	186	193	1.5	0.6
	Received	148	153	177	180	181	189	196	1.5	0.7
Ohio River	Shipped	1,173	1,291	1,693	1,847	2,009	2,274	2,480	3.6	2.3
	Received	1,105	1,193	1,512	1,621	1,730	1,922	2,074	3.0	1.9
Tennessee River	Shipped	19	22	32	37	42	50	56	5.4	3.3
	Received	66	68	80	82	84	88	92	1.7	0.9
Arkansas River	Shipped	3	3	5	6	7	8	9	5.8	3.4
	Received	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Shipped	246	256	297	304	307	322	335	1.7	0.7
	Received	413	435	522	543	561	603	639	2.1	1.3
Gulf Coast East	Shipped	580	679	980	1,119	1,276	1,506	1,680	5.2	3.2
	Received	592	662	880	971	1,067	1,216	1,331	3.9	2.5
Warrior River System	Shipped	129	137	161	167	171	180	188	2.0	0.9
	Received	216	250	356	403	457	536	596	4.9	3.1
South Atlantic Coast	Shipped	141	194	251	301	341	391	423	6.0	2.7
	Received	410	643	842	1,066	1,236	1,421	1,524	7.6	2.8
Middle Atlantic Coast	Shipped	1,938	3,036	3,975	5,033	5,875	6,708	7,194	7.6	2.8
	Received	947	1,482	1,941	2,456	2,847	3,273	3,510	7.6	2.8

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	17	27	36	46	53	61	65	7.8	2.8
	Received	634	1,010	1,324	1,686	1,960	2,254	2,415	7.8	2.8
Great Lakes and Seaway	Shipped	3,603	3,883	4,435	5,047	5,505	6,006	6,285	2.6	1.7
	Received	3,449	3,725	4,254	4,863	5,322	5,817	6,089	2.7	1.7
Washington/Oregon Coast	Shipped	399	479	608	685	752	846	911	4.2	2.2
	Received	255	291	365	404	436	484	519	3.6	1.9
Columbia-Snake Willamette River	Shipped	25	29	39	44	49	58	64	4.6	2.9
	Received	15	20	28	34	39	46	51	6.6	3.2
California Coast	Shipped	162	209	270	312	350	401	435	5.2	2.6
	Received	33	44	56	66	75	85	92	5.5	2.6
Alaska	Shipped	6	9	11	14	16	18	20	6.4	2.7
	Received	186	252	328	390	442	507	548	5.9	2.6
Hawaii and Pacific Territories	Shipped	117	175	228	284	327	375	403	7.0	2.7
	Received	229	302	391	458	516	590	640	5.5	2.6
Domestic Caribbean	Shipped	35	35	35	36	36	36	36	0.1	0.1
	Received	116	130	157	169	182	203	219	2.9	2.0
Total	Shipped	11,655	13,687	16,965	19,364	21,313	23,813	25,438	4.0	2.1
	Received	11,655	13,687	16,965	19,364	21,313	23,813	25,438	4.0	2.1

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE
COMMODITY: Stone, Clay, Glass, and Concrete Products
ALTERNATIVE: High Coal Export

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	82	92	110	125	143	164	179	3.3	2.8
	Imports	125	217	173	176	176	183	189	2.7	0.6
Illinois River	Exports	a	a	a	a	a	a	a	3.1	2.7
	Imports	13	19	16	16	16	17	17	1.6	0.4
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	50	57	69	79	92	106	116	3.7	3.0
	Imports	225	380	305	309	310	321	332	2.5	0.5
Gulf Coast East	Exports	37	43	51	58	67	77	84	3.5	2.9
	Imports	219	410	319	325	326	340	353	3.1	0.6
Warrior River System	Exports	19	21	25	29	33	38	41	3.2	2.8
	Imports	3	3	3	3	3	3	3	0.0	0.0
South Atlantic Coast	Exports	123	139	167	191	219	252	275	3.4	2.9
	Imports	545	957	760	772	774	803	832	2.7	0.6
Middle Atlantic Coast	Exports	316	348	411	464	528	604	655	3.0	2.7
	Imports	704	999	850	858	859	880	899	1.5	0.4

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SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	2	2	3	3	3	4	4	2.9	2.6
	Imports	12	13	12	12	12	12	12	0.0	0.0
Great Lakes and Seaway	Exports	50	69	91	109	131	158	176	6.2	3.7
	Imports	777	1,446	1,128	1,147	1,150	1,199	1,246	3.0	0.6
Washington/Oregon Coast	Exports	21	29	39	47	57	68	76	6.5	3.8
	Imports	730	1,316	1,036	1,053	1,056	1,098	1,139	2.9	0.6
Columbia-Snake Willamette River	Exports	1	1	1	1	1	1	2	3.0	2.7
	Imports	14	14	14	14	14	14	14	0.0	0.0
California Coast	Exports	36	40	47	54	62	71	77	3.2	2.8
	Imports	277	294	279	280	280	280	280	0.1	0.0
Alaska	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	79	133	107	109	109	113	117	2.5	0.5
Hawaii and Pacific Territories	Exports	a	a	a	a	a	1	1	3.3	2.8
	Imports	4	5	4	4	4	4	4	0.0	0.0
Domestic Caribbean	Exports	50	68	90	108	130	156	173	6.2	3.7
	Imports	57	88	73	74	74	76	78	2.0	0.5
Total	Exports	787	911	1,103	1,269	1,465	1,699	1,858	3.7	3.0
	Imports	3,783	6,294	5,081	5,151	5,163	5,343	5,516	2.4	0.5

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Stone, Clay, Glass, and Concrete Products
ALTERNATIVE: High Coal Export

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	1,390	1,430	1,656	1,684	1,690	1,761	1,829	1.5	0.6
Lower Upper Mississippi	2,055	2,188	2,705	2,859	3,005	3,287	3,517	2.6	1.6
Lower Mississippi	1,343	1,440	1,804	1,854	1,968	2,174	2,340	2.5	1.8
Baton Rouge to Gulf	366	380	447	392	399	421	442	0.5	0.9
Illinois River	1,181	1,263	1,576	1,674	1,769	1,946	2,089	2.7	1.7
Missouri River	148	153	177	180	181	189	196	1.5	0.7
Ohio River	1,709	1,871	2,429	2,696	2,913	3,275	3,560	3.6	2.2
Tennessee River	325	337	396	474	481	507	531	2.9	0.9
Arkansas River	3	3	5	6	7	8	9	5.8	3.4
Gulf Coast West	436	461	555	579	599	644	682	2.2	1.3
Gulf Coast East	945	1,061	1,425	1,520	1,683	1,935	2,128	3.7	2.6
Warrior River System	343	385	513	575	633	722	791	4.1	2.5
Great Lakes	3,760	4,045	4,624	5,240	5,700	6,210	6,497	2.6	1.7

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Stone, Clay, Glass, and Concrete Products
ALTERNATIVE: High Coal Export

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	234	241	279	284	285	297	308	1.5	0.6
Lower Upper Mississippi	282	300	369	389	407	444	474	2.5	1.5
Lower Mississippi	439	466	574	561	590	645	690	1.9	1.6
Baton Rouge to Gulf	54	56	66	57	59	63	66	0.5	1.1
Illinois River	313	335	417	443	468	515	552	2.7	1.7
Missouri River	38	39	46	46	46	48	50	1.5	0.6
Ohio River	481	537	721	799	880	1,007	1,105	4.0	2.5
Tennessee River	73	75	87	103	103	108	112	2.7	0.7
Arkansas River	1	1	2	2	2	3	3	5.8	3.4
Gulf Coast West	48	50	60	63	65	69	73	2.1	1.2
Gulf Coast East	61	67	88	88	97	110	121	2.9	2.5
Warrior River System	11	12	16	35	37	41	44	9.4	1.6
Great Lakes	1,508	1,625	1,857	2,113	2,305	2,515	2,632	2.6	1.7
Total	3,543	3,805	4,582	4,984	5,344	5,865	6,231	2.7	1.7

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC
COMMODITY: Stone, Clay, Glass, and Concrete Products
ALTERNATIVE: Misc. Sensitivity

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	1,389	1,429	1,654	1,682	1,687	1,758	1,825	1.5	0.6
	Received	407	419	486	494	496	518	539	1.5	0.7
Lower Upper Mississippi	Shipped	1,446	1,562	1,982	2,125	2,269	2,522	2,723	3.0	1.9
	Received	198	204	236	240	240	250	260	1.5	0.6
Lower Mississippi	Shipped	5	6	9	10	11	13	14	4.9	3.0
	Received	1,106	1,200	1,536	1,655	1,776	1,985	2,150	3.2	2.0
Baton Rouge to Gulf	Shipped	57	60	72	75	77	83	87	2.1	1.2
	Received	84	87	104	107	110	117	123	1.9	1.1
Illinois River	Shipped	68	71	86	90	93	100	106	2.2	1.3
	Received	1,099	1,178	1,474	1,569	1,662	1,832	1,969	2.8	1.8
Missouri River	Shipped	147	152	175	178	179	186	193	1.5	0.6
	Received	148	153	177	180	181	189	196	1.5	0.7
Ohio River	Shipped	1,293	1,423	1,865	2,034	2,214	2,505	2,732	3.5	2.3
	Received	1,218	1,315	1,666	1,786	1,906	2,117	2,285	3.0	1.9
Tennessee River	Shipped	20	24	35	40	46	54	61	5.3	3.2
	Received	72	75	88	90	91	96	100	1.7	0.8
Arkansas River	Shipped	3	3	5	7	9	12	15	7.6	6.2
	Received	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Shipped	246	256	297	304	307	322	335	1.7	0.7
	Received	413	435	523	544	561	604	639	2.1	1.3
Gulf Coast East	Shipped	580	679	980	1,119	1,276	1,506	1,680	5.2	3.2
	Received	593	663	881	972	1,067	1,217	1,332	3.9	2.5
Warrior River System	Shipped	129	137	161	167	171	180	188	2.0	0.9
	Received	216	250	356	403	457	536	596	4.9	3.1
South Atlantic Coast	Shipped	141	194	251	301	341	391	423	6.0	2.7
	Received	410	643	842	1,066	1,236	1,421	1,524	7.6	2.8
Middle Atlantic Coast	Shipped	1,938	3,036	3,975	5,033	5,835	6,708	7,134	7.6	2.8
	Received	947	1,482	1,941	2,456	2,847	3,273	3,510	7.6	2.8

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77 90	90 03
North Atlantic Coast	Shipped	17	27	36	46	53	61	65	7.8	2.8
	Received	634	1,010	1,324	1,686	1,960	2,254	2,415	7.8	2.8
Great Lakes and Seaway	Shipped	3,604	3,883	4,436	5,047	5,506	6,007	6,285	2.6	1.7
	Received	3,450	3,725	4,254	4,864	5,323	5,818	6,090	2.7	1.7
Washington/Oregon Coast	Shipped	399	479	608	685	752	846	911	4.2	2.2
	Received	255	291	365	404	436	484	519	3.6	1.9
Columbia-Snake Willamette River	Shipped	25	29	39	44	49	58	64	4.6	2.9
	Received	15	20	28	34	39	46	51	6.6	3.2
California Coast	Shipped	162	209	270	312	350	401	435	5.2	2.6
	Received	33	44	56	66	75	85	92	5.5	2.6
Alaska	Shipped	6	9	11	14	16	18	20	6.4	2.7
	Received	186	252	328	390	442	507	548	5.9	2.6
Hawaii and Pacific Territories	Shipped	117	175	228	284	327	375	403	7.0	2.7
	Received	229	302	391	458	516	590	640	5.5	2.6
Domestic Caribbean	Shipped	35	35	35	36	36	36	36	0.1	0.1
	Received	116	130	157	169	182	203	219	2.9	2.0
Total	Shipped	11,828	13,876	17,211	19,632	21,604	24,142	25,797	4.0	2.1
	Received	11,828	13,876	17,211	19,632	21,604	24,142	25,797	4.0	2.1

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE
COMMODITY: Stone, Clay, Glass, and Concrete Products
ALTERNATIVE: Misc. Sensitivity

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	82	92	110	125	143	164	179	3.3	2.8
	Imports	125	217	173	176	176	183	189	2.7	0.6
Illinois River	Exports	a	a	a	a	a	a	a	3.1	2.7
	Imports	13	19	16	16	16	17	17	1.6	0.4
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	50	57	69	79	92	106	116	3.7	3.0
	Imports	225	380	305	309	310	321	332	2.5	0.5
Gulf Coast East	Exports	37	43	51	58	67	77	84	3.5	2.9
	Imports	219	410	319	325	328	340	353	3.1	0.6
Warrior River System	Exports	19	21	25	29	33	38	41	3.2	2.8
	Imports	3	3	3	3	3	3	3	0.0	0.0
South Atlantic Coast	Exports	123	139	167	191	219	252	275	3.4	2.9
	Imports	545	957	760	772	774	803	832	2.7	0.6
Middle Atlantic Coast	Exports	316	348	411	464	528	604	655	3.0	2.7
	Imports	704	999	850	858	859	880	899	1.5	0.4

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	2	2	3	3	3	4	4	2.9	2.6
	Imports	12	13	12	12	12	12	12	0.0	0.0
Great Lakes and Seaway	Exports	50	69	91	109	131	158	176	6.2	3.7
	Imports	777	1,446	1,128	1,147	1,150	1,199	1,246	3.0	0.6
Washington/Oregon Coast	Exports	21	29	39	47	57	68	76	6.5	3.8
	Imports	730	1,316	1,036	1,053	1,056	1,098	1,139	2.9	0.6
Columbia-Snake Willamette River	Exports	1	1	1	1	1	1	2	3.0	2.7
	Imports	14	14	14	14	14	14	14	0.0	0.0
California Coast	Exports	36	40	47	54	62	71	77	3.2	2.8
	Imports	277	294	279	280	280	280	280	0.1	0.0
Alaska	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	79	133	107	109	109	113	117	2.5	0.5
Hawaii and Pacific Territories	Exports	a	a	a	a	a	1	1	3.3	2.8
	Imports	4	5	4	4	4	4	4	0.0	0.0
Domestic Caribbean	Exports	50	68	90	108	130	156	173	6.2	3.7
	Imports	57	88	73	74	74	76	78	2.0	0.5
Total	Exports	787	911	1,103	1,269	1,465	1,699	1,858	3.7	3.0
	Imports	3,783	6,294	5,081	5,151	5,163	5,343	5,516	2.4	0.5

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Stone, Clay, Glass, and Concrete Products
ALTERNATIVE: Misc. Sensitivity

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	1,406	1,447	1,676	1,704	1,711	1,784	1,853	1.5	0.6
Lower Upper Mississippi	2,112	2,249	2,783	2,942	3,094	3,386	3,624	2.6	1.6
Lower Mississippi	1,392	1,496	1,882	1,942	2,067	2,292	2,472	2.6	1.9
Baton Rouge to Gulf	367	381	448	392	399	422	442	0.5	0.9
Illinois River	1,186	1,269	1,583	1,681	1,776	1,954	2,097	2.7	1.7
Missouri River	148	153	177	180	181	189	196	1.5	0.7
Ohio River	1,882	2,060	2,675	2,962	3,202	3,600	3,913	3.5	2.2
Tennessee River	90	95	117	192	198	214	227	6.0	1.3
Arkansas River	3	3	5	7	9	12	15	7.6	6.2
Gulf Coast West	436	461	555	579	599	644	683	2.2	1.3
Gulf Const East	945	1,062	1,426	1,520	1,684	1,936	2,129	3.7	2.6
Warrior River System	343	385	513	576	634	723	792	4.1	2.5
Great Lakes	3,761	4,046	4,625	5,241	5,701	6,212	6,499	2.6	1.7

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC
COMMODITY: Stone, Clay, Glass, and Concrete Products
ALTERNATIVE: Misc. Sensitivity

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	236	243	281	286	286	298	310	1.5	0.6
Lower Upper Mississippi	291	309	380	400	420	458	489	2.5	1.5
Lower Mississippi	450	479	592	581	612	672	721	2.0	1.7
Baton Rouge to Gulf	54	56	67	58	59	63	66	0.5	1.1
Illinois River	314	336	419	445	470	517	555	2.7	1.7
Missouri River	38	39	46	46	46	48	50	1.5	0.6
Ohio River	531	592	794	880	969	1,109	1,217	4.0	2.5
Tennessee River	23	23	27	42	43	45	46	4.9	0.7
Arkansas River	1	1	2	2	3	4	5	7.6	6.2
Gulf Coast West	48	50	60	63	65	69	73	2.1	1.2
Gulf Coast East	61	67	88	88	97	110	121	2.9	2.5
Warrior River System	11	12	16	36	38	41	44	9.5	1.6
Great Lakes	1,508	1,625	1,857	2,113	2,306	2,516	2,633	2.6	1.7
Total	3,565	3,833	4,629	5,041	5,413	5,951	6,331	2.7	1.8

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Primary Metals Products
ALTERNATIVE: Baseline

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	62	63	64	65	67	68	70	0.4	0.5
	Received	294	292	343	380	411	446	468	2.0	1.6
Lower Upper Mississippi	Shipped	180	184	206	227	248	273	290	1.8	1.9
	Received	510	508	603	672	733	803	848	2.2	1.8
Lower Mississippi	Shipped	37	37	39	41	43	46	47	0.9	1.0
	Received	538	527	655	741	811	886	931	2.5	1.8
Baton Rouge to Gulf	Shipped	2,596	2,546	4,108	4,826	5,477	6,189	6,602	8.9	2.4
	Received	386	397	1,143	1,325	1,537	1,791	1,928	9.9	2.9
Illinois River	Shipped	813	825	887	946	1,005	1,075	1,122	1.2	1.3
	Received	1,126	1,118	1,305	1,436	1,548	1,668	1,742	1.9	1.5
Missouri River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	77	75	93	104	113	122	128	2.3	1.6
Ohio River	Shipped	1,998	2,043	2,309	2,551	2,788	3,070	3,259	1.9	1.9
	Received	1,980	2,024	2,441	2,784	3,108	3,475	3,714	2.7	2.2
Tennessee River	Shipped	149	149	152	155	158	161	163	0.3	0.4
	Received	333	340	392	437	480	529	561	2.1	1.9
Arkansas River	Shipped	4	4	5	5	5	5	5	0.7	1.0
	Received	340	334	402	448	485	524	548	2.1	1.6
Gulf Coast West	Shipped	797	805	847	886	924	970	1,001	0.8	0.9
	Received	1,507	1,530	1,726	1,893	2,051	2,236	2,358	1.8	1.7
Gulf Coast East	Shipped	107	116	140	164	191	222	243	3.4	3.1
	Received	58	58	68	76	82	90	95	2.1	1.8
Warrior River System	Shipped	104	105	112	119	126	134	139	1.1	1.2
	Received	167	163	192	211	224	238	245	1.8	1.2
South Atlantic Coast	Shipped	125	125	125	125	125	125	125	0.0	0.0
	Received	76	76	76	76	76	76	76	0.0	0.0
Middle Atlantic Coast	Shipped	614	584	573	561	550	538	531	-0.7	-0.4
	Received	553	468	456	445	433	422	415	-1.7	-0.5

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SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	13	13	13	13	13	13	13	0.0	0.0
	Received	4	4	4	4	4	4	4	0.0	0.0
Great Lakes and Seaway	Shipped	1,246	1,262	1,326	1,392	1,459	1,539	1,594	0.9	1.0
	Received	758	754	810	847	879	913	934	0.9	0.7
Washington/Oregon Coast	Shipped	173	79	79	79	79	79	79	-5.8	0.0
	Received	36	20	20	20	20	20	20	-4.4	0.0
Columbia-Snake Willamette River	Shipped	11	10	10	10	10	10	10	-1.0	0.0
	Received	1	0	0	0	0	0	0	-100.0	0.0
California Coast	Shipped	70	70	70	70	70	70	70	0.0	0.0
	Received	32	8	8	8	8	8	8	-9.9	0.0
Alaska	Shipped	4	4	4	4	4	4	4	-1.6	0.0
	Received	63	63	63	63	63	63	63	0.0	0.0
Hawaii and Pacific Territories	Shipped	12	11	11	11	11	11	11	-0.3	0.0
	Received	96	96	96	96	96	96	96	0.0	0.0
Domestic Caribbean	Shipped	12	12	12	12	12	12	12	0.0	0.0
	Received	191	192	196	199	202	207	210	0.3	0.4
Total	Shipped	9,127	9,049	11,091	12,263	13,365	14,616	15,392	2.3	1.8
	Received	9,127	9,049	11,091	12,263	13,365	14,616	15,392	2.3	1.8

0 = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Primary Metals Products
ALTERNATIVE: Baseline

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90 03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0 0	0 0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0 0	0 0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0 0	0 0
Baton Rouge to Gulf	Exports	371	367	319	317	329	348	363	-1 2	1 0
	Imports	3,623	3,756	5,165	6,011	6,739	7,549	8,049	4 0	2 3
Illinois River	Exports	139	178	171	170	172	175	177	1 6	0 3
	Imports	1,909	1,241	1,676	1,843	1,947	2,050	2,095	-0 3	1 0
Missouri River	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0 0	0 0
Ohio River	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0 0	0 0
Tennessee River	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0 0	0 0
Arkansas River	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0 0	0 0
Gulf Coast West	Exports	328	317	266	283	276	296	312	-1 7	1 3
	Imports	2,542	2,331	3,143	3,595	3,899	4,183	4,327	2 7	1 4
Gulf Coast East	Exports	109	105	84	83	88	96	103	-2 1	1 6
	Imports	324	312	410	476	528	579	609	3 0	1 9
Warrior River System	Exports	67	64	52	51	54	59	63	2 0	1 6
	Imports	201	187	255	295	325	356	373	3 0	1 8
South Atlantic Coast	Exports	240	272	232	230	240	256	269	0 3	1 2
	Imports	902	774	1,024	1,158	1,243	1,317	1,351	1 9	1 2
Middle Atlantic Coast	Exports	1,036	1,195	1,066	1,059	1,091	1,142	1,183	0 2	0 9
	Imports	3,648	4,175	5,787	6,389	6,868	7,426	7,733	4 4	1 5

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SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77 90	90 03
North Atlantic Coast	Exports	22	23	22	22	22	23	23	0 1	0 3
	Imports	752	659	898	1,029	1,118	1,205	1,250	2 4	1 5
Great Lakes and Seaway	Exports	256	344	323	322	327	335	342	1 8	0 5
	Imports	4,841	4,664	6,420	6,822	7,117	7,509	7,693	2 7	0 9
Washington/Oregon Coast	Exports	72	80	76	75	76	78	79	0 4	0 4
	Imports	307	305	414	474	516	555	576	3 4	1 5
Columbia-Snake-Willamette River	Exports	18	22	20	20	20	21	22	0 7	0 6
	Imports	501	491	656	742	794	836	852	3 1	1 1
California Coast	Exports	117	175	146	145	152	164	173	1 6	1 4
	Imports	2,597	2,561	3,440	3,916	4,219	4,486	4,608	3 2	1 3
Alaska	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	19	20	26	29	30	30	30	3 1	0 3
Hawaii and Pacific Territories	Exports	a	a	a	a	a	a	a	0 8	1 2
	Imports	74	78	100	109	113	115	114	3 1	0 3
Domestic Caribbean	Exports	12	13	11	11	11	12	13	0 8	1 3
	Imports	173	182	237	260	270	277	278	3 2	0 5
Total	Exports	2,788	3,155	2,789	2,769	2,860	3,005	3,120	0 1	0 9
	Imports	22,412	21,736	29,651	33,147	35,726	38,474	39,938	3 1	1 4

a = less than 500 tons

009

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Primary Metals Products
ALTERNATIVE: Baseline

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	356	355	407	445	478	514	538	1.7	1.5
Lower Upper Mississippi	2,689	2,699	3,206	3,597	3,951	4,348	4,603	2.3	1.9
Lower Mississippi	4,214	4,228	5,172	5,610	6,217	6,887	7,311	2.2	2.1
Baton Rouge to Gulf	4,060	4,054	5,759	6,465	7,258	8,143	8,672	3.6	2.3
Illinois River	2,410	2,427	2,795	3,089	3,358	3,663	3,859	1.9	1.7
Missouri River	77	75	93	104	113	122	128	2.3	1.6
Ohio River	3,453	3,532	4,153	4,508	4,999	5,564	5,937	2.1	2.1
Tennessee River	782	785	906	1,102	1,203	1,318	1,391	2.7	1.8
Arkansas River	342	336	404	450	488	527	551	2.1	1.6
Gulf Coast West	1,752	1,778	1,987	2,167	2,339	2,540	2,674	1.6	1.6
Gulf Coast East	314	321	388	576	642	716	764	4.8	2.2
Warrior River System	227	224	261	537	592	652	690	6.8	1.9
Great Lakes	1,564	1,577	1,696	1,800	1,898	2,013	2,088	1.1	1.2

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Primary Metals Products
ALTERNATIVE: Baseline

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	182	181	207	227	244	262	274	1.7	1.5
Lower Upper Mississippi	523	525	627	705	776	855	905	2.3	1.9
Lower Mississippi	2,482	2,497	3,094	3,347	3,723	4,141	4,405	2.3	2.1
Baton Rouge to Gulf	722	712	1,188	1,329	1,501	1,695	1,805	4.8	2.4
Illinois River	442	447	518	577	631	694	734	2.1	1.9
Missouri River	30	30	36	41	44	48	50	2.3	1.6
Ohio River	2,166	2,239	2,651	3,008	3,370	3,790	4,069	2.6	2.4
Tennessee River	181	181	214	262	289	319	338	2.9	2.0
Arkansas River	106	104	125	139	150	163	170	2.1	1.6
Gulf Coast West	459	469	536	596	654	722	768	2.0	2.0
Gulf Coast East	24	23	28	50	55	60	63	5.9	1.8
Warrior River System	35	34	38	131	144	159	169	10.8	2.0
Great Lakes	618	623	673	716	757	804	835	1.1	1.2
Total	7,968	8,065	9,937	11,128	12,339	13,712	14,587	2.6	2.1

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Primary Metals Products
ALTERNATIVE: Low Use

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	62	63	64	64	65	66	67	0.2	0.4
	Received	294	292	343	401	442	486	514	2.4	1.9
Lower Upper Mississippi	Shipped	180	184	206	210	226	243	256	1.2	1.5
	Received	510	508	603	722	800	891	948	2.7	2.1
Lower Mississippi	Shipped	37	37	39	40	41	43	44	0.7	0.8
	Received	538	527	655	842	952	1,074	1,147	3.5	2.4
Baton Rouge to Gulf	Shipped	2,596	2,546	4,104	5,680	6,642	7,786	8,417	6.2	3.1
	Received	386	397	1,143	1,301	1,523	1,785	1,917	9.8	3.0
Illinois River	Shipped	813	825	887	901	945	991	1,028	0.8	1.0
	Received	1,128	1,118	1,304	1,600	1,772	1,973	2,089	2.7	2.1
Missouri River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	77	75	93	119	134	150	160	3.4	2.3
Ohio River	Shipped	1,998	2,043	2,309	2,384	2,561	2,743	2,895	1.4	1.5
	Received	1,980	2,024	2,438	2,907	3,262	3,682	3,952	3.0	2.4
Tennessee River	Shipped	149	149	152	153	155	157	159	0.2	0.3
	Received	333	340	392	433	473	518	550	2.0	1.9
Arkansas River	Shipped	4	4	5	5	5	5	5	0.3	0.7
	Received	340	334	402	495	552	614	651	2.9	2.1
Gulf Coast West	Shipped	797	805	847	857	886	916	940	0.6	0.7
	Received	1,507	1,530	1,726	1,831	1,965	2,106	2,216	1.5	1.5
Gulf Coast East	Shipped	107	116	139	160	182	210	230	3.1	2.8
	Received	58	58	68	76	83	91	96	2.1	1.8
Warrior River System	Shipped	104	105	112	114	119	124	128	0.7	0.9
	Received	167	163	192	247	276	308	326	3.1	2.1
South Atlantic Coast	Shipped	125	125	125	125	125	125	125	0.0	0.0
	Received	76	76	76	76	76	76	76	0.0	0.0
Middle Atlantic Coast	Shipped	614	584	573	561	550	538	531	-0.7	0.4
	Received	553	468	456	445	433	422	415	-1.7	0.5

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SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	13	13	13	13	13	13	13	0 0	0 0
	Received	4	4	4	4	4	4	4	0.0	0 0
Great Lakes and Seaway	Shipped	1,246	1,262	1,326	1,334	1,386	1,438	1,480	0.5	0 8
	Received	758	754	810	902	953	1,014	1,049	1.3	1 2
Washington/Oregon Coast	Shipped	173	79	79	79	79	79	79	-5.8	0.0
	Received	36	20	20	20	20	20	20	-4.4	0 0
Columbia-Snake Willamette River	Shipped	11	10	10	10	10	10	10	-1.0	0 0
	Received	1	0	0	0	0	0	0	-100.0	0 0
California Coast	Shipped	70	70	70	70	70	70	70	0.0	0 0
	Received	32	8	8	8	8	8	8	-9.9	0.0
Alaska	Shipped	4	4	4	4	4	4	4	-1 6	0 0
	Received	63	63	63	63	63	63	63	0 0	0 0
Hawaii and Pacific Territories	Shipped	12	11	11	11	11	11	11	-0 3	0 0
	Received	96	96	96	96	96	96	96	0.0	0 0
Domestic Caribbean	Shipped	12	12	12	12	12	12	12	0 0	0 0
	Received	191	192	196	198	201	205	208	0 3	0 4
Total	Shipped	9,127	9,049	11,087	12,787	14,087	15,586	16,505	2.6	2 0
	Received	9,127	9,049	11,087	12,787	14,087	15,586	16,505	2.6	2 0

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Primary Metals Products
ALTERNATIVE: Low Use

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	371	367	319	248	265	280	280	-3.0	0.9
	Imports	3,623	3,756	5,162	7,229	8,401	9,821	10,637	5.5	3.0
Illinois River	Exports	139	178	171	160	162	165	165	1.1	0.2
	Imports	1,909	1,241	1,676	2,308	2,601	2,930	3,094	1.5	2.3
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	328	317	266	190	208	225	224	-4.1	1.3
	Imports	2,542	2,331	3,143	4,809	5,597	6,497	6,961	5.0	2.9
Gulf Coast East	Exports	109	105	84	54	61	68	68	-5.3	1.7
	Imports	324	312	410	590	685	796	856	4.7	2.9
Warrior River System	Exports	67	64	52	34	38	42	42	-5.1	1.7
	Imports	201	187	255	385	449	525	566	5.1	3.0
South Atlantic Coast	Exports	240	272	232	173	187	200	199	-2.5	1.1
	Imports	902	774	1,024	1,528	1,760	2,023	2,156	4.1	2.7
Middle Atlantic Coast	Exports	1,036	1,195	1,066	874	919	961	960	-1.3	0.7
	Imports	3,648	4,175	5,789	7,256	8,081	9,091	9,660	5.4	2.2

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	22	23	22	21	21	21	21	-0.5	0.2
	Imports	752	659	899	1,319	1,515	1,747	1,868	4.4	2.7
Great Lakes and Seaway	Exports	256	344	323	292	299	306	306	1.0	0.4
	Imports	4,841	4,664	6,420	7,637	8,347	9,161	9,609	3.6	1.8
Washington/Oregon Coast	Exports	72	80	76	70	71	72	72	-0.2	0.3
	Imports	307	305	414	624	724	839	899	5.6	2.8
Columbia-Snake Willamette River	Exports	18	22	20	17	18	19	19	-0.4	0.5
	Imports	501	491	656	1,012	1,174	1,355	1,443	5.6	2.8
California Coast	Exports	117	175	146	103	113	122	122	-1.0	1.4
	Imports	2,597	2,561	3,440	5,254	6,097	7,047	7,526	5.6	2.8
Alaska	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	19	20	26	39	44	49	51	5.6	2.0
Hawaii and Pacific Territories	Exports	a	a	a	a	a	a	a	-3.0	1.1
	Imports	74	78	100	149	167	186	193	5.6	2.0
Domestic Caribbean	Exports	12	13	11	8	9	9	9	-3.2	1.2
	Imports	173	182	237	351	393	438	457	5.6	2.1
Total	Exports	2,788	3,155	2,789	2,243	2,370	2,491	2,488	-1.7	0.8
	Imports	22,412	21,736	29,651	40,489	46,036	52,504	55,975	4.7	2.5

a = less than 500 tons

909

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Primary Metals Products
ALTERNATIVE: Low Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	356	355	407	465	507	552	581	2.1	1.7
Lower Upper Mississippi	2,689	2,699	3,205	3,807	4,247	4,746	5,059	2.7	2.2
Lower Mississippi	4,214	4,228	5,168	6,188	7,017	7,980	8,557	3.0	2.5
Baton Rouge to Gulf	4,060	4,054	5,755	7,187	8,260	9,519	10,237	4.5	2.8
Illinois River	2,410	2,427	2,794	3,204	3,523	3,884	4,113	2.2	1.9
Missouri River	77	75	93	119	134	150	160	3.4	2.3
Ohio River	3,453	3,532	4,150	4,511	4,991	5,539	5,916	2.1	2.1
Tennessee River	479	486	542	683	741	809	856	2.8	1.8
Arkansas River	342	336	404	497	554	616	653	2.9	2.1
Gulf Coast West	1,752	1,778	1,986	2,093	2,237	2,389	2,507	1.4	1.4
Gulf Coast East	314	321	387	621	700	796	855	5.4	2.5
Warrior River System	227	224	261	580	648	730	779	7.5	2.3
Great Lakes	1,564	1,577	1,696	1,797	1,899	2,013	2,089	1.1	1.2

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Primary Metals Products
ALTERNATIVE: Low Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	182	181	207	237	259	282	297	2.1	1.7
Lower Upper Mississippi	523	525	627	752	842	944	1,008	2.8	2.3
Lower Mississippi	2,482	2,497	3,091	3,679	4,181	4,769	5,120	3.1	2.6
Baton Rouge to Gulf	722	712	1,188	1,477	1,708	1,979	2,128	5.7	2.8
Illinois River	442	447	518	591	653	722	767	2.3	2.0
Missouri River	30	30	36	47	53	59	63	3.4	2.3
Ohio River	2,166	2,239	2,648	2,956	3,285	3,667	3,935	2.4	2.2
Tennessee River	115	117	136	171	189	208	222	3.1	2.0
Arkansas River	106	104	125	153	171	190	202	2.9	2.1
Gulf Coast West	459	469	536	566	612	661	700	1.6	1.6
Gulf Coast East	24	23	28	57	64	73	78	7.0	2.5
Warrior River System	35	34	38	137	153	171	183	11.2	2.2
Great Lakes	618	623	673	714	757	804	836	1.1	1.2
Total	7,903	8,001	9,852	11,539	12,927	14,530	15,536	3.0	2.3

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Primary Metals Products
ALTERNATIVE: High Use

SEGMENT	IN/OUT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Shipped	62	63	64	65	67	68	70	0.4	0.5
	Received	294	292	343	380	411	446	468	2.0	1.6
Lower Upper Mississippi	Shipped	180	184	206	227	248	273	290	1.8	1.9
	Received	510	508	603	672	733	803	848	2.2	1.8
Lower Mississippi	Shipped	37	37	39	41	43	46	47	0.9	1.0
	Received	538	527	655	741	811	886	931	2.5	1.8
Baton Rouge to Gulf	Shipped	2,596	2,546	4,108	4,826	5,477	6,189	6,602	4.9	2.4
	Received	386	397	1,143	1,325	1,537	1,791	1,928	9.9	2.9
Illinois River	Shipped	813	825	887	946	1,005	1,075	1,122	1.2	1.3
	Received	1,126	1,118	1,305	1,436	1,548	1,668	1,742	1.9	1.5
Missouri River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	77	75	93	104	113	122	128	2.3	1.6
Ohio River	Shipped	1,998	2,043	2,309	2,551	2,788	3,070	3,259	1.9	1.9
	Received	1,980	2,024	2,441	2,784	3,108	3,475	3,714	2.7	2.2
Tennessee River	Shipped	149	149	152	155	158	161	163	0.3	0.4
	Received	333	340	392	437	480	529	561	2.1	1.9
Arkansas River	Shipped	4	4	5	5	5	5	5	0.7	1.0
	Received	340	334	402	448	485	524	548	2.1	1.6
Gulf Coast West	Shipped	797	805	847	886	924	970	1,001	0.8	0.9
	Received	1,507	1,530	1,726	1,893	2,051	2,236	2,358	1.8	1.7
Gulf Coast East	Shipped	107	116	140	164	191	222	243	3.4	3.1
	Received	58	58	68	76	82	90	95	2.1	1.8
Warrior River System	Shipped	104	105	112	119	126	134	139	1.1	1.2
	Received	167	163	192	211	224	238	245	1.8	1.2
South Atlantic Coast	Shipped	125	125	125	125	125	125	125	0.0	0.0
	Received	76	76	76	76	76	76	76	0.0	0.0
Middle Atlantic Coast	Shipped	614	584	573	561	550	538	531	-0.7	-0.4
	Received	553	468	456	445	433	422	415	1.7	-0.5

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SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	13	13	13	13	13	13	13	0.0	0.0
	Received	4	4	4	4	4	4	4	0.0	0.0
Great Lakes and Seaway	Shipped	1,246	1,262	1,326	1,392	1,459	1,539	1,594	0.9	1.0
	Received	758	754	810	847	879	913	934	0.9	0.7
Washington/Oregon Coast	Shipped	173	79	79	79	79	79	79	-5.8	0.0
	Received	36	20	20	20	20	20	20	-4.4	0.0
Columbia-Snake Willamette River	Shipped	11	10	10	10	10	10	10	-1.0	0.0
	Received	1	0	0	0	0	0	0	-100.0	0.0
California Coast	Shipped	70	70	70	70	70	70	70	0.0	0.0
	Received	32	8	8	8	8	8	8	-9.9	0.0
Alaska	Shipped	4	4	4	4	4	4	4	-1.6	0.0
	Received	63	63	63	63	63	63	63	0.0	0.0
Hawaii and Pacific Territories	Shipped	12	11	11	11	11	11	11	0.3	0.0
	Received	96	96	96	96	96	96	96	0.0	0.0
Domestic Caribbean	Shipped	12	12	12	12	12	12	12	0.0	0.0
	Received	191	192	196	199	202	207	210	0.3	0.4
Total	Shipped	9,127	9,049	11,091	12,263	13,365	14,616	15,392	2.3	1.8
	Received	9,127	9,049	11,091	12,263	13,365	14,616	15,392	2.3	1.8

a - less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Primary Metals Products
ALTERNATIVE: High Use

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	371	367	319	317	329	348	363	-1.2	1.0
	Imports	3,623	3,756	5,165	6,011	6,739	7,549	8,049	4.0	2.3
Illinois River	Exports	139	178	171	170	172	175	177	1.6	0.3
	Imports	1,909	1,241	1,676	1,843	1,947	2,050	2,095	-0.3	1.0
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	328	317	266	263	276	296	312	-1.7	1.3
	Imports	2,542	2,331	3,143	3,995	3,899	4,183	4,327	2.7	1.4
Gulf Coast East	Exports	109	105	84	83	88	96	103	-2.1	1.6
	Imports	324	312	410	476	528	579	609	3.0	1.9
Warrior River System	Exports	67	64	52	51	54	59	63	-2.0	1.6
	Imports	201	187	255	295	325	356	373	3.0	1.8
South Atlantic Coast	Exports	240	272	232	230	240	256	269	-0.3	1.2
	Imports	902	774	1,024	1,158	1,243	1,317	1,351	1.9	1.2
Middle Atlantic Coast	Exports	1,036	1,195	1,066	1,059	1,091	1,142	1,183	0.2	0.9
	Imports	3,648	4,175	5,787	6,389	6,868	7,426	7,733	4.4	1.5

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SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	22	23	22	22	22	23	23	-0.1	0.3
	Imports	752	659	898	1,029	1,118	1,205	1,250	2.4	1.5
Great Lakes and Seaway	Exports	256	344	323	322	327	335	342	1.8	0.5
	Imports	4,841	4,664	6,420	6,822	7,117	7,509	7,693	2.7	0.9
Washington/Oregon Coast	Exports	72	80	76	75	76	78	79	0.4	0.4
	Imports	307	305	414	474	516	555	576	3.4	1.5
Columbia-Snake Willamette River	Exports	18	22	20	20	20	21	22	0.7	0.6
	Imports	501	491	656	742	794	836	852	3.1	1.1
California Coast	Exports	117	175	146	145	152	164	173	1.6	1.4
	Imports	2,597	2,561	3,440	3,916	4,219	4,486	4,608	3.2	1.3
Alaska	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	19	20	26	29	30	30	30	3.1	0.3
Hawaii and Pacific Territories	Exports	a	a	a	a	a	a	a	-0.8	1.2
	Imports	74	78	100	109	113	115	114	3.1	0.3
Domestic Caribbean	Exports	12	13	11	11	11	12	13	-0.8	1.3
	Imports	173	182	237	260	270	277	278	3.2	0.5
Total	Exports	2,788	3,155	2,789	2,769	2,860	3,005	3,120	-0.1	0.9
	Imports	22,412	21,736	29,651	33,147	35,726	38,474	39,938	3.1	1.4

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Primary Metals Products
ALTERNATIVE: High Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	356	355	407	445	478	514	538	1.7	1.5
Lower Upper Mississippi	2,689	2,699	3,206	3,597	3,951	4,348	4,603	2.3	1.9
Lower Mississippi	4,214	4,228	5,172	5,610	6,217	6,887	7,311	2.2	2.1
Baton Rouge to Gulf	4,060	4,054	5,759	6,465	7,258	8,143	8,672	3.6	2.3
Illinois River	2,410	2,427	2,795	3,089	3,358	3,663	3,859	1.9	1.7
Missouri River	77	75	93	104	113	122	128	2.3	1.6
Ohio River	3,453	3,532	4,153	4,508	4,999	5,564	5,937	2.1	2.1
Tennessee River	782	785	906	1,102	1,203	1,318	1,391	2.7	1.8
Arkansas River	342	336	404	450	488	527	551	2.1	1.6
Gulf Coast West	1,752	1,778	1,987	2,167	2,339	2,540	2,674	1.6	1.6
Gulf Coast East	314	321	388	576	642	716	764	4.8	2.2
Warrior River System	227	224	261	537	592	652	690	6.8	1.9
Great Lakes	1,564	1,577	1,696	1,800	1,898	2,013	2,088	1.1	1.2

a = less than 500 tons

WATERBORNE PROJECTED USE
MILLIONS OF TON MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Primary Metals Products
ALTERNATIVE: High Use

SEGMENT	YEARS							% GROWTH	
	1977	1980	1985	1990	1995	2000	2003	77-90	90-03
Upper Mississippi	182	181	207	227	244	262	274	1.7	1.5
Lower Upper Mississippi	523	525	627	705	776	855	905	2.3	1.9
Lower Mississippi	2,482	2,497	3,094	3,347	3,723	4,141	4,405	2.3	2.1
Baton Rouge to Gulf	722	712	1,188	1,329	1,501	1,695	1,805	4.8	2.4
Illinois River	442	447	518	577	631	694	734	2.1	1.9
Missouri River	30	30	36	41	44	48	50	2.3	1.6
Ohio River	2,166	2,239	2,651	3,008	3,370	3,790	4,069	2.6	2.4
Tennessee River	181	181	214	262	289	319	338	2.9	2.0
Arkansas River	106	104	125	139	150	163	170	2.1	1.6
Gulf Coast West	459	469	536	596	654	722	768	2.0	2.0
Gulf Coast East	24	23	28	50	55	60	63	5.9	1.8
Warrior River System	35	34	38	131	144	159	169	10.8	2.0
Great Lakes	618	623	673	716	757	804	835	1.1	1.2
Total	7,968	8,065	9,937	11,128	12,339	13,712	14,587	2.6	2.1

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Primary Metals Products
ALTERNATIVE: Bad Energy

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	62	63	64	65	66	67	68	0.3	0.4
	Received	294	292	341	377	408	444	466	1.9	1.6
Lower Upper Mississippi	Shipped	180	184	203	221	239	262	277	1.6	1.8
	Received	510	508	601	671	734	808	856	2.1	1.9
Lower Mississippi	Shipped	37	37	39	41	43	45	48	0.8	0.9
	Received	538	527	653	742	815	896	945	2.5	1.9
Baton Rouge to Gulf	Shipped	2,596	2,543	4,112	4,877	5,570	6,348	6,802	5.0	2.6
	Received	386	397	1,138	1,313	1,519	1,766	1,899	9.9	2.9
Illinois River	Shipped	813	825	880	929	981	1,043	1,086	1.0	1.2
	Received	1,126	1,118	1,304	1,442	1,560	1,691	1,772	1.9	1.6
Missouri River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	77	75	93	104	114	124	129	2.3	1.7
Ohio River	Shipped	1,998	2,043	2,281	2,489	2,698	2,952	3,123	1.7	1.8
	Received	1,980	2,023	2,427	2,758	3,076	3,442	3,680	2.6	2.2
Tennessee River	Shipped	149	149	152	154	157	160	162	0.3	0.4
	Received	333	340	389	430	470	517	548	2.0	1.9
Arkansas River	Shipped	4	4	5	5	5	5	5	0.6	0.8
	Received	340	334	400	447	484	526	550	2.1	1.6
Gulf Coast West	Shipped	797	805	842	875	909	950	978	0.7	0.9
	Received	1,507	1,530	1,710	1,859	2,003	2,174	2,288	1.6	1.6
Gulf Coast East	Shipped	107	116	139	162	187	217	238	3.2	3.0
	Received	58	58	67	74	81	88	93	1.9	1.7
Warrior River System	Shipped	104	105	112	117	123	130	135	0.9	1.1
	Received	167	163	192	213	228	245	254	1.9	1.4
South Atlantic Coast	Shipped	125	125	125	125	125	125	125	0.0	0.0
	Received	76	76	76	76	76	76	76	0.0	0.0
Middle Atlantic Coast	Shipped	614	584	573	561	550	538	531	0.7	0.4
	Received	553	468	456	445	433	422	415	1.7	0.5

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77 90	90 03
North Atlantic Coast	Shipped	13	13	13	13	13	13	13	0 0	0 0
	Received	4	4	4	4	4	4	4	0.0	0 0
Great Lakes and Seaway	Shipped	1,246	1,262	1,317	1,371	1,429	1,499	1,547	0.7	0.9
	Received	758	754	810	851	885	923	947	0.9	0 8
Washington/Oregon Coast	Shipped	173	79	79	79	79	79	79	5.8	0.0
	Received	36	20	20	20	20	20	20	-4 4	0 0
Columbia-Snake Willamette River	Shipped	11	10	10	10	10	10	10	-1.0	0 0
	Received	1	0	0	0	0	0	0	-100.0	0 0
California Coast	Shipped	70	70	70	70	70	70	70	0.0	0 0
	Received	32	8	8	8	8	8	8	9 9	0.0
Alaska	Shipped	4	4	4	4	4	4	4	-1 6	0.0
	Received	63	63	63	63	63	63	63	0.0	0 0
Hawaii and Pacific Territories	Shipped	12	11	11	11	11	11	11	-0 3	0.0
	Received	96	96	96	96	96	96	96	0.0	0.0
Domestic Caribbean	Shipped	12	12	12	12	12	12	12	0 0	0.0
	Received	191	192	196	199	203	208	211	0.3	0 5
Total	Shipped	9,127	9,046	11,043	12,192	13,281	14,541	15,321	2 3	1 8
	Received	9,127	9,046	11,043	12,192	13,281	14,541	15,321	2 3	1 8

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Primary Metals Products
ALTERNATIVE: Bad Energy

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	371	367	311	296	297	303	308	-1.7	0.3
	Imports	3,623	3,752	5,175	6,095	6,915	7,830	8,402	4.1	2.5
Illinois River	Exports	139	178	169	167	167	168	169	1.4	0.1
	Imports	1,909	1,239	1,683	1,881	2,023	2,160	2,228	-0.1	1.3
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	328	317	257	241	242	248	254	-2.4	0.4
	Imports	2,542	2,327	3,159	3,696	4,071	4,456	4,665	2.9	1.8
Gulf Coast East	Exports	109	105	81	74	75	77	80	-2.9	0.5
	Imports	324	312	411	481	538	596	630	3.1	2.1
Warrior River System	Exports	67	64	50	46	46	48	49	-2.8	0.5
	Imports	201	187	256	303	338	377	400	3.2	2.2
South Atlantic Coast	Exports	240	272	226	212	214	218	223	0.9	0.4
	Imports	902	773	1,029	1,189	1,295	1,399	1,451	2.1	1.5
Middle Atlantic Coast	Exports	1,036	1,195	1,044	1,002	1,006	1,021	1,036	0.3	0.3
	Imports	3,648	4,172	5,803	6,477	7,090	7,729	8,096	4.5	1.7

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SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	22	23	22	22	22	22	22	-0.2	0.1
	Imports	752	659	903	1,057	1,168	1,282	1,345	2.6	1.9
Great Lakes and Seaway	Exports	256	344	319	312	313	316	318	1.5	0.1
	Imports	4,841	4,661	6,433	6,892	7,343	7,779	8,008	2.8	1.2
Washington/Oregon Coast	Exports	72	80	75	74	74	74	75	0.2	0.1
	Imports	307	304	416	488	539	592	621	3.6	1.9
Columbia-Snake Willamette River	Exports	18	22	20	19	19	19	20	0.4	0.2
	Imports	501	490	659	764	830	892	921	3.3	1.5
California Coast	Exports	117	175	141	132	133	136	139	0.9	0.4
	Imports	2,597	2,557	3,457	4,024	4,403	4,776	4,966	3.4	1.6
Alaska	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	19	20	26	29	31	32	32	3.3	0.7
Hawaii and Pacific Territories	Exports	a	a	a	a	a	a	a	-1.4	0.4
	Imports	74	77	101	113	118	122	123	3.3	0.7
Domestic Caribbean	Exports	12	13	11	10	10	10	11	-1.5	0.4
	Imports	173	182	238	268	282	295	300	3.4	0.9
Total	Exports	2,788	3,155	2,727	2,606	2,617	2,660	2,703	-0.5	0.3
	Imports	22,412	21,712	29,750	33,757	36,983	40,317	42,190	3.2	1.7

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Primary Metals Products
ALTERNATIVE: Bad Energy

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	356	355	405	442	474	511	535	1.7	1.5
Lower Upper Mississippi	2,689	2,698	3,186	3,569	3,918	4,320	4,578	2.2	1.9
Lower Mississippi	4,214	4,225	5,149	5,594	6,211	6,909	7,350	2.2	2.1
Baton Rouge to Gulf	4,060	4,051	5,743	6,469	7,283	8,210	8,765	3.6	2.4
Illinois River	2,410	2,426	2,778	3,061	3,322	3,625	3,820	1.9	1.7
Missouri River	77	75	93	104	114	124	129	2.3	1.7
Ohio River	3,453	3,531	4,119	4,438	4,902	5,446	5,804	1.9	2.1
Tennessee River	782	784	900	1,090	1,188	1,300	1,372	2.6	1.8
Arkansas River	342	336	402	449	487	528	553	2.1	1.6
Gulf Coast West	1,752	1,778	1,969	2,129	2,284	2,470	2,593	1.5	1.5
Gulf Coast East	314	320	386	574	640	715	764	4.7	2.2
Warrior River System	227	224	260	535	590	651	690	6.8	2.0
Great Lakes	1,564	1,576	1,688	1,782	1,874	1,983	2,055	1.0	1.1

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Primary Metals Products
ALTERNATIVE: Bad Energy

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	182	181	206	225	242	261	273	1.7	1.5
Lower Upper Mississippi	523	525	623	700	770	851	902	2.3	2.0
Lower Mississippi	2,482	2,495	3,080	3,337	3,718	4,152	4,425	2.3	2.2
Baton Rouge to Gulf	722	711	1,186	1,333	1,511	1,715	1,832	4.8	2.5
Illinois River	442	447	514	570	622	683	722	2.0	1.8
Missouri River	30	30	36	41	45	49	51	2.3	1.7
Ohio River	2,166	2,239	2,626	2,952	3,291	3,691	3,957	2.4	2.3
Tennessee River	181	181	213	258	284	314	333	2.8	2.0
Arkansas River	106	104	124	139	150	163	171	2.1	1.6
Gulf Coast West	459	469	531	583	635	697	739	1.9	1.8
Gulf Coast East	24	23	28	50	55	61	64	5.9	1.9
Warrior River System	35	34	38	130	143	158	168	10.7	2.0
Great Lakes	618	623	669	708	747	792	821	1.1	1.1
Total	7,968	8,062	9,875	11,027	12,214	13,585	14,458	2.5	2.1

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Primary Metals Products
ALTERNATIVE: Defense

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	62	63	64	116	67	68	70	4.9	-3.9
	Received	294	292	343	623	411	446	468	6.0	-2.2
Lower Upper Mississippi	Shipped	180	184	206	374	248	273	290	5.8	-1.9
	Received	510	508	603	1,096	733	803	848	6.1	-2.0
Lower Mississippi	Shipped	37	37	39	71	43	46	47	5.3	-3.1
	Received	538	527	655	1,190	811	886	931	6.3	-1.9
Baton Rouge to Gulf	Shipped	2,596	2,546	4,108	7,015	5,477	6,189	6,602	7.9	-0.5
	Received	386	397	1,143	1,628	1,537	1,791	1,928	11.7	1.3
Illinois River	Shipped	813	825	887	1,611	1,005	1,075	1,122	5.4	-2.7
	Received	1,126	1,118	1,305	2,371	1,548	1,668	1,742	5.9	-2.3
Missouri River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	77	75	93	169	113	122	128	6.2	-2.1
Ohio River	Shipped	1,998	2,043	2,309	4,194	2,788	3,070	3,259	5.9	-1.9
	Received	1,980	2,024	2,441	4,435	3,108	3,475	3,714	6.4	-1.4
Tennessee River	Shipped	149	149	152	277	158	161	163	4.9	-4.0
	Received	333	340	392	713	480	529	561	6.0	-1.8
Arkansas River	Shipped	4	4	5	8	5	5	5	5.1	-3.2
	Received	340	334	402	730	485	524	548	6.1	-2.2
Gulf Coast West	Shipped	797	805	847	1,538	924	970	1,001	5.2	-3.2
	Received	1,507	1,530	1,726	3,135	2,051	2,236	2,358	5.8	2.2
Gulf Coast East	Shipped	107	116	140	254	191	222	243	6.9	0.3
	Received	58	58	68	123	82	90	95	6.0	2.0
Warrior River System	Shipped	104	105	112	204	126	134	139	5.3	-2.9
	Received	167	163	192	349	224	238	245	5.8	2.7
South Atlantic Coast	Shipped	125	125	125	228	125	125	125	4.7	-4.5
	Received	76	76	76	138	76	76	76	4.7	-4.5
Middle Atlantic Coast	Shipped	614	584	573	1,040	550	538	531	4.1	-5.0
	Received	553	468	456	829	433	422	415	3.2	-5.2

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SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	13	13	13	24	13	13	13	4.7	-4.5
	Received	4	4	4	8	4	4	4	4.7	-4.5
Great Lakes and Seaway	Shipped	1,246	1,262	1,326	2,409	1,459	1,539	1,594	5.2	-3.1
	Received	758	754	810	1,471	879	913	934	5.2	-3.4
Washington/Oregon Coast	Shipped	173	79	79	144	79	79	79	-1.4	-4.5
	Received	36	20	20	36	20	20	20	0.1	-4.5
Columbia-Snake Willamette River	Shipped	11	10	10	17	10	10	10	3.6	-4.5
	Received	1	0	0	0	0	0	0	-100.0	0.0
California Coast	Shipped	70	70	70	128	70	70	70	4.7	-4.5
	Received	32	8	8	15	8	8	8	-5.7	-4.5
Alaska	Shipped	4	4	4	6	4	4	4	3.1	-4.5
	Received	63	63	63	115	63	63	63	4.7	-4.5
Hawaii and Pacific Territories	Shipped	12	11	11	20	11	11	11	4.4	-4.5
	Received	96	96	96	174	96	96	96	4.7	-4.5
Domestic Caribbean	Shipped	12	12	12	23	12	12	12	4.7	-4.5
	Received	191	192	196	355	202	207	210	4.9	-4.0
Total	Shipped	9,127	9,049	11,091	19,702	13,365	14,616	15,392	6.1	-1.9
	Received	9,127	9,049	11,091	19,702	13,365	14,616	15,392	6.1	-1.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRAD

COMMODITY: Primary Metals Products
ALTERNATIVE: Defense

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	371	367	319	330	329	348	363	-0.9	0.7
	Imports	3,623	3,756	5,165	4,162	6,739	7,549	8,049	1.1	5.2
Illinois River	Exports	139	178	171	176	172	175	177	1.9	0.0
	Imports	1,909	1,241	1,676	1,351	1,947	2,050	2,095	-2.6	3.4
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	328	317	266	275	276	296	312	-1.4	1.0
	Imports	2,542	2,331	3,143	2,533	3,899	4,183	4,327	0.0	4.2
Gulf Coast East	Exports	109	105	84	87	88	96	103	1.7	1.3
	Imports	324	312	410	331	528	579	609	0.2	4.8
Warrior River System	Exports	67	64	52	54	54	59	63	-1.7	1.2
	Imports	201	187	255	205	325	356	373	0.2	4.7
South Atlantic Coast	Exports	240	272	232	240	240	256	269	0.0	0.9
	Imports	902	774	1,024	825	1,243	1,317	1,351	-0.7	3.9
Middle Atlantic Coast	Exports	1,036	1,195	1,066	1,101	1,091	1,142	1,183	0.5	0.6
	Imports	3,648	4,175	5,787	4,663	6,868	7,426	7,733	1.9	4.0

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SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	22	23	22	23	22	23	23	0.2	0.0
	Imports	752	659	898	724	1,118	1,205	1,250	-0.3	4.3
Great Lakes and Seaway	Exports	256	344	323	334	327	335	342	2.1	0.2
	Imports	4,841	4,664	6,420	5,173	7,117	7,509	7,693	0.5	3.1
Washington/Oregon Coast	Exports	72	80	76	78	76	78	79	0.7	0.1
	Imports	307	305	414	333	516	555	576	0.6	4.3
Columbia-Snake Willamette River	Exports	18	22	20	21	20	21	22	1.0	0.4
	Imports	501	491	656	528	794	836	852	0.4	3.7
California Coast	Exports	117	175	146	151	152	164	173	2.0	1.0
	Imports	2,597	2,561	3,440	2,772	4,219	4,486	4,608	0.5	4.0
Alaska	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	19	20	26	21	30	30	30	0.7	2.7
Hawaii and Pacific Territories	Exports	a	a	a	a	a	a	a	-0.5	0.9
	Imports	74	78	100	81	113	115	114	0.7	2.7
Domestic Caribbean	Exports	12	13	11	11	11	12	13	-0.5	0.9
	Imports	173	182	237	191	270	277	278	0.8	2.9
Total	Exports	2,788	3,155	2,789	2,881	2,860	3,005	3,120	0.3	0.6
	Imports	22,412	21,736	29,651	23,895	35,726	38,474	39,938	0.5	4.0

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Primary Metals Products
ALTERNATIVE: Defense

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	356	355	407	739	478	514	538	5.8	-2.4
Lower Upper Mississippi	2,689	2,699	3,206	5,824	3,951	4,348	4,603	6.1	-1.8
Lower Mississippi	4,214	4,228	5,172	8,952	6,217	6,887	7,311	6.0	-1.5
Baton Rouge to Gulf	4,060	4,054	5,759	9,741	7,258	8,143	8,672	7.0	-0.9
Illinois River	2,410	2,427	2,795	5,078	3,358	3,663	3,859	5.9	-2.1
Missouri River	77	75	93	169	113	122	128	6.2	-2.1
Ohio River	3,453	3,532	4,153	7,259	4,999	5,564	5,937	5.9	-1.5
Tennessee River	782	785	906	1,799	1,203	1,318	1,391	6.6	-2.0
Arkansas River	342	336	404	734	488	527	551	6.0	-2.2
Gulf Coast West	1,752	1,778	1,987	3,609	2,339	2,540	2,674	5.7	-2.3
Gulf Coast East	314	321	388	919	642	716	764	8.6	-1.4
Warrior River System	227	224	261	868	592	652	690	10.9	-1.8
Great Lakes	1,564	1,577	1,696	3,082	1,898	2,013	2,088	5.4	-2.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Primary Metals Products
ALTERNATIVE: Defense

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	182	181	207	377	244	262	274	5.8	-2.4
Lower Upper Mississippi	523	525	627	1,139	776	855	905	6.2	-1.7
Lower Mississippi	2,482	2,497	3,094	5,303	3,723	4,141	4,405	6.0	-1.4
Baton Rouge to Gulf	722	712	1,188	1,902	1,501	1,695	1,805	7.7	0.4
Illinois River	442	447	518	941	631	694	734	6.0	-1.9
Missouri River	30	30	36	66	44	48	50	6.2	-2.1
Ohio River	2,166	2,239	2,651	4,798	3,370	3,790	4,069	6.3	-1.3
Tennessee River	181	181	214	422	289	319	338	6.8	-1.7
Arkansas River	106	104	125	227	150	163	170	6.1	-2.2
Gulf Coast West	459	469	536	975	654	722	768	6.0	-1.8
Gulf Coast East	24	23	28	80	55	60	63	9.9	-1.8
Warrior River System	35	34	38	212	144	159	169	14.9	-1.7
Great Lakes	618	623	673	1,222	757	804	835	5.4	-2.9
Total	7,968	8,065	9,937	17,665	12,339	13,712	14,587	6.3	-1.5

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Primary Metals Products
ALTERNATIVE: High Coal Export

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	62	63	64	65	67	68	70	0.4	0.5
	Received	294	292	343	380	411	446	468	2.0	1.6
Lower Upper Mississippi	Shipped	180	184	206	227	248	273	290	1.8	1.9
	Received	510	508	603	672	733	803	848	2.2	1.8
Lower Mississippi	Shipped	37	37	39	41	43	46	47	0.9	1.0
	Received	538	527	655	741	811	886	931	2.5	1.8
Baton Rouge to Gulf	Shipped	2,596	2,546	4,108	4,826	5,477	6,189	6,602	4.9	2.4
	Received	386	397	1,143	1,325	1,537	1,791	1,928	9.9	2.9
Illinois River	Shipped	813	825	887	946	1,005	1,075	1,122	1.2	1.3
	Received	1,126	1,118	1,305	1,436	1,548	1,668	1,742	1.9	1.5
Missouri River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	77	75	93	104	113	122	128	2.3	1.6
Ohio River	Shipped	1,998	2,043	2,309	2,551	2,788	3,070	3,259	1.9	1.9
	Received	1,980	2,024	2,441	2,784	3,108	3,475	3,714	2.7	2.2
Tennessee River	Shipped	149	149	152	155	158	161	163	0.3	0.4
	Received	333	340	392	437	480	529	561	2.1	1.9
Arkansas River	Shipped	4	4	5	5	5	5	5	0.7	1.0
	Received	340	334	402	448	485	524	548	2.1	1.6
Gulf Coast West	Shipped	797	805	847	886	924	970	1,001	0.8	0.9
	Received	1,507	1,530	1,726	1,893	2,051	2,236	2,358	1.8	1.7
Gulf Coast East	Shipped	107	116	140	164	191	222	243	3.4	3.1
	Received	58	58	68	76	82	90	95	2.1	1.8
Warrior River System	Shipped	104	105	112	119	126	134	139	1.1	1.2
	Received	167	163	192	211	224	238	245	1.8	1.2
South Atlantic Coast	Shipped	125	125	125	125	125	125	125	0.0	0.0
	Received	76	76	76	76	76	76	76	0.0	0.0
Middle Atlantic Coast	Shipped	614	584	573	561	550	538	531	-0.7	-0.4
	Received	553	468	456	445	433	422	415	1.7	-0.5

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SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-00	90-03
North Atlantic Coast	Shipped	13	13	13	13	13	13	13	0.0	0.0
	Received	4	4	4	4	4	4	4	0.0	0.0
Great Lakes and Seaway	Shipped	1,246	1,262	1,326	1,392	1,459	1,539	1,594	0.9	1.0
	Received	758	754	810	847	879	913	934	0.9	0.7
Washington/Oregon Coast	Shipped	173	79	79	79	79	79	79	5.8	0.0
	Received	36	20	20	20	20	20	20	4.4	0.0
Columbia-Snake Willamette River	Shipped	11	10	10	10	10	10	10	-1.0	0.0
	Received	1	0	0	0	0	0	0	100.0	0.0
California Coast	Shipped	70	70	70	70	70	70	70	0.0	0.0
	Received	32	8	8	8	8	8	8	9.9	0.0
Alaska	Shipped	4	4	4	4	4	4	4	-1.6	0.0
	Received	63	63	63	63	63	63	63	0.0	0.0
Hawaii and Pacific Territories	Shipped	12	11	11	11	11	11	11	-0.3	0.0
	Received	96	96	96	96	96	96	96	0.0	0.0
Domestic Caribbean	Shipped	12	12	12	12	12	12	12	0.0	0.0
	Received	191	192	196	199	202	207	210	0.3	0.4
Total	Shipped	9,127	9,049	11,091	12,263	13,365	14,616	15,392	2.3	1.8
	Received	9,127	9,049	11,091	12,263	13,365	14,616	15,392	2.3	1.8

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Primary Metals Products
ALTERNATIVE: High Coal Export

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77 90	90 03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0 0	0 0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0 0	0 0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0 0	0 0
Baton Rouge to Gulf	Exports	371	367	319	317	329	348	363	1 2	1 0
	Imports	3,623	3,756	5,165	6,011	6,739	7,549	8,049	4.0	2 3
Illinois River	Exports	139	178	171	170	172	175	177	1 6	0 3
	Imports	1,909	1,241	1,676	1,843	1,947	2,050	2,095	0 3	1 0
Missouri River	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0 0	0 0
Ohio River	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0 0	0 0
	Imports	0	0	0	0	0	0	0	0 0	0 0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0 0
	Imports	0	0	0	0	0	0	0	0.0	0 0
Gulf Coast West	Exports	328	317	266	263	276	296	312	-1.7	1 3
	Imports	2,542	2,331	3,143	3,595	3,899	4,183	4,327	2.7	1 4
Gulf Coast East	Exports	109	105	84	83	88	96	103	-2 1	1 6
	Imports	324	312	410	476	528	579	609	3 0	1.9
Warrior River System	Exports	67	64	52	51	54	59	63	-2 0	1 6
	Imports	201	187	255	295	325	356	373	3 0	1 8
South Atlantic Coast	Exports	240	272	232	230	240	256	269	-0 3	1 2
	Imports	902	774	1,024	1,158	1,243	1,317	1,351	1 9	1 2
Middle Atlantic Coast	Exports	1,036	1,195	1,066	1,059	1,091	1,142	1,183	0 2	0 9
	Imports	3,648	4,175	5,787	6,389	6,868	7,426	7,733	4 4	1 5

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SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	22	23	22	22	22	23	23	-0.1	0.3
	Imports	752	659	898	1,029	1,118	1,205	1,250	2.4	1.5
Great Lakes and Seaway	Exports	256	344	323	322	327	335	342	1.8	0.5
	Imports	4,841	4,664	6,420	6,822	7,117	7,509	7,693	2.7	0.9
Washington/Oregon Coast	Exports	72	80	76	75	76	78	79	0.4	0.4
	Imports	307	305	414	474	516	555	576	3.4	1.5
Columbia-Snake Willamette River	Exports	18	22	20	20	20	21	22	0.7	0.6
	Imports	501	491	656	742	794	836	852	3.1	1.1
California Coast	Exports	117	175	146	145	152	164	173	1.6	1.4
	Imports	2,597	2,561	3,440	3,916	4,219	4,486	4,608	3.2	1.3
Alaska	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	19	20	26	29	30	30	30	3.1	0.3
Hawaii and Pacific Territories	Exports	a	a	a	a	a	a	a	-0.8	1.2
	Imports	74	78	100	109	113	115	114	3.1	0.3
Domestic Caribbean	Exports	12	13	11	11	11	12	13	-0.8	1.3
	Imports	173	182	237	260	270	277	278	3.2	0.5
Total	Exports	2,788	3,155	2,789	2,769	2,860	3,005	3,120	-0.1	0.9
	Imports	22,412	21,736	29,651	33,147	35,726	38,474	39,938	3.1	1.4

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND LOCAL, AND THROUGH
COMMODITY: Primary Metals Products
ALTERNATIVE: High Coal Export

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	356	355	407	445	478	514	538	1.7	1.5
Lower Upper Mississippi	2,689	2,699	3,206	3,597	3,951	4,348	4,603	2.3	1.9
Lower Mississippi	4,214	4,228	5,172	5,610	6,217	6,887	7,311	2.2	2.1
Baton Rouge to Gulf	4,060	4,054	5,759	6,465	7,258	8,143	8,672	3.6	2.3
Illinois River	2,410	2,427	2,795	3,089	3,358	3,663	3,859	1.9	1.7
Missouri River	77	75	93	104	113	122	128	2.3	1.6
Ohio River	3,453	3,532	4,153	4,508	4,999	5,564	5,937	2.1	2.1
Tennessee River	782	785	906	1,102	1,203	1,318	1,391	2.7	1.8
Arkansas River	342	336	404	450	488	527	551	2.1	1.6
Gulf Coast West	1,752	1,778	1,987	2,167	2,339	2,540	2,674	1.6	1.6
Gulf Coast East	314	321	388	576	642	716	764	4.8	2.2
Warrior River System	227	224	261	537	592	652	690	6.8	1.9
Great Lakes	1,564	1,577	1,696	1,800	1,898	2,013	2,088	1.1	1.2

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Primary Metals Products
ALTERNATIVE: High Coal Export

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	182	181	207	227	244	262	274	1.7	1.5
Lower Upper Mississippi	523	525	627	705	776	855	905	2.3	1.9
Lower Mississippi	2,482	2,497	3,094	3,347	3,723	4,141	4,405	2.3	2.1
Baton Rouge to Gulf	722	712	1,188	1,329	1,501	1,695	1,805	4.8	2.4
Illinois River	442	447	518	577	631	694	734	2.1	1.9
Missouri River	30	30	36	41	44	48	50	2.3	1.6
Ohio River	2,166	2,239	2,651	3,008	3,370	3,790	4,069	2.6	2.4
Tennessee River	181	181	214	262	289	319	338	2.9	2.0
Arkansas River	106	104	125	139	150	163	170	2.1	1.6
Gulf Coast West	459	469	536	596	654	722	768	2.0	2.0
Gulf Coast East	24	23	28	50	55	60	63	5.9	1.8
Warrior River System	35	34	38	131	144	159	169	10.8	2.0
Great Lakes	618	623	673	716	757	804	835	1.1	1.2
Total	7,968	8,065	9,937	11,128	12,339	13,712	14,587	2.6	2.1

0 = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Primary Metals Products
ALTERNATIVE: Misc. Sensitivity

SEGMENT	IN/OUT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	*Shipped*	*63*	*63*	*65*	67	69	72	74	0.5	0.8
	Received	306	305	358	396	429	466	489	2.0	1.6
Lower Upper Mississippi	Shipped	181	186	208	230	253	280	299	1.9	2.0
	Received	521	520	616	686	749	820	867	2.1	1.8
Lower Mississippi	Shipped	39	39	41	43	46	48	50	0.9	1.1
	Received	548	537	666	753	825	901	947	2.5	1.8
Baton Rouge to Gulf	Shipped	2,691	2,642	4,260	5,029	5,734	6,519	6,988	4.9	2.6
	Received	397	408	1,153	1,335	1,547	1,802	1,940	9.8	2.9
Illinois River	Shipped	826	838	909	977	1,047	1,135	1,199	1.3	1.6
	Received	1,142	1,135	1,323	1,457	1,570	1,692	1,767	1.9	1.5
Missouri River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	80	78	96	108	117	126	132	2.3	1.6
Ohio River	Shipped	2,247	2,297	2,610	2,897	3,184	3,532	3,775	2.0	2.1
	Received	2,210	2,260	2,724	3,106	3,468	3,877	4,145	2.7	2.2
Tennessee River	Shipped	164	165	169	172	176	181	185	0.4	0.5
	Received	366	374	431	481	528	582	617	2.1	1.9
Arkansas River	Shipped	1	4	5	6	7	8	9	2.4	3.6
	Received	345	338	465	570	685	845	979	3.8	4.3
Gulf Coast West	Shipped	814	822	865	905	946	994	1,028	0.8	1.0
	Received	1,578	1,603	1,811	1,989	2,158	2,355	2,486	1.8	1.7
Gulf Coast East	Shipped	111	120	148	176	207	244	270	3.6	3.4
	Received	59	59	69	77	84	92	97	2.1	1.8
Warrior River System	Shipped	105	106	113	120	127	135	140	1.1	1.2
	Received	169	165	194	213	226	240	248	1.8	1.2
South Atlantic Coast	Shipped	125	125	125	125	125	125	125	0.0	0.0
	Received	76	76	76	76	76	76	76	0.0	0.0
Middle Atlantic Coast	Shipped	614	584	573	561	550	538	531	-0.7	-0.4
	Received	553	468	456	445	433	422	415	-1.7	-0.5

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SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	13	13	13	13	13	13	13	0.0	0.0
	Received	4	4	4	4	4	4	4	0.0	0.0
Great Lakes and Seaway	Shipped	1,257	1,273	1,346	1,420	1,498	1,597	1,667	0.9	1.2
	Received	760	756	811	849	880	914	935	0.9	0.7
Washington/Oregon Coast	Shipped	173	79	79	79	79	79	79	-5.8	0.0
	Received	36	20	20	20	20	20	20	-4.4	0.0
Columbia-Snake Willamette River	Shipped	11	10	10	10	10	10	10	-1.0	0.0
	Received	1	0	0	0	0	0	0	-100.0	0.0
California Coast	Shipped	70	70	70	70	70	70	70	0.0	0.0
	Received	32	8	8	8	8	8	8	-9.9	0.0
Alaska	Shipped	4	4	4	4	4	4	4	-1.6	0.0
	Received	63	63	63	63	63	63	63	0.0	0.0
Hawaii and Pacific Territories	Shipped	12	11	11	11	11	11	11	-0.3	0.0
	Received	96	96	96	96	96	96	96	0.0	0.0
Domestic Caribbean	Shipped	12	12	12	12	12	12	12	0.0	0.0
	Received	191	192	196	199	202	207	210	0.3	0.4
Total	Shipped	9,537	9,464	11,637	12,929	14,168	15,609	16,540	2.4	1.9
	Received	9,537	9,464	11,637	12,929	14,168	15,609	16,540	2.4	1.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Primary Metals Products
ALTERNATIVE: Misc. Sensitivity

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	371	367	319	317	329	348	363	-1.2	1.0
	Imports	3,623	3,756	5,165	6,011	6,739	7,549	8,049	4.0	2.3
Illinois River	Exports	139	178	171	170	172	175	177	1.6	0.3
	Imports	1,909	1,241	1,676	1,843	1,947	2,050	2,095	-0.3	1.0
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	328	317	266	263	276	296	312	-1.7	1.3
	Imports	2,542	2,331	3,143	3,595	3,899	4,183	4,327	2.7	1.4
Gulf Coast East	Exports	109	105	84	83	88	96	103	-2.1	1.6
	Imports	324	312	410	476	528	579	609	3.0	1.9
Warrior River System	Exports	67	64	52	51	54	59	63	-2.0	1.6
	Imports	201	187	255	295	325	356	373	3.0	1.8
South Atlantic Coast	Exports	240	272	232	230	240	256	269	-0.3	1.2
	Imports	902	774	1,024	1,158	1,243	1,317	1,351	1.9	1.2
Middle Atlantic Coast	Exports	1,036	1,195	1,066	1,059	1,091	1,142	1,183	0.2	0.9
	Imports	3,648	4,175	5,787	6,389	6,868	7,426	7,733	4.4	1.5

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	22	23	22	22	22	23	23	0.1	0.3
	Imports	752	659	898	1,029	1,118	1,205	1,250	2.4	1.5
Great Lakes and Seaway	Exports	256	344	323	322	327	335	342	1.8	0.5
	Imports	4,841	4,664	6,420	6,822	7,117	7,509	7,693	2.7	0.9
Washington/Oregon Coast	Exports	72	80	76	75	76	78	79	0.4	0.4
	Imports	307	305	414	474	516	555	576	3.4	1.5
Columbia-Snake Willamette River	Exports	18	22	20	20	20	21	22	0.7	0.6
	Imports	501	491	656	742	794	836	852	3.1	1.1
California Coast	Exports	117	175	146	145	152	164	173	1.6	1.4
	Imports	2,597	2,561	3,440	3,916	4,219	4,486	4,608	3.2	1.3
Alaska	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	19	20	26	29	30	30	30	3.1	0.3
Hawaii and Pacific Territories	Exports	a	a	a	a	a	a	a	-0.8	1.2
	Imports	74	78	100	109	113	115	114	3.1	0.3
Domestic Caribbean	Exports	12	13	11	11	11	12	13	-0.8	1.3
	Imports	173	182	237	260	270	277	278	3.2	0.5
Total	Exports	2,788	3,155	2,789	2,769	2,860	3,005	3,120	-0.1	0.9
	Imports	22,412	21,736	29,651	33,147	35,726	38,474	39,938	3.1	1.4

a = less than 500 tons

7/30/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Primary Metals Products
ALTERNATIVE: Misc. Sensitivity

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	369	368	423	463	498	538	563	1.8	1.5
Lower Upper Mississippi	2,759	2,770	3,302	3,717	4,100	4,542	4,837	2.3	2.0
Lower Mississippi	4,435	4,450	5,500	6,008	6,727	7,557	8,117	2.4	2.3
Baton Rouge to Gulf	4,261	4,258	6,037	6,791	7,655	8,632	9,233	3.7	2.4
Illinois River	2,452	2,469	2,857	3,170	3,464	3,806	4,036	2.0	1.9
Missouri River	80	78	96	108	117	126	132	2.3	1.6
Ohio River	3,857	3,944	4,651	5,064	5,633	6,298	6,745	2.1	2.2
Tennessee River	528	536	598	764	836	920	976	2.9	1.9
Arkansas River	351	340	468	572	689	849	984	3.8	4.3
Gulf Coast West	1,840	1,868	2,090	2,283	2,467	2,683	2,828	1.7	1.7
Gulf Coast East	322	328	400	605	677	759	813	5.0	2.3
Warrior River System	230	227	264	565	623	688	729	7.2	2.0
Great Lakes	1,577	1,589	1,717	1,829	1,939	2,071	2,163	1.1	1.3

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Primary Metals Products
ALTERNATIVE: Misc. Sensitivity

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	188	188	216	236	254	274	287	1.8	1.5
Lower Upper Mississippi	539	540	647	731	808	896	956	2.4	2.1
Lower Mississippi	2,622	2,639	3,294	3,582	4,017	4,518	4,852	2.4	2.4
Baton Rouge to Gulf	757	747	1,237	1,384	1,568	1,779	1,902	4.8	2.5
Illinois River	450	455	530	593	653	724	772	2.1	2.0
Missouri River	31	31	38	42	46	50	52	2.3	1.6
Ohio River	2,427	2,509	2,982	3,394	3,817	4,316	4,656	2.6	2.5
Tennessee River	127	129	150	192	213	237	254	3.2	2.2
Arkansas River	108	105	144	177	212	262	304	3.8	4.3
Gulf Coast West	488	499	571	635	697	770	819	2.0	2.0
Gulf Coast East	24	24	29	52	57	63	66	6.1	1.8
Warrior River System	35	35	38	140	155	171	182	11.3	2.0
Great Lakes	624	629	682	728	774	828	866	1.2	1.3
Total	8,421	8,528	10,557	11,887	13,272	14,889	15,967	2.7	2.3

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Waste and Scrap
ALTERNATIVE: Baseline

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	33	36	41	46	46	46	[illegible]	2.6	0.2
	Received	2	2	2	2	2	2	[illegible]	2.0	0.9
Lower Upper Mississippi	Shipped	68	71	81	91	94	97	[illegible]	2.2	0.7
	Received	134	143	159	172	171	173	[illegible]	1.9	0.1
Lower Mississippi	Shipped	72	77	90	100	103	104	[illegible]	2.6	0.4
	Received	38	33	29	25	22	19	[illegible]	-3.2	-2.4
Baton Rouge to Gulf	Shipped	139	135	134	134	126	121	[illegible]	-0.3	-0.9
	Received	111	102	99	96	92	89	[illegible]	-1.1	-0.6
Illinois River	Shipped	985	928	885	858	808	774	[illegible]	-1.1	-0.9
	Received	795	729	659	610	560	527	514	-2.0	-1.3
Missouri River	Shipped	0	0	0	0	0	0	[illegible]	0.0	0.0
	Received	8	37	74	111	111	112	[illegible]	22.7	0.1
Ohio River	Shipped	241	253	300	341	366	378	[illegible]	2.7	1.0
	Received	276	275	315	348	379	390	398	1.8	1.1
Tennessee River	Shipped	56	55	58	61	61	61	[illegible]	0.6	0.0
	Received	38	37	44	49	51	53	55	2.0	0.9
Arkansas River	Shipped	20	21	26	29	30	31	32	3.1	0.6
	Received	1	1	2	2	2	2	[illegible]	2.0	0.9
Gulf Coast West	Shipped	830	721	580	469	381	312	[illegible]	-4.3	-3.9
	Received	1,354	1,258	1,177	1,102	988	905	869	-1.6	-1.8
Gulf Coast East	Shipped	67	69	78	83	81	80	[illegible]	1.7	-0.3
	Received	14	14	15	16	15	15	[illegible]	0.9	-0.6
Warrior River System	Shipped	374	390	448	483	471	466	[illegible]	2.0	-0.3
	Received	25	26	30	32	31	31	[illegible]	2.0	-0.3
South Atlantic Coast	Shipped	32	34	40	42	42	42	[illegible]	2.0	0.1
	Received	55	57	65	71	69	68	[illegible]	2.0	0.3
Middle Atlantic Coast	Shipped	9,057	9,130	9,384	9,402	9,421	9,437	[illegible]	0.3	0.0
	Received	9,101	9,184	[illegible]	9,493	9,517	9,536	[illegible]	[illegible]	[illegible]

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	54	64	97	100	102	104	100	4.8	0.1
	Received	7	7	7	7	7	7	7	0.0	0.0
Great Lakes and Seaway	Shipped	116	121	136	148	153	159	163	1.9	0.8
	Received	204	217	251	280	294	309	319	2.5	1.0
Washington/Oregon Coast	Shipped	1,836	1,754	1,642	1,555	1,487	1,435	1,410	-1.3	-0.7
	Received	1,873	1,790	1,678	1,591	1,523	1,471	1,446	-1.2	-0.7
Columbia-Snake Willamette River	Shipped	59	50	39	30	24	18	16	-4.9	-4.9
	Received	59	51	39	31	24	19	16	-4.9	-4.8
California Coast	Shipped	12	12	14	14	14	14	14	1.3	0.0
	Received	26	26	26	26	26	26	26	0.0	0.0
Alaska	Shipped	26	26	26	26	26	26	26	0.0	0.0
	Received	2	2	2	2	2	2	2	0.0	0.0
Hawaii and Pacific Territories	Shipped	34	34	34	34	34	34	34	0.0	0.0
	Received	8	8	8	8	8	8	8	0.0	0.0
Domestic Caribbean	Shipped	221	226	230	230	230	231	230	0.3	0.0
	Received	202	205	205	205	205	205	205	0.1	0.0
Total	Shipped	14,333	14,207	14,363	14,276	14,100	13,972	13,879	0.0	-0.2
	Received	14,333	14,207	14,363	14,276	14,100	13,972	13,879	0.0	-0.2

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Waste and Scrap
ALTERNATIVE: Baseline

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	265	351	443	448	454	462	466	4.1	0.3
	Imports	166	207	260	327	398	507	587	5.4	4.6
Illinois River	Exports	16	21	27	27	27	27	27	4.1	0.2
	Imports	7	8	11	13	16	21	24	5.4	4.6
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	100	127	162	174	189	206	217	4.4	1.7
	Imports	71	89	111	140	170	217	251	5.4	4.6
Gulf Coast East	Exports	142	186	235	242	250	260	267	4.2	0.7
	Imports	2	3	4	5	6	7	8	5.3	4.6
Warrior River System	Exports	43	57	72	73	75	78	79	4.2	0.6
	Imports	0	0	0	0	0	0	0	0.0	0.0
South Atlantic Coast	Exports	275	337	422	455	492	533	558	3.9	1.6
	Imports	54	65	79	97	115	144	165	4.5	4.2
Middle Atlantic Coast	Exports	2,232	2,904	3,657	3,746	3,845	3,955	4,026	4.1	0.6
	Imports	141	171	210	259	310	389	447	4.8	4.3

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	975	1,286	1,622	1,642	1,664	1,689	1,706	4.1	0.3
	Imports	9	10	10	10	10	10	10	0.1	0.1
Great Lakes and Seaway	Exports	288	382	482	485	489	493	495	4.1	0.2
	Imports	96	120	150	189	230	294	340	5.4	4.6
Washington/Oregon Coast	Exports	240	304	396	444	503	526	626	4.9	2.7
	Imports	29	37	46	57	70	89	102	5.3	4.6
Columbia-Snake Willamette River	Exports	200	262	333	346	361	379	391	4.3	1.0
	Imports	a	a	a	a	a	a	a	2.1	2.4
California Coast	Exports	1,940	2,523	3,229	3,416	3,644	3,922	4,115	4.4	1.4
	Imports	50	60	72	88	105	131	150	4.5	4.2
Alaska	Exports	a	a	a	a	a	a	a	4.1	0.2
	Imports	7	7	7	7	7	7	7	0.1	0.0
Hawaii and Pacific Territories	Exports	32	39	50	57	66	76	83	4.6	3.0
	Imports	a	a	a	a	a	a	a	0.1	0.0
Domestic Caribbean	Exports	69	82	106	124	146	171	188	4.7	3.2
	Imports	1	2	2	3	3	4	5	5.0	4.4
Total	Exports	6,817	8,860	11,236	11,682	12,206	12,827	13,248	4.2	1.0
	Imports	634	779	962	1,196	1,439	1,820	2,097	5.0	4.4

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Waste and Scrap
ALTERNATIVE: Baseline

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	34	37	43	48	48	48	49	2.6	0.2
Lower Upper Mississippi	436	476	559	634	641	653	662	2.9	0.3
Lower Mississippi	325	325	349	356	353	352	353	0.7	-0.1
Baton Rouge to Gulf	390	373	373	360	342	330	325	-0.6	-0.8
Illinois River	1,129	1,082	1,068	1,068	1,029	1,008	1,004	-0.4	0.5
Missouri River	8	37	74	111	111	112	112	22.2	0.1
Ohio River	396	406	474	519	556	573	585	2.1	0.9
Tennessee River	94	92	102	109	112	114	115	1.2	0.4
Arkansas River	20	21	26	29	30	31	32	3.1	0.6
Gulf Coast West	1,430	1,327	1,244	1,165	1,048	963	926	-1.6	-1.8
Gulf Coast East	434	452	516	567	552	546	546	2.1	-0.3
Warrior River System	381	397	456	504	491	485	485	2.2	-0.3
Great Lakes	329	352	411	462	487	513	529	2.6	1.0

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Waste and Scrap
ALTERNATIVE: Baseline

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	17	18	21	23	23	23	24	2.6	0.2
Lower Upper Mississippi	69	72	83	91	92	94	95	2.2	0.3
Lower Mississippi	172	172	185	188	186	186	186	0.7	0.0
Baton Rouge to Gulf	82	78	78	76	72	69	68	-0.6	-0.8
Illinois River	214	208	211	215	210	208	209	0.0	-0.2
Missouri River	3	14	27	40	41	41	41	22.2	0.1
Ohio River	262	269	315	352	380	394	403	2.3	1.0
Tennessee River	18	19	22	25	27	28	28	2.4	0.9
Arkansas River	5	6	7	8	8	8	8	3.1	0.6
Gulf Coast West	352	347	364	371	351	338	334	0.4	-0.8
Gulf Coast East	49	51	59	65	63	62	62	2.2	-0.3
Warrior River System	136	142	163	180	175	173	173	2.2	-0.3
Great Lakes	95	101	118	133	140	147	152	2.6	1.0
Total	1,474	1,496	1,652	1,766	1,768	1,771	1,783	1.4	0.1

A = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Waste and Scrap
ALTERNATIVE: Low Use

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	33	36	41	45	47	47	48	2.6	0.4
	Received	2	2	2	2	2	2	3	2.0	1.1
Lower Upper Mississippi	Shipped	68	71	82	90	95	99	101	2.2	0.9
	Received	134	143	159	171	174	177	178	1.9	0.3
Lower Mississippi	Shipped	72	77	90	100	104	107	108	2.5	0.6
	Received	38	33	29	25	22	20	18	-3.2	-2.3
Baton Rouge to Gulf	Shipped	139	135	135	134	128	123	121	-0.3	-0.7
	Received	111	102	100	96	93	91	90	-1.2	-0.5
Illinois River	Shipped	985	928	887	856	817	787	773	-1.1	-0.8
	Received	795	729	660	608	566	535	521	-2.0	-1.2
Missouri River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	8	37	75	110	113	114	114	22.2	0.3
Ohio River	Shipped	241	253	302	340	372	386	394	2.7	1.2
	Received	276	275	317	346	385	399	407	1.8	1.2
Tennessee River	Shipped	56	55	58	60	62	62	62	0.6	0.2
	Received	38	37	44	48	52	54	56	1.9	1.1
Arkansas River	Shipped	20	21	26	29	31	32	32	3.1	0.8
	Received	1	1	2	2	2	2	2	2.0	1.1
Gulf Coast West	Shipped	830	721	580	469	382	314	280	-4.3	-3.9
	Received	1,354	1,258	1,181	1,098	999	919	882	-1.6	-1.7
Gulf Coast East	Shipped	67	69	78	83	83	82	82	1.6	-0.1
	Received	14	14	15	16	15	15	15	0.8	-0.4
Warrior River System	Shipped	374	390	450	481	479	476	475	2.0	-0.1
	Received	25	26	30	32	32	31	31	2.0	-0.1
South Atlantic Coast	Shipped	32	34	41	42	42	43	42	2.0	0.1
	Received	55	57	66	70	70	69	69	1.9	-0.1
Middle Atlantic Coast	Shipped	9,057	9,130	9,388	9,398	9,435	9,454	9,422	0.3	0.0
	Received	9,101	9,184	9,481	9,488	9,533	9,556	9,517	0.3	0.0

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	54	64	98	99	104	107	102	4.7	0.2
	Received	7	7	7	7	7	7	7	0.0	0.0
Great Lakes and Seaway	Shipped	116	121	136	147	155	162	166	1.8	0.9
	Received	204	217	252	279	299	315	324	2.4	1.2
Washington/Oregon Coast	Shipped	1,836	1,754	1,642	1,555	1,487	1,435	1,410	-1.3	-0.7
	Received	1,873	1,790	1,678	1,590	1,524	1,472	1,447	-1.2	-0.7
Columbia-Snake Willamette River	Shipped	59	50	39	30	24	18	16	-4.9	-4.9
	Received	59	51	39	31	24	19	16	-4.9	-4.8
California Coast	Shipped	12	12	14	14	14	14	14	1.3	0.2
	Received	26	26	26	26	27	27	27	0.0	0.2
Alaska	Shipped	26	26	26	26	27	27	27	0.0	0.2
	Received	2	2	2	2	2	2	2	0.0	0.0
Hawaii and Pacific Territories	Shipped	34	34	34	34	34	34	34	0.0	0.2
	Received	8	8	8	8	8	8	8	0.0	0.2
Domestic Caribbean	Shipped	221	226	230	230	231	231	231	0.3	0.0
	Received	202	205	205	205	205	205	205	0.1	0.0
Total	Shipped	14,333	14,207	14,378	14,260	14,155	14,040	13,940	0.0	-0.2
	Received	14,333	14,207	14,378	14,260	14,155	14,040	13,940	0.0	-0.2

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Waste and Scrap
ALTERNATIVE: Low Use

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 90-03	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	265	351	443	448	453	460	465	4.1	0.3
	Imports	166	207	260	327	398	507	587	5.4	4.6
Illinois River	Exports	16	21	27	27	27	27	27	4.1	0.2
	Imports	7	8	11	13	16	21	24	5.4	4.6
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	100	127	162	173	184	199	211	4.3	1.6
	Imports	71	89	111	140	170	217	251	5.4	4.6
Gulf Coast East	Exports	142	186	235	241	248	257	263	4.2	0.7
	Imports	2	3	4	5	6	7	8	5.3	4.6
Warrior River System	Exports	43	57	72	73	75	77	79	4.2	0.6
	Imports	0	0	0	0	0	0	0	0.0	0.0
South Atlantic Coast	Exports	275	337	422	449	475	512	538	3.9	1.4
	Imports	54	65	79	97	115	144	165	4.5	4.2
Middle Atlantic Coast	Exports	2,232	2,904	3,655	3,733	3,808	3,910	3,943	4.0	0.5
	Imports	141	171	210	259	310	389	447	4.8	4.3

7/20/81

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
North Atlantic Coast	Exports	975	1,286	1,622	1,640	1,659	1,683	1,699	4.1	0.3
	Imports	9	10	10	10	10	10	10	0.1	0.1
Great Lakes and Seaway	Exports	288	382	482	485	489	493	495	4.1	0.2
	Imports	96	120	150	189	230	294	340	5.4	4.6
Washington/Oregon Coast	Exports	240	304	395	438	486	552	602	4.7	2.5
	Imports	29	37	46	57	70	89	102	5.3	4.6
Columbia-Snake Willamette River	Exports	200	262	333	344	357	373	386	4.3	0.9
	Imports	a	a	a	a	a	a	a	2.1	2.4
California Coast	Exports	1,940	2,523	3,226	3,395	3,580	3,836	4,028	4.4	1.3
	Imports	50	60	72	88	105	131	150	4.5	4.2
Alaska	Exports	a	a	a	a	a	a	a	4.1	0.2
	Imports	7	7	7	7	7	7	7	0.1	0.0
Hawaii and Pacific Territories	Exports	32	39	50	56	63	72	79	4.5	2.7
	Imports	a	a	a	a	a	a	a	0.1	0.0
Domestic Caribbean	Exports	69	82	106	122	138	161	179	4.5	3.0
	Imports	1	2	2	3	3	4	5	5.0	4.4
Total	Exports	6,817	8,860	11,229	11,625	12,041	12,614	13,036	4.2	0.9
	Imports	634	779	962	1,196	1,439	1,820	2,097	5.0	4.4

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Waste and Scrap
ALTERNATIVE: Low Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	34	37	43	47	49	49	50	2.5	0.4
Lower Upper Mississippi	436	476	562	630	652	666	674	2.9	0.5
Lower Mississippi	325	325	351	355	359	359	359	0.7	0.1
Baton Rouge to Gulf	390	373	374	358	346	335	330	-0.6	-0.6
Illinois River	1,129	1,082	1,072	1,064	1,042	1,026	1,020	-0.5	-0.3
Missouri River	8	37	75	110	113	114	114	22.2	0.3
Ohio River	396	406	477	517	565	585	597	2.1	1.1
Tennessee River	94	92	103	109	114	116	117	1.2	0.6
Arkansas River	20	21	26	29	31	32	32	3.1	0.8
Gulf Coast West	1,430	1,327	1,248	1,161	1,061	978	939	-1.6	-1.6
Gulf Coast East	434	452	519	564	562	557	556	2.0	0.1
Warrior River System	381	397	458	501	499	495	495	2.1	-0.1
Great Lakes	329	352	413	460	495	523	539	2.6	1.2

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Waste and Scrap
ALTERNATIVE: Low Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	17	18	21	23	23	24	24	2.5	0.4
Lower Upper Mississippi	69	72	83	91	94	96	97	2.2	0.5
Lower Mississippi	172	172	186	187	189	189	190	0.6	0.1
Baton Rouge to Gulf	82	78	78	75	73	70	69	-0.7	-0.7
Illinois River	214	208	212	214	213	212	212	0.0	-0.1
Missouri River	3	14	27	40	41	42	42	22.2	0.3
Ohio River	262	269	316	350	387	402	411	2.3	1.2
Tennessee River	18	19	22	25	27	28	29	2.4	1.1
Arkansas River	5	6	7	8	8	8	9	3.1	0.8
Gulf Coast West	352	347	365	369	356	345	340	0.4	-0.6
Gulf Coast East	49	51	59	65	64	64	64	2.1	-0.1
Warrior River System	136	142	164	179	178	177	176	2.1	-0.1
Great Lakes	95	101	119	132	142	150	155	2.6	1.2
Total	1,474	1,496	1,659	1,758	1,796	1,806	1,815	1.4	0.2

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Waste and Scrap
ALTERNATIVE: High Use

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	33	36	41	46	46	46	47	2.6	0.2
	Received	2	2	2	2	2	2	3	2.0	0.9
Lower Upper Mississippi	Shipped	68	71	81	91	94	97	99	2.2	0.7
	Received	134	143	159	172	171	173	175	1.9	0.1
Lower Mississippi	Shipped	72	77	90	100	103	104	106	2.6	0.4
	Received	38	33	29	25	22	19	18	-3.2	-2.4
Baton Rouge to Gulf	Shipped	139	135	134	134	126	121	119	-0.3	-0.9
	Received	111	102	99	96	92	89	88	-1.1	-0.6
Illinois River	Shipped	985	928	885	858	808	774	762	1.1	-0.9
	Received	795	729	659	610	560	527	514	-2.0	-1.3
Missouri River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	8	37	74	111	111	112	112	22.2	0.1
Ohio River	Shipped	241	253	300	341	366	378	387	2.7	1.0
	Received	276	275	315	348	379	390	399	1.8	1.1
Tennessee River	Shipped	56	55	58	61	61	61	61	0.6	0.0
	Received	38	37	44	49	51	53	55	2.0	0.9
Arkansas River	Shipped	20	21	26	29	30	31	32	3.1	0.6
	Received	1	1	2	2	2	2	2	2.0	0.9
Gulf Coast West	Shipped	830	721	580	469	381	312	279	-4.3	-3.9
	Received	1,354	1,258	1,177	1,102	988	905	869	-1.6	-1.8
Gulf Coast East	Shipped	67	69	78	83	81	80	80	1.7	-0.3
	Received	14	14	15	16	15	15	15	0.9	-0.6
Warrior River System	Shipped	374	390	448	483	471	466	466	2.0	0.3
	Received	25	28	30	32	31	31	31	2.0	-0.3
South Atlantic Coast	Shipped	32	34	40	42	42	42	41	2.0	-0.1
	Received	55	57	65	71	69	68	68	2.0	-0.3
Middle Atlantic Coast	Shipped	9,057	9,130	9,384	9,402	9,421	9,437	9,406	0.3	0.0
	Received	9,101	9,184	9,476	9,493	9,517	9,536	9,500	0.3	0.0

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	54	64	97	100	102	104	100	4.8	0.1
	Received	7	7	7	7	7	7	7	0.0	0.0
Great Lakes and Seaway	Shipped	116	121	136	148	153	159	163	1.9	0.8
	Received	204	217	251	280	294	309	319	2.5	1.0
Washington/Oregon Coast	Shipped	1,836	1,754	1,642	1,555	1,487	1,435	1,410	-1.3	-0.7
	Received	1,873	1,790	1,678	1,591	1,523	1,471	1,446	-1.2	-0.7
Columbia-Snake Willamette River	Shipped	59	50	39	30	24	18	16	-4.9	-4.9
	Received	59	51	39	31	24	19	16	-4.9	-4.8
California Coast	Shipped	12	12	14	14	14	14	14	1.3	0.0
	Received	26	26	26	26	26	26	26	0.0	0.0
Alaska	Shipped	26	26	26	26	26	26	26	0.0	0.0
	Received	2	2	2	2	2	2	2	0.0	0.0
Hawaii and Pacific Territories	Shipped	34	34	34	34	34	34	34	0.0	0.0
	Received	8	8	8	8	8	8	8	0.0	0.0
Domestic Caribbean	Shipped	221	226	230	230	230	231	230	0.3	0.0
	Received	202	205	205	205	205	205	205	0.1	0.0
Total	Shipped	14,333	14,207	14,363	14,276	14,100	13,972	13,879	0.0	-0.2
	Received	14,333	14,207	14,363	14,276	14,100	13,972	13,879	0.0	0.2

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Waste and Scrap
ALTERNATIVE: High Use

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	265	351	443	448	454	462	466	4.1	0.3
	Imports	166	207	260	327	398	507	587	5.4	4.6
Illinois River	Exports	16	21	27	27	27	27	27	4.1	0.2
	Imports	7	8	11	13	16	21	24	5.4	4.6
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	100	127	162	174	189	206	217	4.4	1.7
	Imports	71	89	111	140	170	217	251	5.4	4.6
Gulf Coast East	Exports	142	186	235	242	250	260	267	4.2	0.7
	Imports	2	3	4	5	6	7	8	5.3	4.6
Warrior River System	Exports	43	57	72	73	75	78	79	4.2	0.6
	Imports	0	0	0	0	0	0	0	0.0	0.0
South Atlantic Coast	Exports	275	337	422	455	492	533	558	3.9	1.6
	Imports	54	65	79	97	115	144	165	4.5	4.2
Middle Atlantic Coast	Exports	2,232	2,904	3,657	3,746	3,845	3,955	4,026	4.1	0.6
	Imports	141	171	210	259	310	389	447	4.8	4.3

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	975	1,286	1,622	1,642	1,664	1,689	1,706	4.1	0.3
	Imports	9	10	10	10	10	10	10	0.1	0.1
Great Lakes and Seaway	Exports	288	382	482	485	489	493	495	4.1	0.2
	Imports	96	120	150	189	230	294	340	5.4	4.6
Washington/Oregon Coast	Exports	240	304	396	444	503	576	626	4.9	2.7
	Imports	29	37	46	57	70	89	102	5.3	4.6
Columbia-Snake Willamette River	Exports	200	262	333	346	361	379	391	4.3	1.0
	Imports	a	a	a	a	a	a	a	2.1	2.4
California Coast	Exports	1,940	2,523	3,229	3,416	3,644	3,922	4,115	4.4	1.4
	Imports	50	60	72	88	105	131	150	4.5	4.2
Alaska	Exports	a	a	a	a	a	a	a	4.1	0.2
	Imports	7	7	7	7	7	7	7	0.1	0.0
Hawaii and Pacific Territories	Exports	32	39	50	57	66	76	83	4.6	3.0
	Imports	a	a	a	a	a	a	a	0.1	0.0
Domestic Caribbean	Exports	69	82	106	124	146	171	188	4.7	3.2
	Imports	1	2	2	3	3	4	5	5.0	4.4
Total	Exports	6,817	8,860	11,236	11,682	12,206	12,827	13,248	4.2	1.0
	Imports	634	779	962	1,196	1,439	1,820	2,097	5.0	4.4

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: Waste and Scrap
ALTERNATIVE: High Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	34	37	43	48	48	48	49	2.6	0.2
Lower Upper Mississippi	436	476	559	634	641	653	662	2.9	0.3
Lower Mississippi	325	325	349	356	353	352	353	0.7	-0.1
Baton Rouge to Gulf	390	373	373	360	342	330	325	-0.6	-0.8
Illinois River	1,129	1,082	1,068	1,068	1,029	1,008	1,004	-0.4	-0.5
Missouri River	8	37	74	111	111	112	112	22.2	0.1
Ohio River	396	406	474	519	556	573	585	2.1	0.9
Tennessee River	94	92	102	109	112	114	115	1.2	0.4
Arkansas River	20	21	26	29	30	31	32	3.1	0.6
Gulf Coast West	1,430	1,327	1,244	1,165	1,048	963	926	-1.6	-1.8
Gulf Coast East	434	452	516	567	552	546	546	2.1	-0.3
Warrior River System	381	397	456	504	491	485	485	2.2	-0.3
Great Lakes	329	352	411	462	487	513	529	2.6	1.0

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Waste and Scrap
ALTERNATIVE: High Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	17	18	21	23	23	23	24	2.6	0.2
Lower Upper Mississippi	69	72	83	91	92	94	95	2.2	0.3
Lower Mississippi	172	172	185	188	186	186	186	0.7	0.0
Baton Rouge to Gulf	82	78	78	76	72	69	68	-0.6	-0.8
Illinois River	214	208	211	215	210	208	209	0.0	-0.2
Missouri River	3	14	27	40	41	41	41	22.2	0.1
Ohio River	262	269	315	352	380	394	403	2.3	1.0
Tennessee River	18	19	22	25	27	28	28	2.4	0.9
Arkansas River	5	6	7	8	8	8	8	3.1	0.6
Gulf Coast West	352	347	364	371	351	338	334	0.4	-0.8
Gulf Coast East	49	51	59	65	63	62	62	2.2	-0.3
Warrior River System	136	142	163	180	175	173	173	2.2	-0.3
Great Lakes	95	101	118	133	140	147	152	2.6	1.0
Total	1,474	1,496	1,652	1,766	1,768	1,771	1,783	1.4	0.1

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Waste and Scrap
ALTERNATIVE: Bad Energy

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	33	36	41	45	44	44	44	2.5	0.2
	Received	2	2	2	2	2	2	2	1.8	0.7
Lower Upper Mississippi	Shipped	68	71	81	90	91	94	95	2.2	0.4
	Received	134	143	158	169	163	164	163	1.8	-0.3
Lower Mississippi	Shipped	72	77	89	99	98	100	100	2.4	0.1
	Received	38	33	29	25	21	19	18	3.3	-2.5
Baton Rouge to Gulf	Shipped	139	135	134	133	122	117	113	-0.4	-1.2
	Received	111	102	99	94	90	87	85	-1.3	-0.8
Illinois River	Shipped	985	928	882	851	789	751	732	1.1	-1.2
	Received	795	729	657	606	549	514	496	-2.1	-1.5
Missouri River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	8	37	74	110	111	111	111	22.2	0.1
Ohio River	Shipped	241	253	298	335	353	363	367	2.5	0.7
	Received	276	275	313	340	364	373	377	1.6	0.8
Tennessee River	Shipped	56	55	58	60	59	58	58	0.5	0.3
	Received	38	37	44	47	49	51	52	1.8	0.7
Arkansas River	Shipped	20	21	26	29	29	30	30	3.0	0.3
	Received	1	1	2	2	2	2	2	1.8	0.7
Gulf Coast West	Shipped	830	721	580	468	378	309	274	4.3	4.0
	Received	1,354	1,258	1,174	1,090	951	867	822	1.7	2.1
Gulf Coast East	Shipped	67	69	77	82	77	76	75	1.5	-0.7
	Received	14	14	15	16	14	14	14	0.8	-0.9
Warrior River System	Shipped	374	390	446	475	444	438	432	1.9	-0.7
	Received	25	26	29	31	29	29	28	1.9	0.7
South Atlantic Coast	Shipped	32	34	40	40	41	41	41	1.7	0.0
	Received	55	57	65	69	65	64	63	1.8	-0.7
Middle Atlantic Coast	Shipped	9,057	9,130	9,376	9,342	9,432	9,438	9,415	0.2	0.1
	Received	9,101	9,184	9,467	9,424	9,534	9,541	9,516	0.3	0.1

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SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	54	64	96	92	104	105	102	4.1	0.8
	Received	7	7	7	7	7	7	7	0.0	0.0
Great Lakes and Seaway	Shipped	116	121	135	146	150	155	157	1.8	0.5
	Received	204	217	249	278	286	299	305	2.4	0.7
Washington/Oregon Coast	Shipped	1,836	1,754	1,642	1,555	1,487	1,435	1,410	-1.3	-0.7
	Received	1,873	1,790	1,678	1,591	1,523	1,471	1,446	-1.2	-0.7
Columbia-Snake Willamette River	Shipped	59	50	39	30	24	18	16	-4.9	-4.9
	Received	59	51	39	31	24	19	16	-4.9	-4.8
California Coast	Shipped	12	12	14	14	14	14	14	1.1	0.3
	Received	26	26	26	26	26	26	26	0.0	0.0
Alaska	Shipped	26	26	26	26	26	26	26	0.0	0.0
	Received	2	2	2	2	2	2	2	0.0	0.0
Hawaii and Pacific Territories	Shipped	34	34	34	34	34	34	34	0.0	0.0
	Received	8	8	8	8	8	8	8	0.0	0.0
Domestic Caribbean	Shipped	221	226	230	229	230	230	230	0.3	0.0
	Received	202	205	205	205	205	205	205	0.1	0.0
Total	Shipped	14,333	14,207	14,342	14,173	14,026	13,876	13,765	-0.1	-0.2
	Received	14,333	14,207	14,342	14,173	14,026	13,876	13,765	-0.1	0.2

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Waste and Scrap
ALTERNATIVE: Bad Energy

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	265	351	443	448	454	460	465	4.1	0.3
	Imports	166	207	260	327	398	507	587	5.4	4.6
Illinois River	Exports	16	21	27	27	27	27	27	4.1	0.2
	Imports	7	8	11	13	16	21	24	5.4	4.6
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.1
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	100	127	161	172	185	201	212	4.3	1.6
	Imports	71	89	111	140	170	217	251	5.4	4.6
Gulf Coast East	Exports	142	186	235	241	249	258	264	4.2	0.7
	Imports	2	3	4	5	6	7	8	5.3	4.6
Warrior River System	Exports	43	57	72	73	75	77	79	4.1	0.6
	Imports	0	0	0	0	0	0	0	0.0	0.0
South Atlantic Coast	Exports	275	337	419	448	480	517	541	3.8	1.5
	Imports	54	65	79	97	115	144	165	4.5	4.2
Middle Atlantic Coast	Exports	2,232	2,904	3,649	3,729	3,819	3,921	3,989	4.0	0.5
	Imports	141	171	210	259	310	389	447	4.8	4.3

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	975	1,286	1,621	1,640	1,661	1,684	1,700	4.1	0.3
	Imports	9	10	10	10	10	10	10	0.1	0.1
Great Lakes and Seaway	Exports	288	382	482	485	489	493	495	4.1	0.2
	Imports	96	120	150	189	230	294	340	5.4	4.6
Washington/Oregon Coast	Exports	240	304	392	437	491	558	605	4.7	2.5
	Imports	29	37	46	57	70	89	102	5.3	4.6
Columbia-Snake Willamette River	Exports	200	262	333	344	358	375	387	4.3	0.9
	Imports	a	a	a	a	a	a	a	2.1	2.4
California Coast	Exports	1,940	2,523	3,217	3,390	3,599	3,857	4,039	4.4	1.4
	Imports	50	60	72	88	105	131	150	4.5	4.2
Alaska	Exports	a	a	a	a	a	a	a	4.1	0.2
	Imports	7	7	7	7	7	7	7	0.1	0.0
Hawaii and Pacific Territories	Exports	32	39	49	56	64	73	80	4.4	2.8
	Imports	a	a	a	a	a	a	a	0.1	0.0
Domestic Caribbean	Exports	69	82	105	121	140	164	180	4.5	3.1
	Imports	1	2	2	3	3	4	5	5.0	4.4
Total	Exports	6,817	8,861	11,204	11,611	12,090	12,666	13,064	4.2	0.9
	Imports	634	779	962	1,196	1,439	1,820	2,097	5.0	4.4

a = less than 500 tons

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7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Waste and Scrap
ALTERNATIVE: Bad Energy

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	34	37	43	47	46	46	46	2.5	-0.1
Lower Upper Mississippi	436	476	556	625	620	628	631	2.8	0.1
Lower Mississippi	325	325	347	351	340	337	334	0.6	-0.4
Baton Rouge to Gulf	390	373	372	355	330	316	308	-0.7	-1.1
Illinois River	1,129	1,082	1,064	1,058	1,002	976	962	-0.5	-0.7
Missouri River	8	37	74	110	111	111	111	22.2	0.1
Ohio River	396	406	471	509	536	550	555	1.9	0.7
Tennessee River	94	92	101	107	108	109	109	1.0	0.2
Arkansas River	20	21	26	29	29	30	30	3.0	0.3
Gulf Coast West	1,430	1,327	1,241	1,152	1,010	923	876	-1.6	-2.1
Gulf Coast East	434	452	513	557	521	514	506	1.9	-0.7
Warrior River System	381	397	454	495	463	456	450	2.0	-0.7
Great Lakes	329	352	408	458	472	494	505	2.6	0.8

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Waste and Scrap
ALTERNATIVE: Bad Energy

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	17	18	21	23	22	22	22	2.5	-0.1
Lower Upper Mississippi	69	72	82	90	89	90	90	2.1	0.0
Lower Mississippi	172	172	184	185	179	178	177	0.5	-0.3
Baton Rouge to Gulf	82	78	78	75	69	66	65	-0.7	-1.1
Illinois River	214	208	210	213	204	201	200	0.0	-0.5
Missouri River	3	14	27	40	41	41	41	22.2	0.1
Ohio River	262	269	312	345	366	377	381	2.1	0.8
Tennessee River	18	19	22	24	26	26	27	2.2	0.7
Arkansas River	5	6	7	8	8	8	8	3.0	0.3
Gulf Coast West	352	347	362	365	334	320	312	0.3	-1.2
Gulf Coast East	49	51	58	64	60	59	58	2.0	-0.7
Warrior River System	136	142	162	176	165	163	160	2.0	-0.7
Great Lakes	95	101	117	131	135	142	145	2.5	0.8
Total	1,474	1,496	1,643	1,738	1,698	1,693	1,685	1.3	-0.2

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Waste and Scrap
ALTERNATIVE: Defense

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	33	36	41	75	46	46	47	6.6	-3.5
	Received	2	2	2	4	2	2	3	6.0	-2.9
Lower Upper Mississippi	Shipped	68	71	81	148	94	97	99	6.2	-3.0
	Received	134	143	159	288	171	173	175	6.1	-3.8
Lower Mississippi	Shipped	72	77	90	163	103	104	106	6.5	-3.3
	Received	38	33	29	52	22	19	18	2.5	-7.8
Baton Rouge to Gulf	Shipped	139	135	134	244	126	121	119	4.4	-5.4
	Received	111	102	99	180	92	89	88	3.8	-5.3
Illinois River	Shipped	985	928	885	1,608	808	774	762	3.8	-5.6
	Received	795	729	659	1,197	560	527	514	3.2	-6.3
Missouri River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	8	37	74	135	111	112	112	24.1	-1.4
Ohio River	Shipped	241	253	300	546	366	378	387	6.5	-2.6
	Received	276	275	315	572	379	390	399	5.8	-2.7
Tennessee River	Shipped	56	55	58	105	61	61	61	5.0	-4.2
	Received	38	37	44	80	51	53	55	6.0	-2.9
Arkansas River	Shipped	20	21	26	47	30	31	32	6.9	-2.9
	Received	1	1	2	3	2	2	2	6.0	-2.9
Gulf Coast West	Shipped	830	721	580	1,054	381	312	279	1.9	-9.7
	Received	1,354	1,258	1,177	2,139	988	905	869	3.6	-6.7
Gulf Coast East	Shipped	67	69	78	141	81	80	80	5.9	-4.2
	Received	14	14	15	28	15	15	15	5.3	-4.8
Warrior River System	Shipped	374	390	448	814	471	466	466	6.2	-4.2
	Received	25	26	30	54	31	31	31	6.2	-4.2
South Atlantic Coast	Shipped	32	34	40	73	42	42	41	6.5	-4.3
	Received	55	57	65	119	69	68	68	6.1	-4.2
Middle Atlantic Coast	Shipped	9,057	9,130	9,384	17,048	9,421	9,437	9,406	5.0	-4.5
	Received	9,101	9,184	9,476	17,216	9,517	9,536	9,500	5.0	-4.5

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SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	54	64	97	177	102	104	100	9.5	-4.3
	Received	7	7	7	13	7	7	7	4.7	-4.5
Great Lakes and Seaway	Shipped	116	121	136	246	153	159	163	6.0	-3.1
	Received	204	217	251	455	294	309	319	6.4	-2.7
Washington/Oregon Coast	Shipped	1,836	1,754	1,642	2,982	1,487	1,435	1,410	3.8	-5.6
	Received	1,873	1,790	1,678	3,048	1,523	1,471	1,446	3.8	-5.6
Columbia-Snake Willamette River	Shipped	59	50	39	71	24	18	16	1.5	-10.9
	Received	59	51	39	71	24	19	16	1.5	-10.8
California Coast	Shipped	12	12	14	25	14	14	14	6.0	-4.4
	Received	26	26	26	47	26	26	26	4.7	-4.5
Alaska	Shipped	26	26	26	48	26	26	26	4.7	-4.5
	Received	2	2	2	4	2	2	2	4.7	-4.5
Hawaii and Pacific Territories	Shipped	34	34	34	61	34	34	34	4.7	-4.5
	Received	8	8	8	15	8	8	8	4.7	-4.5
Domestic Caribbean	Shipped	221	226	230	417	230	231	230	5.0	-4.5
	Received	202	205	205	373	205	205	205	4.8	-4.5
Total	Shipped	14,333	14,207	14,363	26,094	14,100	13,972	13,879	4.7	-4.7
	Received	14,333	14,207	14,363	26,094	14,100	13,972	13,879	4.7	-4.7

n = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Waste and Scrap
ALTERNATIVE: Defense

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	265	351	443	450	454	462	466	4.2	0.3
	Imports	166	207	260	209	398	507	587	1.8	8.3
Illinois River	Exports	16	21	27	27	27	27	27	4.2	0.1
	Imports	7	8	11	9	16	21	24	1.8	8.3
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	100	127	162	165	189	206	217	3.9	2.2
	Imports	71	89	111	90	170	217	251	1.8	8.2
Gulf Coast East	Exports	142	186	235	239	250	260	267	4.1	0.8
	Imports	2	3	4	3	6	7	8	1.8	8.2
Warrior River System	Exports	43	57	72	73	75	78	79	4.1	0.7
	Imports	0	0	0	0	0	0	0	0.0	0.0
South Atlantic Coast	Exports	275	337	422	429	492	533	558	3.5	2.0
	Imports	54	65	79	64	115	144	165	1.2	7.6
Middle Atlantic Coast	Exports	2,232	2,904	3,657	3,715	3,845	3,955	4,026	4.0	0.6
	Imports	141	171	210	169	310	389	447	1.4	7.8

7/20/81

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
North Atlantic Coast	Exports	975	1,286	1,622	1,648	1,664	1,689	1,706	4.1	0.3
	Imports	9	10	10	8	10	10	10	-1.6	1.7
Great Lakes and Seaway	Exports	288	382	482	490	489	493	495	4.2	0.1
	Imports	96	120	150	121	230	294	340	1.8	8.3
Washington/Oregon Coast	Exports	240	304	396	402	503	576	626	4.0	3.5
	Imports	29	37	46	37	70	89	102	1.8	8.2
Columbia-Snake Willamette River	Exports	200	262	333	339	361	379	391	4.1	1.1
	Imports	a	a	a	a	a	a	a	-0.4	4.9
California Coast	Exports	1,940	2,523	3,229	3,280	3,644	3,922	4,115	4.1	1.8
	Imports	50	60	72	58	105	131	150	1.2	7.6
Alaska	Exports	a	a	a	a	a	a	a	4.2	0.1
	Imports	7	7	7	6	7	7	7	-1.6	1.7
Hawaii and Pacific Territories	Exports	32	39	50	51	66	76	83	3.6	3.9
	Imports	a	a	a	a	a	a	a	-1.6	1.7
Domestic Caribbean	Exports	69	82	106	108	146	171	188	3.5	4.4
	Imports	1	2	2	2	3	4	5	1.5	7.9
Total	Exports	6,817	8,860	11,236	11,415	12,206	12,827	13,248	4.0	1.2
	Imports	634	779	962	775	1,439	1,820	2,097	1.6	8.0

a = less than 500 tons

999

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Waste and Scrap
ALTERNATIVE: Defense

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	34	37	43	78	48	48	49	6.5	-3.5
Lower Upper Mississippi	436	476	559	1,016	641	653	662	6.7	-3.2
Lower Mississippi	325	325	349	614	353	352	353	5.0	-4.2
Baton Rouge to Gulf	390	373	373	658	342	330	325	4.1	-5.3
Illinois River	1,129	1,082	1,068	1,941	1,029	1,008	1,004	4.3	-4.9
Missouri River	8	37	74	135	111	112	112	24.1	-1.4
Ohio River	396	406	474	842	556	573	585	6.0	-2.8
Tennessee River	94	92	102	185	112	114	115	5.4	-3.6
Arkansas River	20	21	26	47	30	31	32	6.9	-2.9
Gulf Coast West	1,430	1,327	1,244	2,260	1,048	963	926	3.6	-6.6
Gulf Coast East	434	452	516	957	552	546	546	6.3	-4.2
Warrior River System	381	397	456	848	491	485	485	6.4	-4.2
Great Lakes	329	352	411	746	487	513	529	6.5	-2.6

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Waste and Scrap
ALTERNATIVE: Defense

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	17	18	21	38	23	23	24	6.5	-3.5
Lower Upper Mississippi	69	72	83	150	92	94	95	6.2	-3.5
Lower Mississippi	172	172	185	323	186	186	186	5.0	-4.1
Raton Rouge to Gulf	82	78	78	139	72	69	68	4.1	-5.3
Illinois River	214	208	211	383	210	208	209	4.6	-4.6
Missouri River	3	14	27	49	41	41	41	24.1	-1.4
Ohio River	262	269	315	570	380	394	403	6.2	-2.6
Tennessee River	18	19	22	40	27	28	28	6.3	-2.7
Arkansas River	5	6	7	12	8	8	8	6.9	-2.9
Gulf Coast West	352	347	364	661	351	338	334	5.0	-5.1
Gulf Coast East	49	51	59	109	63	62	62	6.4	-4.2
Warrior River System	136	142	163	302	175	173	173	6.3	-4.2
Great Lakes	95	101	118	214	140	147	152	6.5	-2.6
Total	1,474	1,496	1,652	2,992	1,768	1,771	1,783	5.6	-3.9

a = less than 500,000 ton-miles

7/20/81

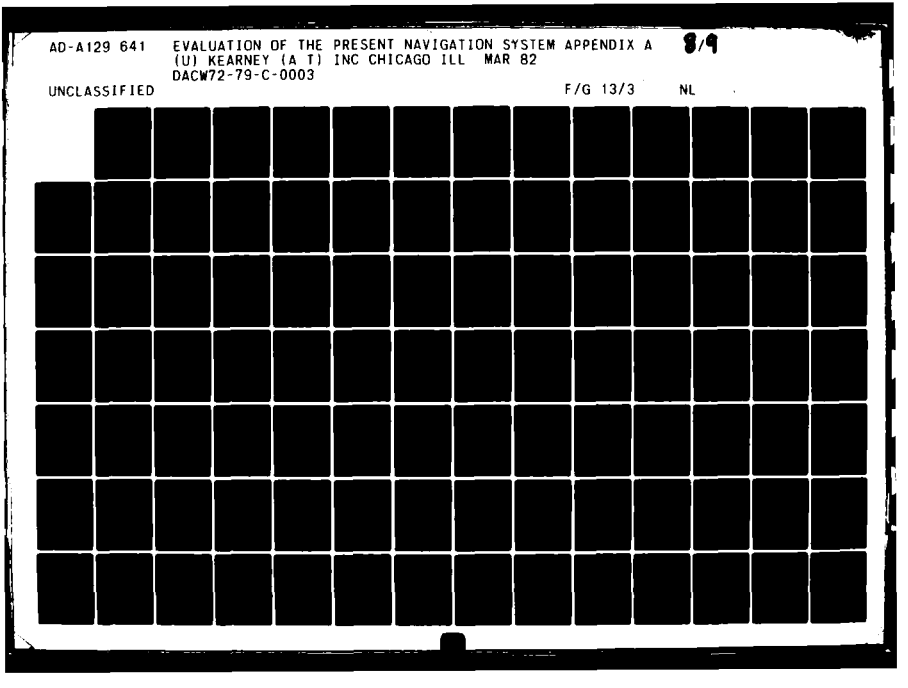
WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

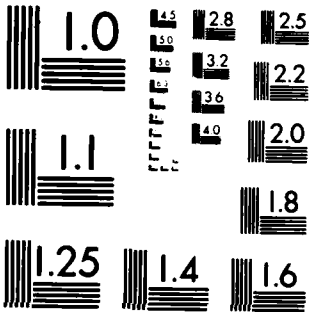
COMMODITY: Waste and Scrap
ALTERNATIVE: High Coal Export

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	33	36	41	46	46	46	47	2.6	0.2
	Received	2	2	2	2	2	2	3	2.0	0.9
Lower Upper Mississippi	Shipped	68	71	81	91	94	97	99	2.2	0.7
	Received	134	143	159	172	171	173	175	1.9	0.1
Lower Mississippi	Shipped	72	77	90	100	103	104	106	2.6	0.4
	Received	38	33	29	25	22	19	18	-3.2	-2.4
Baton Rouge to Gulf	Shipped	139	135	134	134	126	121	119	-0.3	-0.9
	Received	111	102	99	96	92	89	88	-1.1	-0.6
Illinois River	Shipped	985	928	885	858	808	774	762	-1.1	0.9
	Received	795	729	659	610	560	527	514	-2.0	-1.3
Missouri River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	8	37	74	111	111	112	112	22.2	0.1
Ohio River	Shipped	241	253	300	341	366	378	387	2.7	1.0
	Received	276	275	315	348	379	390	399	1.8	1.1
Tennessee River	Shipped	56	55	58	61	61	61	61	0.6	0.0
	Received	38	37	44	49	51	53	55	2.0	0.9
Arkansas River	Shipped	20	21	26	29	30	31	32	3.1	0.6
	Received	1	1	2	2	2	2	2	2.0	0.9
Gulf Coast West	Shipped	830	721	580	469	381	312	279	-4.3	-3.9
	Received	1,354	1,258	1,177	1,102	988	905	869	-1.6	-1.8
Gulf Coast East	Shipped	67	69	78	83	81	80	80	1.7	-0.3
	Received	14	14	15	16	15	15	15	0.9	-0.6
Warrior River System	Shipped	374	390	448	483	471	466	466	2.0	-0.3
	Received	25	26	30	32	31	31	31	2.0	-0.3
South Atlantic Coast	Shipped	32	34	40	42	42	42	41	2.0	0.1
	Received	55	57	65	71	69	68	68	2.0	0.3
Middle Atlantic Coast	Shipped	9,057	9,130	9,384	9,402	9,421	9,437	9,406	0.3	0.0
	Received	9,101	9,184	9,476	9,493	9,517	9,536	9,500	0.3	0.0

AD-A129 641 EVALUATION OF THE PRESENT NAVIGATION SYSTEM APPENDIX A 8/9
(U) KEARNEY (A T) INC CHICAGO ILL MAR 82
DACW72-79-C-0003

UNCLASSIFIED F/G 13/3 NL





MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	54	64	97	100	102	104	100	4.8	0.1
	Received	7	7	7	7	7	7	7	0.0	0.0
Great Lakes and Seaway	Shipped	116	121	136	148	153	159	163	1.9	0.8
	Received	204	217	251	280	294	309	319	2.5	1.0
Washington/Oregon Const	Shipped	1,836	1,754	1,642	1,555	1,487	1,435	1,410	-1.3	-0.7
	Received	1,873	1,790	1,678	1,591	1,523	1,471	1,446	-1.2	-0.7
Columbia-Snake Willamette River	Shipped	59	50	39	30	24	18	16	-4.9	-4.9
	Received	59	51	39	31	24	19	16	-4.9	-4.8
California Coast	Shipped	12	12	14	14	14	14	14	1.3	0.0
	Received	26	26	26	26	26	26	26	0.0	0.0
Alaska	Shipped	26	26	26	26	26	26	26	0.0	0.0
	Received	2	2	2	2	2	2	2	0.0	0.0
Hawaii and Pacific Territories	Shipped	34	34	34	34	34	34	34	0.0	0.0
	Received	8	8	8	8	8	8	8	0.0	0.0
Domestic Caribbean	Shipped	221	226	230	230	230	231	230	0.3	0.0
	Received	202	205	205	205	205	205	205	0.1	0.0
Total	Shipped	14,333	14,207	14,363	14,276	14,100	13,972	13,879	0.0	0.2
	Received	14,333	14,207	14,363	14,276	14,100	13,972	13,879	0.0	-0.2

a = less than 500 tons

670

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Waste and Scrap
ALTERNATIVE: High Coal Export

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	265	351	443	448	454	462	466	4.1	0.3
	Imports	166	207	260	327	398	507	587	5.4	4.6
Illinois River	Exports	16	21	27	27	27	27	27	4.1	0.2
	Imports	7	8	11	13	16	21	24	5.4	4.6
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	100	127	162	174	189	206	217	4.4	1.7
	Imports	71	89	111	140	170	217	251	5.4	4.6
Gulf Coast East	Exports	142	186	235	242	250	260	267	4.2	0.7
	Imports	2	3	4	5	6	7	8	5.3	4.6
Warrior River System	Exports	43	57	72	73	75	78	79	4.2	0.6
	Imports	0	0	0	0	0	0	0	0.0	0.0
South Atlantic Coast	Exports	275	337	422	455	492	533	558	3.9	1.6
	Imports	54	65	79	97	115	144	165	4.5	4.2
Middle Atlantic Coast	Exports	2,232	2,904	3,657	3,746	3,845	3,955	4,026	4.1	0.6
	Imports	141	171	210	259	310	389	447	4.8	4.3

7/20/81

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
North Atlantic Coast	Exports	975	1,286	1,622	1,642	1,664	1,689	1,706	4.1	0.3
	Imports	9	10	10	10	10	10	10	0.1	0.1
Great Lakes and Seaway	Exports	288	382	482	485	489	493	495	4.1	0.2
	Imports	96	120	150	189	230	294	340	5.4	4.6
Washington/Oregon Coast	Exports	240	304	396	444	503	576	626	4.9	2.7
	Imports	29	37	46	57	70	89	102	5.3	4.6
Columbia-Snake Willamette River	Exports	200	262	333	346	361	379	391	4.3	1.0
	Imports	a	a	a	a	a	a	a	2.1	2.4
California Coast	Exports	1,940	2,523	3,229	3,416	3,644	3,922	4,115	4.4	1.4
	Imports	50	60	72	88	105	131	150	4.5	4.2
Alaska	Exports	a	a	a	a	a	a	a	4.1	0.2
	Imports	7	7	7	7	7	7	7	0.1	0.0
Hawaii and Pacific Territories	Exports	32	39	50	57	66	76	83	4.6	3.0
	Imports	a	a	a	a	a	a	a	0.1	0.0
Domestic Caribbean	Exports	69	82	106	124	146	171	188	4.7	3.2
	Imports	1	2	2	3	3	4	5	5.0	4.4
Total	Exports	6,817	8,860	11,236	11,682	12,206	12,827	13,248	4.2	1.0
	Imports	634	779	962	1,196	1,439	1,820	2,097	5.0	4.4

a = less than 500 tons

672

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Waste and Scrap
ALTERNATIVE: High Coal Export

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	34	37	43	48	48	48	49	2.6	0.2
Lower Upper Mississippi	436	476	559	634	641	653	662	2.9	0.3
Lower Mississippi	325	325	349	356	353	352	353	0.7	-0.1
Baton Rouge to Gulf	390	373	373	360	342	330	325	-0.6	-0.8
Illinois River	1,129	1,082	1,068	1,068	1,029	1,008	1,004	-0.4	-0.5
Missouri River	8	37	74	111	111	112	112	22.2	0.1
Ohio River	396	408	474	519	556	573	585	2.1	0.9
Tennessee River	94	92	102	109	112	114	115	1.2	0.4
Arkansas River	20	21	26	29	30	31	32	3.1	0.6
Gulf Coast West	1,430	1,327	1,244	1,165	1,048	963	926	-1.6	-1.8
Gulf Coast East	434	452	516	567	552	546	546	2.1	-0.3
Warrior River System	381	397	456	504	491	485	485	2.2	-0.3
Great Lakes	329	352	411	462	487	513	529	2.6	1.0

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Waste and Scrap
ALTERNATIVE: High Coal Export

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	17	18	21	23	23	23	24	2.6	0.2
Lower Upper Mississippi	69	72	83	91	92	94	95	2.2	0.3
Lower Mississippi	172	172	185	188	186	186	186	0.7	0.0
Baton Rouge to Gulf	82	78	78	76	72	69	68	-0.6	-0.8
Illinois River	214	208	211	215	210	208	209	0.0	-0.2
Missouri River	3	14	27	40	41	41	41	22.2	0.1
Ohio River	262	269	315	352	380	394	403	2.3	1.0
Tennessee River	18	19	22	25	27	28	28	2.4	0.9
Arkansas River	5	6	7	8	8	8	8	3.1	0.6
Gulf Coast West	352	347	364	371	351	338	334	0.4	0.8
Gulf Coast East	49	51	59	65	63	62	62	2.2	-0.3
Werrior River System	136	142	163	180	175	173	173	2.2	-0.3
Great Lakes	95	101	118	133	140	147	152	2.6	1.0
Total	1,474	1,496	1,652	1,766	1,768	1,771	1,783	1.4	0.1

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Waste and Scrap
ALTERNATIVE: Misc. Sensitivity

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	33	36	41	46	46	47	47	2.6	0.2
	Received	2	2	2	2	2	2	3	2.0	0.9
Lower Upper Mississippi	Shipped	68	71	82	91	94	97	100	2.2	0.7
	Received	135	145	160	173	173	174	176	1.9	0.1
Lower Mississippi	Shipped	74	79	92	103	106	108	109	2.6	0.4
	Received	39	35	30	26	23	20	19	-3.2	-2.3
Baton Rouge to Gulf	Shipped	140	135	135	135	128	122	120	-0.3	-0.9
	Received	112	103	101	97	94	91	90	-1.1	-0.6
Illinois River	Shipped	992	934	893	867	817	784	772	-1.0	-0.9
	Received	798	732	663	615	566	535	523	-2.0	-1.2
Missouri River	Shipped	0	0	0	0	0	0	0	0.0	0.0
	Received	9	39	77	115	116	117	117	22.0	0.2
Ohio River	Shipped	270	283	336	382	410	424	433	2.7	1.0
	Received	311	310	356	394	429	443	454	1.8	1.1
Tennessee River	Shipped	63	62	65	68	69	68	68	0.6	0.0
	Received	42	41	49	54	56	59	60	2.0	0.9
Arkansas River	Shipped	20	21	30	37	42	50	56	4.8	3.3
	Received	1	1	2	2	3	3	4	3.7	3.6
Gulf Coast West	Shipped	831	722	582	471	383	314	281	-4.3	-3.9
	Received	1,355	1,259	1,180	1,105	993	912	877	-1.6	-1.8
Gulf Coast East	Shipped	67	69	78	83	81	80	80	1.7	-0.3
	Received	14	14	15	16	15	15	15	0.9	-0.6
Warrior River System	Shipped	374	390	448	483	471	466	466	2.0	-0.3
	Received	25	26	30	32	31	31	31	2.0	-0.3
South Atlantic Coast	Shipped	32	34	40	42	42	42	41	2.0	-0.1
	Received	55	57	65	71	69	68	68	2.0	-0.3
Middle Atlantic Coast	Shipped	9,057	9,130	9,384	9,402	9,421	9,437	9,406	0.3	0.0
	Received	9,101	9,184	9,476	9,493	9,517	9,536	9,500	0.3	0.0

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	54	64	97	100	102	104	100	4.8	0.1
	Received	7	7	7	7	7	7	7	0.0	0.0
Great Lakes and Seaway	Shipped	116	121	136	148	153	159	163	1.9	0.8
	Received	205	218	252	283	298	315	326	2.5	1.1
Washington/Oregon Coast	Shipped	1,836	1,754	1,642	1,555	1,487	1,435	1,410	-1.3	-0.7
	Received	1,873	1,790	1,678	1,591	1,523	1,471	1,446	-1.2	-0.7
Columbia-Snake Willamette River	Shipped	59	50	39	30	24	18	16	-4.9	-4.9
	Received	59	51	39	31	24	19	16	-4.9	-4.8
California Coast	Shipped	12	12	14	14	14	14	14	1.3	0.0
	Received	26	26	26	26	26	26	26	0.0	0.0
Alaska	Shipped	26	26	26	26	26	26	26	0.0	0.0
	Received	2	2	2	2	2	2	2	0.0	0.0
Hawaii and Pacific Territories	Shipped	34	34	34	34	34	34	34	0.0	0.0
	Received	8	8	8	8	8	8	8	0.0	0.0
Domestic Caribbean	Shipped	221	226	230	230	230	231	230	0.3	0.0
	Received	202	205	205	205	205	205	205	0.1	0.0
Total	Shipped	14,381	14,256	14,423	14,347	14,180	14,060	13,975	0.0	-0.2
	Received	14,381	14,256	14,423	14,347	14,180	14,060	13,975	0.0	-0.2

a = less than 500 tons

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WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Waste and Scrap
ALTERNATIVE: Misc. Sensitivity

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	265	351	443	448	454	462	466	4.1	0.3
	Imports	166	207	260	327	398	507	587	5.4	4.6
Illinois River	Exports	16	21	27	27	27	27	27	4.1	0.2
	Imports	7	8	11	13	16	21	24	5.4	4.6
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	100	127	162	174	189	206	217	4.4	1.7
	Imports	71	89	111	140	170	217	251	5.4	4.6
Gulf Coast East	Exports	142	186	235	242	250	260	267	4.2	0.7
	Imports	2	3	4	5	6	7	8	5.3	4.6
Warrior River System	Exports	43	57	72	73	75	78	79	4.2	0.6
	Imports	0	0	0	0	0	0	0	0.0	0.0
South Atlantic Coast	Exports	275	337	422	455	492	533	558	3.9	1.6
	Imports	54	65	79	97	115	144	165	4.5	4.2
Middle Atlantic Coast	Exports	2,232	2,904	3,657	3,746	3,845	3,955	4,026	4.1	0.6
	Imports	141	171	210	259	310	389	447	4.8	4.3

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SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
North Atlantic Coast	Exports	975	1,286	1,622	1,642	1,664	1,689	1,706	4.1	0.3
	Imports	9	10	10	10	10	10	10	0.1	0.1
Great Lakes and Seaway	Exports	288	382	482	485	489	493	495	4.1	0.2
	Imports	96	120	150	189	230	294	340	5.4	4.6
Washington/Oregon Coast	Exports	240	304	398	444	503	576	626	4.9	2.7
	Imports	29	37	46	57	70	89	102	5.3	4.6
Columbia-Snake Willamette River	Exports	200	262	333	346	361	379	391	4.3	1.0
	Imports	a	a	a	a	a	a	a	2.1	2.4
California Coast	Exports	1,940	2,523	3,229	3,416	3,644	3,922	4,115	4.4	1.4
	Imports	50	60	72	88	105	131	150	4.5	4.2
Alaska	Exports	a	a	a	a	a	a	a	4.1	0.2
	Imports	7	7	7	7	7	7	7	0.1	0.0
Hawaii and Pacific Territories	Exports	32	39	50	57	66	76	83	4.6	3.0
	Imports	a	a	a	a	a	a	a	0.1	0.0
Domestic Caribbean	Exports	69	82	106	124	148	171	188	4.7	3.2
	Imports	1	2	2	3	3	4	5	5.0	4.4
Total	Exports	6,817	8,860	11,236	11,682	12,206	12,827	13,248	4.2	1.0
	Imports	634	779	962	1,196	1,439	1,820	2,097	5.0	4.4

a = less than 500 tons

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WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Waste and Scrap
ALTERNATIVE: Misc. Sensitivity

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	34	38	43	48	48	49	49	2.6	0.2
Lowrr Upper Mississippi	449	489	578	657	668	683	696	3.0	0.4
Lower Mississippi	334	333	361	372	373	378	385	0.8	0.3
Baton Rouge to Gulf	394	377	379	366	350	340	337	-0.6	-0.6
Illinois River	1,139	1,092	1,082	1,084	1,048	1,031	1,030	-0.4	-0.4
Missouri River	9	39	77	115	116	117	117	22.0	0.2
Ohio River	443	455	532	583	624	645	660	2.1	1.0
Tennessee River	104	103	114	122	125	127	128	1.2	0.4
Arkansas River	20	21	30	37	42	50	56	4.8	3.3
Gulf Coast West	1,432	1,330	1,248	1,170	1,055	972	936	-1.5	-1.7
Gulf Coast East	434	452	516	568	553	547	547	2.1	-0.3
Warrior River System	381	397	456	505	492	486	486	2.2	-0.3
Great Lakes	330	352	412	465	490	518	537	2.7	1.1

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Waste and Scrap
ALTERNATIVE: Misc. Sensitivity

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	17	18	21	23	23	24	24	2.6	0.2
Lower Upper Mississippi	71	75	86	96	98	100	102	2.4	0.5
Lower Mississippi	176	176	191	195	197	200	204	0.8	0.3
Baton Rouge to Gulf	84	80	81	79	75	73	73	-0.5	-0.6
Illinois River	216	210	214	219	215	214	215	0.1	-0.1
Missouri River	3	14	28	42	42	43	43	22.0	0.2
Ohio River	295	302	354	397	430	445	457	2.3	1.1
Tennessee River	21	21	25	28	30	31	32	2.4	1.0
Arkansas River	5	6	8	10	11	13	15	4.8	3.3
Gulf Coast West	353	347	365	372	353	341	338	0.4	-0.7
Gulf Coast East	49	51	59	65	63	63	63	2.2	-0.3
Warrior River System	136	142	163	180	175	173	173	2.2	-0.3
Great Lakes	95	101	119	134	141	149	155	2.7	1.1
Total	1,521	1,544	1,714	1,841	1,854	1,869	1,892	1.5	0.2

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Other Commodities
ALTERNATIVE: Baseline

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77 90	90 03
Upper Mississippi	Shipped	37	37	38	40	41	42	43	0 5	0 7
	Received	151	151	152	153	155	157	158	0.1	0 2
Lower Upper Mississippi	Shipped	1,139	1,141	1,149	1,158	1,168	1,179	1,187	0.1	0 2
	Received	529	533	544	556	569	585	596	0.4	0 5
Lower Mississippi	Shipped	1,210	1,214	1,224	1,237	1,249	1,264	1,275	0.2	0 2
	Received	3,193	3,196	3,204	3,214	3,224	3,236	3,245	0.0	0.1
Baton Rouge to Gulf	Shipped	1,202	1,274	1,566	1,822	2,076	2,395	2,614	3 3	2 8
	Received	3,804	3,836	4,061	4,252	4,444	4,702	4,884	0 9	1 1
Illinois River	Shipped	22	24	30	36	42	50	56	3 8	3 4
	Received	55	60	74	90	105	125	139	3 8	3.4
Missouri River	Shipped	327	327	328	328	328	329	329	0.0	0 0
	Received	329	330	331	332	333	334	335	0 1	0 1
Ohio River	Shipped	1,880	1,894	1,933	1,980	2,026	2,083	2,124	0.4	0 5
	Received	506	519	554	597	639	692	729	1 3	1 5
Tennessee River	Shipped	1,572	1,576	1,587	1,599	1,612	1,628	1,639	0 1	0 2
	Received	82	88	104	123	142	166	182	3 2	3 1
Arkansas River	Shipped	634	635	636	639	641	644	646	0 1	0 1
	Received	692	693	697	702	706	712	716	0 1	0 2
Gulf Coast West	Shipped	10,391	10,670	11,657	12,889	14,113	15,723	16,874	1 7	2 1
	Received	11,821	12,058	12,976	14,141	15,302	16,852	17,969	1 4	1 9
Gulf Coast East	Shipped	5,648	5,526	5,355	5,208	5,081	4,990	4,954	-0 6	0 4
	Received	2,608	2,561	2,507	2,469	2,438	2,429	2,435	-0 4	0 1
Warrior River System	Shipped	1,195	1,162	1,111	1,065	1,021	980	958	-0 9	-0 8
	Received	1,426	1,387	1,325	1,268	1,214	1,165	1,138	0 9	0 8
South Atlantic Coast	Shipped	646	746	921	1,118	1,357	1,649	1,861	4 3	4 0
	Received	413	478	589	715	868	1,055	1,191	4 3	4 0
Middle Atlantic Coast	Shipped	2,830	3,204	3,855	4,591	5,490	6,593	7,395	3 8	3 7
	Received	2,461	2,777	3,327	3,951	4,711	5,649	6,329	3 7	3 7

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SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	284	328	405	491	596	724	817	4.3	4.0
	Received	339	392	483	587	712	865	977	4.3	4.0
Great Lakes and Seaway	Shipped	247	255	302	335	367	411	447	2.4	2.2
	Received	254	263	311	346	380	426	464	2.4	2.3
Washington/Oregon Coast	Shipped	763	880	1,086	1,318	1,598	1,942	2,190	4.3	4.0
	Received	249	286	352	428	518	628	708	4.3	4.0
Columbia-Snake Willamette River	Shipped	68	76	93	113	135	162	181	4.0	3.7
	Received	49	54	66	80	95	114	127	3.9	3.6
California Coast	Shipped	1,482	1,709	2,106	2,553	3,095	3,759	4,241	4.3	4.0
	Received	1,051	1,212	1,492	1,808	2,192	2,661	3,001	4.3	4.0
Alaska	Shipped	243	280	346	420	509	619	699	4.3	4.0
	Received	735	849	1,047	1,271	1,543	1,875	2,116	4.3	4.0
Hawaii and Pacific Territories	Shipped	1,025	1,184	1,461	1,774	2,153	2,616	2,953	4.3	4.0
	Received	1,595	1,844	2,275	2,761	3,351	4,073	4,597	4.3	4.0
Domestic Caribbean	Shipped	476	519	610	712	837	990	1,101	3.1	3.4
	Received	979	1,099	1,326	1,582	1,892	2,273	2,549	3.8	3.7
Total	Shipped	33,321	34,663	37,799	41,425	45,534	50,775	54,584	1.7	2.1
	Received	33,321	34,663	37,799	41,425	45,534	50,775	54,584	1.7	2.1

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Other Commodities
ALTERNATIVE: Baseline

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	490	572	815	1,065	1,346	1,738	2,040	6.2	5.1
	Imports	522	550	618	689	739	773	785	2.2	1.0
Illinois River	Exports	23	26	38	49	62	80	94	6.2	5.1
	Imports	57	60	67	74	80	84	86	2.0	1.2
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	788	919	1,310	1,711	2,161	2,792	3,277	6.2	5.1
	Imports	727	765	861	959	1,029	1,076	1,093	2.2	1.0
Gulf Coast East	Exports	24	28	40	53	66	86	101	6.2	5.1
	Imports	91	95	107	120	128	134	136	2.2	1.0
Warrior River System	Exports	45	52	75	97	123	159	186	6.2	5.1
	Imports	47	49	56	62	66	70	71	2.2	1.0
South Atlantic Coast	Exports	1,041	1,214	1,730	2,261	2,856	3,689	4,329	6.2	5.1
	Imports	1,167	1,228	1,379	1,533	1,638	1,704	1,722	2.1	0.9
Middle Atlantic Coast	Exports	3,270	3,816	5,438	7,105	8,973	11,592	13,604	6.2	5.1
	Imports	4,367	4,593	5,158	5,735	6,129	6,375	6,443	2.1	0.9

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SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	45	53	76	99	125	161	189	6.2	5.1
	Imports	485	510	573	637	680	708	715	2.1	0.9
Great Lakes and Seaway	Exports	123	144	205	268	339	438	514	6.2	5.1
	Imports	257	269	300	333	358	379	389	2.0	1.2
Washington/Oregon Coast	Exports	100	116	166	217	273	353	415	6.2	5.1
	Imports	1,496	1,740	2,330	3,126	4,095	5,340	6,270	5.8	5.5
Columbia-Snake Willamette River	Exports	25	30	42	55	70	90	106	6.2	5.1
	Imports	408	475	636	853	1,118	1,457	1,711	5.8	5.5
California Coast	Exports	607	708	1,009	1,318	1,665	2,151	2,524	6.2	5.1
	Imports	3,717	4,324	5,789	7,766	10,174	13,266	15,578	5.8	5.5
Alaska	Exports	20	24	34	44	56	72	84	6.2	5.1
	Imports	137	152	189	235	286	348	392	4.2	4.0
Hawaii and Pacific Territories	Exports	11	13	18	24	30	39	45	6.2	5.1
	Imports	69	76	95	118	144	175	197	4.2	4.0
Domestic Caribbean	Exports	67	79	112	146	185	239	280	6.2	5.1
	Imports	291	323	400	498	607	738	832	4.2	4.0
Total	Exports	6,679	7,794	11,108	14,513	18,329	23,678	27,787	6.2	5.1
	Imports	13,839	15,210	18,558	22,737	27,271	32,627	36,420	3.9	3.7

s = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Other Commodities
ALTERNATIVE: Baseline

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	153	154	155	157	160	163	165	0.2	0.3
Lower Upper Mississippi	1,253	1,264	1,296	1,333	1,370	1,417	1,450	0.5	0.6
Lower Mississippi	4,885	4,909	4,976	4,646	4,702	4,774	4,824	-0.4	0.3
Baton Rouge to Gulf	4,139	4,189	4,469	4,538	4,773	5,086	5,307	0.7	1.2
Illinois River	83	90	110	134	158	188	209	3.8	3.4
Missouri River	330	331	332	333	335	337	338	0.1	0.1
Ohio River	3,505	3,529	3,595	3,303	3,361	3,433	3,484	-0.5	0.4
Tennessee River	1,632	1,641	1,666	1,720	1,752	1,791	1,819	0.4	0.4
Arkansas River	699	701	707	714	720	728	734	0.2	0.2
Gulf Coast West	12,230	12,474	13,412	14,603	15,793	17,384	18,530	1.4	1.8
Gulf Coast East	6,043	5,922	5,756	5,932	5,836	5,787	5,783	-0.1	-0.2
Warrior River System	1,597	1,555	1,491	1,823	1,790	1,769	1,761	1.0	-0.3
Great Lakes	276	287	340	382	422	476	519	2.5	2.4

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Other Commodities
ALTERNATIVE: Baseline

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	16	16	16	16	16	17	17	0.2	0.3
Lower Upper Mississippi	111	113	118	123	129	136	141	0.8	1.0
Lower Mississippi	1,948	1,961	2,001	1,773	1,801	1,838	1,863	-0.7	0.4
Baton Rouge to Gulf	464	466	512	466	484	508	524	0.0	0.9
Illinois River	12	13	15	19	22	26	29	3.8	3.4
Missouri River	40	40	41	41	41	42	42	0.1	0.2
Ohio River	276	283	304	305	327	356	376	0.8	1.6
Tennessee River	55	56	60	70	75	81	85	1.9	1.5
Arkansas River	48	48	49	49	50	51	51	0.2	0.2
Gulf Coast West	1,055	1,052	1,074	1,109	1,145	1,201	1,244	0.4	0.9
Gulf Coast East	269	264	257	294	293	294	296	0.7	0.0
Warrior River System	35	34	33	166	172	181	187	12.8	0.9
Great Lakes	71	74	88	99	109	123	135	2.5	2.4
Total	4,400	4,420	4,568	4,529	4,685	4,852	4,989	0.2	0.7

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Other Commodities
ALTERNATIVE: Low Use

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	37	37	38	39	41	42	43	0.5	0.7
	Received	151	151	152	153	154	156	158	0.1	0.2
Lower Upper Mississippi	Shipped	1,139	1,141	1,149	1,158	1,166	1,177	1,185	0.1	0.2
	Received	529	533	543	555	567	582	593	0.4	0.5
Lower Mississippi	Shipped	1,210	1,214	1,224	1,236	1,247	1,262	1,272	0.2	0.2
	Received	3,193	3,196	3,204	3,213	3,222	3,234	3,243	0.0	0.1
Baton Rouge to Gulf	Shipped	1,202	1,274	1,561	1,805	2,038	2,348	2,565	3.2	2.7
	Received	3,804	3,836	4,056	4,235	4,406	4,656	4,836	0.8	1.0
Illinois River	Shipped	22	24	29	36	41	49	55	3.7	3.4
	Received	55	60	73	89	103	122	136	3.7	3.4
Missouri River	Shipped	327	327	328	328	328	329	329	0.0	0.0
	Received	329	330	331	332	333	334	335	0.1	0.1
Ohio River	Shipped	1,880	1,894	1,932	1,977	2,018	2,074	2,114	0.4	0.5
	Received	506	519	554	594	632	683	720	1.2	1.5
Tennessee River	Shipped	1,572	1,576	1,587	1,598	1,610	1,625	1,636	0.1	0.2
	Received	82	88	103	122	139	162	179	3.1	3.0
Arkansas River	Shipped	634	635	636	639	641	643	645	0.1	0.1
	Received	692	693	697	701	705	711	715	0.1	0.1
Gulf Coast West	Shipped	10,391	10,670	11,627	12,788	13,878	15,434	16,570	1.6	2.0
	Received	11,821	12,058	12,946	14,039	15,066	16,561	17,663	1.3	1.8
Gulf Coast East	Shipped	5,648	5,526	5,353	5,198	5,054	4,954	4,915	-0.6	-0.4
	Received	2,608	2,561	2,506	2,463	2,423	2,409	2,414	-0.4	-0.2
Warrior River System	Shipped	1,195	1,162	1,111	1,064	1,019	979	957	-0.9	0.8
	Received	1,426	1,387	1,325	1,268	1,213	1,163	1,136	-0.9	-0.8
South Atlantic Coast	Shipped	646	746	916	1,086	1,264	1,520	1,721	4.1	3.6
	Received	413	478	586	695	809	973	1,101	4.1	3.6
Middle Atlantic Coast	Shipped	2,830	3,204	3,837	4,469	5,134	6,099	6,860	3.6	3.4
	Received	2,461	2,777	3,312	3,848	4,410	5,229	5,874	3.5	3.3

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	284	328	402	477	555	668	756	4.1	3.6
	Received	339	392	481	570	663	798	903	4.1	3.6
Great Lakes and Seaway	Shipped	247	255	300	327	348	385	414	2.2	1.8
	Received	254	263	309	338	360	399	430	2.2	1.9
Washington/Oregon Coast	Shipped	763	880	1,080	1,281	1,490	1,792	2,028	4.1	3.6
	Received	249	288	350	416	484	582	658	4.0	3.6
Columbia-Snake Willamette River	Shipped	68	76	93	111	129	154	173	3.8	3.5
	Received	49	54	66	79	92	110	122	3.8	3.4
California Coast	Shipped	1,482	1,709	2,095	2,480	2,884	3,466	3,923	4.0	3.6
	Received	1,051	1,212	1,485	1,757	2,042	2,453	2,776	4.0	3.6
Alaska	Shipped,	243	280	344	408	475	571	646	4.1	3.6
	Received	735	849	1,042	1,235	1,437	1,728	1,957	4.1	3.6
Hawaii and Pacific Territories	Shipped	1,025	1,184	1,454	1,723	2,005	2,411	2,731	4.1	3.6
	Received	1,595	1,844	2,263	2,682	3,121	3,754	4,251	4.1	3.6
Domestic Caribbean	Shipped	476	519	607	696	791	926	1,032	3.0	3.1
	Received	979	1,099	1,320	1,541	1,774	2,108	2,371	3.6	3.4
Total	Shipped	33,321	34,663	37,704	40,925	44,155	48,908	52,570	1.6	1.9
	Received	33,321	34,663	37,704	40,925	44,155	48,908	52,570	1.6	1.9

a = less than 500 tons

688

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Other Commodities
ALTERNATIVE: Low Use

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	490	572	813	1,039	1,252	1,596	1,873	5.9	4.6
	Imports	522	550	616	670	689	713	729	1.9	0.6
Illinois River	Exports	23	26	36	48	58	74	87	5.9	4.6
	Imports	57	60	66	72	74	78	80	1.8	0.8
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	788	919	1,306	1,668	2,012	2,564	3,008	5.9	4.6
	Imports	727	765	858	933	958	993	1,014	1.9	0.6
Gulf Coast East	Exports	24	28	40	51	62	79	92	5.9	4.6
	Imports	91	95	107	116	119	124	126	1.9	0.6
Warrior River System	Exports	45	52	74	95	114	146	171	5.9	4.6
	Imports	47	49	55	60	62	64	65	1.9	0.6
South Atlantic Coast	Exports	1,041	1,214	1,726	2,204	2,658	3,387	3,974	5.9	4.6
	Imports	1,167	1,228	1,374	1,492	1,527	1,572	1,598	1.9	0.5
Middle Atlantic Coast	Exports	3,270	3,616	5,423	6,927	8,351	10,643	12,488	5.9	4.6
	Imports	4,367	4,593	5,141	5,580	5,710	5,879	5,977	1.9	0.5

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	45	53	75	96	116	148	174	5.9	4.6
	Imports	485	510	571	620	634	653	664	1.9	0.5
Great Lakes and Seaway	Exports	123	144	205	262	315	402	471	5.9	4.6
	Imports	257	289	299	324	334	349	361	1.8	0.8
Washington/Oregon Coast	Exports	100	116	165	211	255	324	381	5.9	4.6
	Imports	1,496	1,740	2,322	3,041	3,815	4,924	5,817	5.6	5.1
Columbia-Snake Willamette River	Exports	25	30	42	54	65	83	97	5.9	4.6
	Imports	408	475	634	830	1,041	1,344	1,588	5.6	5.1
California Coast	Exports	607	708	1,006	1,285	1,550	1,975	2,317	5.9	4.6
	Imports	3,717	4,324	5,770	7,556	9,479	12,234	14,452	5.6	5.1
Alaska	Exports	20	24	34	43	52	66	77	5.9	4.6
	Imports	137	152	188	229	267	321	364	4.0	3.6
Hawaii and Pacific Territories	Exports	11	13	18	23	28	35	42	5.9	4.6
	Imports	69	76	94	115	134	161	183	4.0	3.6
Domestic Caribbean	Exports	87	79	112	143	172	219	257	5.9	4.6
	Imports	291	323	399	485	566	681	772	4.0	3.6
Total	Exports	6,679	7,794	11,077	14,149	17,058	21,741	25,509	5.9	4.6
	Imports	13,839	15,210	18,495	22,124	25,409	30,089	33,789	3.7	3.3

a = less than 500 tons

690

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: Other Commodities
ALTERNATIVE: Low Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	153	154	155	157	159	162	164	0.2	0.3
Lower Upper Mississippi	1,253	1,264	1,295	1,331	1,364	1,410	1,442	0.5	0.6
Lower Mississippi	4,885	4,909	4,974	4,642	4,693	4,763	4,812	-0.4	0.3
Baton Rouge to Gulf	4,139	4,189	4,462	4,518	4,729	5,032	5,250	0.7	1.2
Illinois River	83	90	110	133	154	183	204	3.7	3.4
Missouri River	330	331	332	333	335	336	337	0.1	0.1
Ohio River	3,505	3,529	3,593	3,299	3,352	3,422	3,472	-0.5	0.4
Tennessee River	1,632	1,641	1,665	1,718	1,746	1,785	1,812	0.4	0.4
Arkansas River	699	701	707	713	719	727	733	0.1	0.2
Gulf Coast West	12,230	12,474	13,381	14,497	15,547	17,079	18,210	1.3	1.8
Gulf Coast East	6,043	5,922	5,754	5,918	5,800	5,740	5,732	-0.2	-0.2
Warrior River System	1,597	1,555	1,491	1,821	1,784	1,761	1,754	1.0	-0.3
Great Lakes	276	287	338	373	401	448	484	2.4	2.0

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Other Commodities
ALTERNATIVE: Low Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	16	16	16	16	16	17	17	0.2	0.3
Lower Upper Mississippi	111	113	118	123	128	135	140	0.8	1.0
Lower Mississippi	1,948	1,961	2,000	1,771	1,797	1,832	1,857	-0.7	0.4
Baton Rouge to Gulf	464	466	512	465	481	504	520	0.0	0.9
Illinois River	12	13	15	18	21	25	28	3.7	3.4
Missouri River	40	40	41	41	41	42	42	0.1	0.2
Ohio River	276	283	303	303	324	351	371	0.7	1.6
Tennessee River	55	56	60	69	74	80	84	1.8	1.5
Arkansas River	48	48	49	49	50	50	51	0.2	0.2
Gulf Coast West	1,055	1,052	1,072	1,104	1,133	1,186	1,229	0.4	0.8
Gulf Coast East	269	264	257	293	291	292	294	0.7	0.0
Warrior River System	35	34	33	165	171	179	185	12.7	0.9
Great Lakes	71	74	87	97	104	116	126	2.4	2.0
Total	4,400	4,420	4,564	4,515	4,631	4,809	4,942	0.2	0.7

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Other Commodities
ALTERNATIVE: High Use

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	37	37	38	40	41	42	43	0.5	0.7
	Received	151	151	152	153	155	157	158	0.1	0.2
Lower Upper Mississippi	Shipped	1,139	1,141	1,149	1,158	1,168	1,179	1,187	0.1	0.2
	Received	529	533	544	556	569	585	596	0.4	0.5
Lower Mississippi	Shipped	1,210	1,214	1,224	1,237	1,249	1,264	1,275	0.2	0.2
	Received	3,193	3,196	3,204	3,214	3,224	3,236	3,245	0.0	0.1
Baton Rouge to Gulf	Shipped	1,202	1,274	1,566	1,822	2,076	2,395	2,614	3.3	2.8
	Received	3,804	3,836	4,061	4,252	4,444	4,702	4,884	0.9	1.1
Illinois River	Shipped	22	24	30	36	42	50	56	3.8	3.4
	Received	55	60	74	90	105	125	139	3.8	3.4
Missouri River	Shipped	327	327	328	328	328	329	329	0.0	0.0
	Received	329	330	331	332	333	334	335	0.1	0.1
Ohio River	Shipped	1,880	1,894	1,933	1,980	2,026	2,083	2,124	0.4	0.5
	Received	506	519	554	597	639	692	729	1.3	1.5
Tennessee River	Shipped	1,572	1,576	1,587	1,599	1,612	1,628	1,639	0.1	0.2
	Received	82	88	104	123	142	166	182	3.2	3.1
Arkansas River	Shipped	634	635	636	639	641	644	646	0.1	0.1
	Received	692	693	697	702	706	712	716	0.1	0.2
Gulf Coast West	Shipped	10,391	10,670	11,657	12,889	14,113	15,723	16,874	1.7	2.1
	Received	11,821	12,058	12,976	14,141	15,302	16,852	17,969	1.4	1.9
Gulf Coast East	Shipped	5,648	5,526	5,355	5,208	5,081	4,990	4,954	-0.6	0.4
	Received	2,608	2,561	2,507	2,469	2,438	2,429	2,435	0.4	-0.1
Warrior River System	Shipped	1,195	1,162	1,111	1,065	1,021	980	958	-0.9	0.8
	Received	1,426	1,387	1,325	1,268	1,214	1,165	1,138	0.9	0.8
South Atlantic Coast	Shipped	646	746	921	1,118	1,357	1,649	1,861	4.3	4.0
	Received	413	478	589	715	868	1,055	1,191	4.3	4.0
Middle Atlantic Coast	Shipped	2,830	3,204	3,855	4,591	5,490	6,593	7,395	3.8	3.7
	Received	2,461	2,777	3,327	3,951	4,713	5,649	6,329	3.7	3.7

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	284	328	405	491	596	724	817	4.3	4.0
	Received	339	392	483	587	712	865	977	4.3	4.0
Great Lakes and Seaway	Shipped	247	255	302	335	367	411	447	2.4	2.2
	Received	254	263	311	346	380	426	464	2.4	2.3
Washington/Oregon Coast	Shipped	763	880	1,086	1,318	1,598	1,942	2,190	4.3	4.0
	Received	249	286	352	428	518	628	708	4.3	4.0
Columbia-Snake Willamette River	Shipped	68	76	93	113	135	162	181	4.0	3.7
	Received	49	54	66	80	95	114	127	3.9	3.6
California Coast	Shipped	1,482	1,709	2,106	2,553	3,095	3,759	4,241	4.3	4.0
	Received	1,051	1,212	1,492	1,808	2,192	2,661	3,001	4.3	4.0
Alaska	Shipped	243	280	346	420	509	619	699	4.3	4.0
	Received	735	849	1,047	1,271	1,543	1,875	2,116	4.3	4.0
Hawaii and Pacific Territories	Shipped	1,025	1,184	1,461	1,774	2,153	2,616	2,953	4.3	4.0
	Received	1,595	1,844	2,275	2,761	3,351	4,073	4,597	4.3	4.0
Domestic Caribbean	Shipped	476	519	610	712	837	990	1,101	3.1	3.4
	Received	979	1,099	1,326	1,582	1,892	2,273	2,549	3.8	3.7
Total	Shipped	33,321	34,663	37,799	41,425	45,534	50,775	54,584	1.7	2.1
	Received	33,321	34,663	37,799	41,425	45,534	50,775	54,584	1.7	2.1

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USF (1000'S TONS)
FOREIGN TRADE

COMMODITY: Other Commodities
ALTERNATIVE: High Use

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	490	572	815	1,065	1,346	1,738	2,040	6.2	5.1
	Imports	522	550	618	689	739	773	785	2.2	1.0
Illinois River	Exports	23	26	38	49	62	80	94	6.2	5.1
	Imports	57	60	67	74	80	84	86	2.0	1.2
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	788	919	1,310	1,711	2,161	2,792	3,277	6.2	5.1
	Imports	727	765	881	959	1,029	1,076	1,093	2.2	1.0
Gulf Coast East	Exports	24	28	40	53	66	86	101	6.2	5.1
	Imports	91	95	107	120	128	134	136	2.2	1.0
Warrior River System	Exports	45	52	75	97	123	159	186	6.2	5.1
	Imports	47	49	56	62	66	70	71	2.2	1.0
South Atlantic Coast	Exports	1,041	1,214	1,730	2,261	2,856	3,689	4,329	6.2	5.1
	Imports	1,167	1,228	1,379	1,533	1,638	1,704	1,722	2.1	0.9
Middle Atlantic Coast	Exports	3,270	3,816	5,438	7,105	8,973	11,592	13,604	6.2	5.1
	Imports	4,367	4,593	5,158	5,735	6,129	6,375	6,443	2.1	0.9

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77 90	90 03
North Atlantic Coast	Exports	45	53	76	99	125	161	189	6 2	5 1
	Imports	485	510	573	637	680	708	715	2 1	0 9
Great Lakes and Seaway	Exports	123	144	205	268	339	438	514	6 2	5 1
	Imports	257	269	300	333	358	379	389	2 0	1 2
Washington/Oregon Coast	Exports	100	116	166	217	273	353	415	6 2	5 1
	Imports	1,496	1,740	2,330	3,126	4,095	5,340	6,270	5 8	5 5
Columbia-Snake Willamette River	Exports	25	30	42	55	70	90	106	6 2	5 1
	Imports	408	475	636	853	1,118	1,457	1,711	5 8	5 5
California Coast	Exports	607	708	1,009	1,318	1,665	2,151	2,524	6 2	5 1
	Imports	3,717	4,324	5,789	7,766	10,174	13,266	15,578	5 8	5 5
Alaska	Exports	20	24	34	44	56	72	84	6 2	5 1
	Imports	137	152	189	235	286	348	392	4 2	4 0
Hawaii and Pacific Territories	Exports	11	13	18	24	30	39	45	6 2	5 1
	Imports	69	76	95	118	144	175	197	4 2	4 0
Domestic Caribbean	Exports	67	79	112	146	185	239	280	6 2	5 1
	Imports	291	323	400	498	607	738	832	4 2	4 0
Total	Exports	6,679	7,794	11,108	14,513	18,329	23,678	27,787	6 2	5 1
	Imports	13,839	15,210	18,558	22,737	27,271	32,627	36,420	3 9	3 7

a = less than 500 tons

696

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: Other Commodities
ALTERNATIVE: High Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	153	154	155	157	160	163	165	0.2	0.3
Lower Upper Mississippi	1,253	1,264	1,296	1,333	1,370	1,417	1,450	0.5	0.6
Lower Mississippi	4,885	4,909	4,976	4,646	4,702	4,774	4,824	-0.4	0.3
Baton Rouge to Gulf	4,139	4,189	4,469	4,538	4,773	5,086	5,307	0.7	1.2
Illinois River	83	90	110	134	158	188	209	3.8	3.4
Missouri River	330	331	332	333	335	337	338	0.1	0.1
Ohio River	3,505	3,529	3,595	3,303	3,361	3,433	3,484	-0.5	0.4
Tennessee River	1,632	1,641	1,666	1,720	1,752	1,791	1,819	0.4	0.4
Arkansas River	699	701	707	714	720	728	734	0.2	0.2
Gulf Coast West	12,230	12,474	13,412	14,603	15,793	17,384	18,530	1.4	1.8
Gulf Coast East	6,043	5,922	5,756	5,932	5,836	5,787	5,783	-0.1	-0.2
Warrior River System	1,597	1,555	1,491	1,823	1,790	1,769	1,761	1.0	0.3
Great Lakes	276	287	340	382	422	476	519	2.5	2.4

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Other Commodities
ALTERNATIVE: High Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	16	16	16	16	16	17	17	0.2	0.3
Lower Upper Mississippi	111	113	118	123	129	136	141	0.8	1.0
Lower Mississippi	1,948	1,961	2,001	1,773	1,801	1,838	1,863	-0.7	0.4
Baton Rouge to Gulf	464	466	512	466	484	508	524	0.0	0.9
Illinois River	12	13	15	19	22	26	29	3.8	3.4
Missouri River	40	40	41	41	41	42	42	0.1	0.2
Ohio River	276	283	304	305	327	356	376	0.8	1.6
Tennessee River	55	56	60	70	75	81	85	1.9	1.5
Arkansas River	48	48	49	49	50	51	51	0.2	0.2
Gulf Coast West	1,055	1,052	1,074	1,109	1,145	1,201	1,244	0.4	0.9
Gulf Coast East	269	264	257	294	293	294	296	0.7	0.0
Warrior River System	35	34	33	166	172	181	187	12.8	0.9
Great Lakes	71	74	88	99	109	123	135	2.5	2.4
Total	4,400	4,420	4,568	4,529	4,665	4,852	4,989	0.2	0.7

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Other Commodities
ALTERNATIVE: Bad Energy

SEGMENT	IN/OUT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Shipped	37	37	38	40	41	42	43	0.5	0.7
	Received	151	151	152	153	155	157	158	0.1	0.2
Lower Upper Mississippi	Shipped	1,139	1,141	1,149	1,158	1,167	1,179	1,187	0.1	0.2
	Received	529	533	543	556	568	584	595	0.4	0.5
Lower Mississippi	Shipped	1,210	1,214	1,224	1,236	1,248	1,263	1,274	0.2	0.2
	Received	3,193	3,196	3,204	3,213	3,223	3,236	3,244	0.0	0.1
Baton Rouge to Gulf	Shipped	1,202	1,274	1,561	1,813	2,064	2,381	2,598	3.2	2.8
	Received	3,804	3,836	4,056	4,242	4,431	4,688	4,869	0.8	1.1
Illinois River	Shipped	22	24	29	36	42	50	56	3.7	3.4
	Received	55	60	73	89	105	124	138	3.7	3.4
Missouri River	Shipped	327	327	328	328	328	329	329	0.0	0.0
	Received	329	330	331	332	333	334	335	0.1	0.1
Ohio River	Shipped	1,880	1,894	1,932	1,978	2,023	2,081	2,121	0.4	0.5
	Received	506	519	554	595	637	689	726	1.3	1.5
Tennessee River	Shipped	1,572	1,576	1,587	1,599	1,611	1,627	1,638	0.1	0.2
	Received	82	88	103	122	141	165	181	3.1	3.1
Arkansas River	Shipped	634	635	636	639	641	644	646	0.1	0.1
	Received	692	693	697	702	706	711	715	0.1	0.1
Gulf Coast West	Shipped	10,391	10,670	11,629	12,833	14,038	15,635	16,777	1.6	2.1
	Received	11,821	12,058	12,948	14,084	15,227	16,765	17,872	1.4	1.8
Gulf Coast East	Shipped	5,648	5,526	5,353	5,204	5,075	4,982	4,945	-0.6	-0.4
	Received	2,608	2,561	2,506	2,466	2,434	2,424	2,430	-0.4	-0.1
Warrior River System	Shipped	1,195	1,162	1,111	1,064	1,020	980	958	-0.9	-0.8
	Received	1,426	1,387	1,325	1,268	1,214	1,165	1,137	-0.9	-0.8
South Atlantic Coast	Shipped	646	746	918	1,108	1,343	1,629	1,836	4.2	4.0
	Received	413	478	588	709	859	1,042	1,175	4.2	4.0
Middle Atlantic Coast	Shipped	2,830	3,204	3,845	4,555	5,435	6,517	7,299	3.7	3.7
	Received	2,461	2,777	3,319	3,920	4,666	5,584	6,247	3.6	3.7

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	284	328	403	487	590	716	806	4.2	4.0
	Received	339	392	482	582	704	855	963	4.2	4.0
Great Lakes and Seaway	Shipped	247	255	300	332	363	405	440	2.3	2.2
	Received	254	263	309	342	375	420	457	2.3	2.2
Washington/Oregon Coast	Shipped	763	880	1,083	1,307	1,581	1,918	2,161	4.2	3.9
	Received	249	286	351	424	512	621	699	4.2	3.9
Columbia-Snake Willamette River	Shipped	68	76	93	112	134	160	179	3.9	3.7
	Received	49	54	66	80	94	113	126	3.8	3.5
California Coast	Shipped	1,482	1,709	2,100	2,531	3,063	3,714	4,183	4.2	3.9
	Received	1,051	1,212	1,488	1,793	2,168	2,629	2,961	4.2	3.9
Alaska	Shipped	243	280	345	416	504	612	689	4.2	4.0
	Received	*735*	*849*	*1,044*	*1,260*	*1,527*	*1,853*	*2,088*	4.2	4.0
Hawaii and Pacific Territories	Shipped	1,025	1,184	1,457	1,758	2,130	2,585	2,913	4.2	4.0
	Received	1,595	1,844	2,268	2,737	3,316	4,024	4,534	4.2	4.0
Domestic Caribbean	Shipped	478	519	608	707	829	980	1,089	3.1	3.4
	Received	979	1,099	1,322	1,569	1,873	2,247	2,517	3.7	3.7
Total	Shipped	33,321	34,663	37,730	41,240	45,269	50,429	54,167	1.7	2.1
	Received	33,321	34,663	37,730	41,240	45,269	50,429	54,167	1.7	2.1

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Other Commodities
ALTERNATIVE: Bad Energy

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	490	572	799	1,034	1,305	1,695	2,002	5.9	5.2
	Imports	522	550	620	688	734	764	772	2.1	0.9
Illinois River	Exports	23	26	37	48	60	78	92	5.9	5.2
	Imports	57	60	67	74	79	83	85	2.0	1.1
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	788	919	1,283	1,661	2,096	2,723	3,215	5.9	5.2
	Imports	727	765	863	957	1,022	1,064	1,075	2.1	0.9
Gulf Coast East	Exports	24	28	39	51	64	84	99	5.9	5.2
	Imports	91	95	108	119	127	133	134	2.1	0.9
Warrior River System	Exports	45	52	73	94	119	155	183	5.9	5.2
	Imports	47	49	56	62	66	69	69	2.1	0.9
South Atlantic Coast	Exports	1,041	1,214	1,695	2,195	2,769	3,598	4,248	5.9	5.2
	Imports	1,167	1,228	1,382	1,530	1,628	1,684	1,694	2.1	0.8
Middle Atlantic Coast	Exports	3,270	3,816	5,328	6,896	8,701	11,305	13,349	5.9	5.2
	Imports	4,367	4,593	5,171	5,723	6,090	6,299	6,337	2.1	0.8

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	45	53	74	96	121	157	186	5.9	5.2
	Imports	485	510	574	635	676	699	703	2.1	0.8
Great Lakes and Seaway	Exports	123	144	201	260	328	427	504	5.9	5.2
	Imports	257	269	301	333	356	374	382	2.0	1.1
Washington/Oregon Coast	Exports	100	116	162	210	265	345	407	5.9	5.2
	Imports	1,496	1,740	2,336	3,119	4,069	5,276	6,167	5.8	5.4
Columbia-Snake Willamette River	Exports	25	30	41	54	68	88	104	5.9	5.2
	Imports	408	475	638	851	1,110	1,440	1,683	5.8	5.4
California Coast	Exports	607	708	989	1,280	1,615	2,098	2,477	5.9	5.2
	Imports	3,717	4,324	5,804	7,749	10,109	13,108	15,321	5.8	5.4
Alaska	Exports	20	24	33	43	54	70	83	5.9	5.2
	Imports	137	152	189	234	284	344	386	4.2	3.9
Hawaii and Pacific Territories	Exports	11	13	18	23	29	38	45	5.9	5.2
	Imports	69	76	95	118	143	172	194	4.2	3.9
Domestic Caribbean	Exports	67	79	110	142	179	233	275	5.9	5.2
	Imports	291	323	401	497	603	729	818	4.2	3.9
Total	Exports	6,679	7,794	10,883	14,087	17,773	23,092	27,267	5.9	5.2
	Imports	13,839	15,210	18,604	22,689	27,098	32,238	35,821	3.9	3.6

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: Other Commodities
ALTERNATIVE: Bad Energy

SEGMENT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	153	154	155	157	160	162	164	0.2	0.3
Lower Upper Mississippi	1,253	1,264	1,295	1,332	1,368	1,415	1,448	0.5	0.6
Lower Mississippi	4,885	4,909	4,974	4,643	4,699	4,771	4,820	-0.4	0.3
Baton Rouge to Gulf	4,139	4,189	4,463	4,527	4,759	5,070	5,289	0.7	1.2
Illinois River	83	90	110	134	157	187	207	3.7	3.4
Missouri River	330	331	332	333	335	336	338	0.1	0.1
Ohio River	3,505	3,529	3,594	3,301	3,358	3,430	3,480	-0.5	0.4
Tennessee River	1,632	1,641	1,665	1,719	1,750	1,790	1,817	0.4	0.4
Arkansas River	699	701	707	713	720	728	734	0.2	0.2
Gulf Coast West	12,230	12,474	13,383	14,545	15,716	17,294	18,430	1.3	1.8
Gulf Coast East	6,043	5,922	5,754	5,926	5,828	5,777	5,771	-0.2	-0.2
Warrior River System	1,597	1,555	1,491	1,822	1,788	1,766	1,759	1.0	-0.3
Great Lakes	276	287	338	378	417	470	512	2.5	2.4

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Other Commodities
ALTERNATIVE: Bad Energy

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	16	16	16	16	16	17	17	0.2	0.3
Lower Upper Mississippi	111	113	118	123	129	136	141	0.8	1.0
Lower Mississippi	1,948	1,961	2,001	1,772	1,800	1,836	1,861	-0.7	0.4
Baton Rouge to Gulf	464	466	512	465	483	507	522	0.0	0.9
Illinois River	12	13	15	19	22	26	29	3.7	3.4
Missouri River	40	40	41	41	41	42	42	0.1	0.2
Ohio River	276	283	303	304	326	355	374	0.7	1.6
Tennessee River	55	56	60	70	74	81	85	1.9	1.5
Arkansas River	48	48	49	49	50	50	51	0.2	0.2
Gulf Coast West	1,055	1,052	1,073	1,106	1,141	1,196	1,239	0.4	0.9
Gulf Coast East	269	264	257	294	292	293	295	0.7	0.0
Warrior River System	35	34	33	165	172	180	186	12.8	0.9
Great Lakes	71	74	88	98	108	122	133	2.5	2.4
Total	4,400	4,420	4,564	4,522	4,655	4,840	4,975	0.2	0.7

0 - less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Other Commodities
ALTERNATIVE: Defense

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Shipped	37	37	38	49	41	42	43	2.2	-0.9
	Received	151	151	152	194	155	157	158	2.0	-1.6
Lower Upper Mississippi	Shipped	1,139	1,141	1,149	1,467	1,168	1,179	1,187	2.0	-1.6
	Received	529	533	544	694	569	585	596	2.1	-1.2
Lower Mississippi	Shipped	1,210	1,214	1,224	1,563	1,249	1,264	1,275	2.0	-1.6
	Received	3,193	3,196	3,204	4,091	3,224	3,236	3,245	1.9	-1.8
Baton Rouge to Gulf	Shipped	1,202	1,274	1,566	1,988	2,076	2,395	2,614	3.9	2.1
	Received	3,804	3,836	4,061	5,173	4,444	4,702	4,884	2.4	-0.4
Illinois River	Shipped	22	24	30	38	42	50	56	4.2	3.1
	Received	55	60	74	94	105	125	139	4.2	3.1
Missouri River	Shipped	327	327	328	418	328	329	329	1.9	-1.8
	Received	329	330	331	422	333	334	335	1.9	-1.8
Ohio River	Shipped	1,880	1,894	1,933	2,469	2,026	2,083	2,124	2.1	-1.2
	Received	506	519	554	708	639	692	729	2.6	0.2
Tennessee River	Shipped	1,572	1,576	1,587	2,026	1,612	1,628	1,639	2.0	-1.6
	Received	82	88	104	133	142	166	182	3.8	2.5
Arkansas River	Shipped	634	635	636	813	641	644	646	1.9	-1.8
	Received	692	693	697	890	706	712	716	2.0	-1.7
Gulf Coast West	Shipped	10,391	10,670	11,657	14,885	14,113	15,723	16,874	2.8	1.0
	Received	11,821	12,058	12,976	16,569	15,302	16,852	17,969	2.6	0.6
Gulf Coast East	Shipped	5,648	5,526	5,355	6,837	5,081	4,990	4,954	1.5	2.4
	Received	2,608	2,561	2,507	3,202	2,438	2,429	2,435	1.6	-2.1
Warrior River System	Shipped	1,195	1,162	1,111	1,419	1,021	980	958	1.3	-3.0
	Received	1,426	1,387	1,325	1,692	1,214	1,165	1,138	1.3	-3.0
South Atlantic Coast	Shipped	646	746	921	1,176	1,357	1,649	1,861	4.7	3.6
	Received	413	478	589	753	868	1,055	1,191	4.7	3.6
Middle Atlantic Coast	Shipped	2,830	3,204	3,855	4,922	5,490	6,593	7,395	4.3	3.2
	Received	2,461	2,777	3,327	4,249	4,713	5,649	6,329	4.3	3.1

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77 90	90 03
North Atlantic Coast	Shipped	284	328	405	517	596	724	817	4 7	3 6
	Received	339	392	483	617	712	865	977	4 7	3 6
Great Lakes and Seaway	Shipped	247	255	302	386	367	411	447	3 5	1 1
	Received	254	263	311	397	380	426	464	3 5	1 2
Washington/Oregon Coast	Shipped	763	880	1,086	1,386	1,598	1,942	2,190	4 7	3 6
	Received	249	286	352	450	518	628	708	4 7	3 6
Columbia-Snake Willamette River	Shipped	68	76	93	119	135	162	181	4 4	3 3
	Received	49	54	66	84	95	114	127	4 3	3 2
California Coast	Shipped	1,482	1,709	2,106	2,689	3,095	3,759	4,241	4 7	3 6
	Received	1,051	1,212	1,492	1,906	2,192	2,661	3,001	4 7	3 6
Alaska	Shipped	243	280	346	442	509	619	699	4 7	3 6
	Received	735	849	1,047	1,337	1,540	1,875	2,116	4 7	3 6
Hawaii and Pacific Territories	Shipped	1,025	1,184	1,461	1,866	2,153	2,616	2,953	4 7	3 6
	Received	1,595	1,844	2,275	2,905	3,351	4,073	4,597	4 7	3 6
Domestic Caribbean	Shipped	476	519	610	778	837	990	1,101	3 8	2 7
	Received	979	1,099	1,326	1,693	1,892	2,273	2,549	4 3	3 2
Total	Shipped	33,321	34,663	37,799	48,253	45,534	50,775	54,584	2 9	1 0
	Received	33,321	34,663	37,799	48,253	45,534	50,775	54,584	2 9	1 0

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Other Commodities
ALTERNATIVE: Defense

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	490	572	815	813	1,346	1,738	2,040	4.0	7.3
	Imports	522	550	618	1,064	739	773	785	5.6	-2.3
Illinois River	Exports	23	26	38	38	62	80	94	4.0	7.3
	Imports	57	60	67	115	80	84	86	5.5	-2.2
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	788	919	1,310	1,306	2,161	2,792	3,277	4.0	7.3
	Imports	727	765	861	1,481	1,029	1,076	1,093	5.6	-2.3
Gulf Coast East	Exports	24	28	40	40	66	86	101	4.0	7.3
	Imports	91	95	107	185	128	134	135	5.6	-2.3
Warrior River System	Exports	45	52	75	74	123	159	186	4.0	7.3
	Imports	47	49	56	96	66	70	71	5.6	-2.3
South Atlantic Coast	Exports	1,041	1,214	1,730	1,725	2,856	3,689	4,329	4.0	7.3
	Imports	1,167	1,228	1,379	2,373	1,638	1,704	1,722	5.6	-2.4
Middle Atlantic Coast	Exports	3,270	3,816	5,438	5,422	8,973	11,592	13,604	4.0	7.3
	Imports	4,367	4,593	5,158	8,878	6,129	6,375	6,443	5.6	-2.4

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	45	53	76	75	125	161	189	4.0	7.3
	Imports	485	510	573	986	680	708	715	5.6	-2.4
Great Lakes and Seaway	Exports	123	144	205	205	339	438	514	4.0	7.3
	Imports	257	269	300	517	358	379	389	5.5	-2.2
Washington/Oregon Coast	Exports	100	116	166	165	273	353	415	4.0	7.3
	Imports	1,496	1,740	2,330	4,010	4,095	5,340	6,270	7.9	3.5
Columbia-Snake Willamette River	Exports	25	30	42	42	70	90	106	4.0	7.3
	Imports	408	475	636	1,095	1,118	1,457	1,711	7.9	3.5
California Coast	Exports	607	708	1,009	1,006	1,665	2,151	2,524	4.0	7.3
	Imports	3,717	4,324	5,789	9,964	10,174	13,266	15,578	7.9	3.5
Alaska	Exports	20	24	34	34	56	72	84	4.0	7.3
	Imports	137	152	189	325	286	348	392	6.8	1.5
Hawaii and Pacific Territories	Exports	11	13	18	18	30	39	45	4.0	7.3
	Imports	69	76	95	163	144	175	197	6.8	1.5
Domestic Caribbean	Exports	67	79	112	112	185	239	280	4.0	7.3
	Imports	291	323	400	689	607	738	832	6.8	1.5
Total	Exports	6,679	7,794	11,108	11,074	18,329	23,678	27,787	4.0	7.3
	Imports	13,839	15,210	18,558	31,940	27,271	32,627	36,420	6.6	1.0

s = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH
COMMODITY: Other Commodities
ALTERNATIVE: Defense

SEGMENT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77 90	% GROWTH 90 03
Upper Mississippi	153	154	155	198	160	163	165	2.0	-1.4
Lower Upper Mississippi	1,253	1,264	1,296	1,655	1,370	1,417	1,450	2.2	-1.0
Lower Mississippi	4,885	4,909	4,976	5,858	4,702	4,774	4,824	1.4	-1.5
Baton Rouge to Gulf	4,139	4,189	4,469	5,482	4,773	5,086	5,307	2.2	0.2
Illinois River	83	90	110	141	158	188	209	4.2	3.1
Missouri River	330	331	332	424	335	337	338	1.9	-1.7
Ohio River	3,505	3,529	3,595	4,144	3,361	3,433	3,484	1.3	-1.3
Tennessee River	1,632	1,641	1,666	2,156	1,752	1,791	1,819	2.2	1.3
Arkansas River	699	701	707	903	720	728	734	2.0	-1.6
Gulf Coast West	12,230	12,474	13,412	17,126	15,793	17,384	18,530	2.6	0.6
Gulf Coast East	6,043	5,922	5,756	7,723	5,836	5,787	5,783	1.9	2.2
Warrior River System	1,597	1,555	1,491	2,374	1,790	1,769	1,761	3.1	2.3
Great Lakes	276	287	340	435	422	476	519	3.6	1.4

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Other Commodities
ALTERNATIVE: Defense

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	16	16	16	20	16	17	17	2.0	-1.4
Lower Upper Mississippi	111	113	118	150	129	136	141	2.3	-0.5
Lower Mississippi	1,948	1,961	2,001	2,226	1,801	1,838	1,863	1.0	-1.4
Baton Rouge to Gulf	464	466	512	568	484	508	524	1.6	-0.6
Illinois River	12	13	15	20	22	26	29	4.2	3.1
Missouri River	40	40	41	52	41	42	42	2.0	-1.6
Ohio River	276	283	304	360	327	356	376	2.1	0.3
Tennessee River	55	56	60	83	75	81	85	3.2	0.2
Arkansas River	48	48	49	62	50	51	51	2.0	-1.5
Gulf Coast West	1,055	1,052	1,074	1,371	1,145	1,201	1,244	2.0	-0.7
Gulf Coast East	269	264	257	379	293	294	296	2.7	-1.9
Warrior River System	35	34	33	203	172	181	187	14.6	-0.6
Great Lakes	71	74	88	112	109	123	135	3.6	1.4
Total	4,400	4,420	4,568	5,608	4,665	4,852	4,989	1.9	-0.9

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Other Commodities
ALTERNATIVE: High Coal Export

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	37	37	38	40	41	42	43	0.5	0.7
	Received	151	151	152	153	155	157	158	0.1	0.2
Lower Upper Mississippi	Shipped	1,139	1,141	1,149	1,158	1,168	1,179	1,187	0.1	0.2
	Received	529	533	544	556	569	585	596	0.4	0.5
Lower Mississippi	Shipped	1,210	1,214	1,224	1,237	1,249	1,264	1,275	0.2	0.2
	Received	3,193	3,196	3,204	3,214	3,224	3,236	3,245	0.0	0.1
Baton Rouge to Gulf	Shipped	1,202	1,274	1,566	1,822	2,076	2,395	2,614	3.3	2.8
	Received	3,804	3,836	4,061	4,252	4,444	4,702	4,884	0.9	1.1
Illinois River	Shipped	22	24	30	36	42	50	56	3.8	3.4
	Received	55	60	74	90	105	125	139	3.8	3.4
Missouri River	Shipped	327	327	328	328	328	329	329	0.0	0.0
	Received	329	330	331	332	333	334	335	0.1	0.1
Ohio River	Shipped	1,880	1,894	1,933	1,980	2,026	2,083	2,124	0.4	0.5
	Received	506	519	554	597	639	692	729	1.3	1.5
Tennessee River	Shipped	1,572	1,576	1,587	1,599	1,612	1,628	1,639	0.1	0.2
	Received	82	88	104	123	142	166	182	3.2	3.1
Arkansas River	Shipped	634	635	636	639	641	644	646	0.1	0.1
	Received	692	693	697	702	706	712	716	0.1	0.2
Gulf Coast West	Shipped	10,391	10,670	11,657	12,889	14,113	15,723	16,874	1.7	2.1
	Received	11,821	12,058	12,976	14,141	15,302	16,852	17,969	1.4	1.9
Gulf Coast East	Shipped	5,648	5,526	5,355	5,208	5,081	4,990	4,954	-0.6	0.4
	Received	2,608	2,561	2,507	2,469	2,438	2,429	2,435	-0.4	-0.1
Warrior River System	Shipped	1,195	1,162	1,111	1,065	1,021	980	958	-0.9	-0.8
	Received	1,426	1,387	1,325	1,268	1,214	1,165	1,138	-0.9	0.8
South Atlantic Coast	Shipped	646	746	921	1,118	1,357	1,649	1,861	4.3	4.0
	Received	413	478	589	715	868	1,055	1,191	4.3	4.0
Middle Atlantic Coast	Shipped	2,830	3,204	3,855	4,591	5,490	6,593	7,395	3.8	3.7
	Received	2,461	2,777	3,327	3,951	4,713	5,649	6,329	3.7	3.7

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	284	328	405	491	596	724	817	4.3	4.0
	Received	339	392	483	587	712	865	977	4.3	4.0
Great Lakes and Seaway	Shipped	247	255	302	335	367	411	447	2.4	2.2
	Received	254	263	311	346	380	426	464	2.4	2.3
Washington/Oregon Coast	Shipped	763	880	1,086	1,318	1,598	1,942	2,190	4.3	4.0
	Received	249	286	352	428	518	628	708	4.3	4.0
Columbia-Snake Willamette River	Shipped	68	76	93	113	135	162	181	4.0	3.7
	Received	49	54	66	80	95	114	127	3.9	3.6
California Coast	Shipped	1,482	1,709	2,106	2,553	3,095	3,759	4,241	4.3	4.0
	Received	1,051	1,212	1,492	1,808	2,192	2,661	3,001	4.3	4.0
Alaska	Shipped	243	280	346	420	509	619	699	4.3	4.0
	Received	735	849	1,047	1,271	1,543	1,875	2,115	4.3	4.0
Hawaii and Pacific Territories	Shipped	1,025	1,184	1,461	1,774	2,153	2,616	2,953	4.3	4.0
	Received	1,595	1,844	2,275	2,761	3,351	4,073	4,597	4.3	4.0
Domestic Caribbean	Shipped	476	519	610	712	837	990	1,101	3.1	3.4
	Received	979	1,099	1,326	1,582	1,892	2,273	2,549	3.8	3.7
Total	Shipped	33,321	34,663	37,799	41,425	45,534	50,775	54,584	1.7	2.1
	Received	33,321	34,663	37,799	41,425	45,534	50,775	54,584	1.7	2.1

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Other Commodities
ALTERNATIVE: High Coal Export

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	490	572	815	1,065	1,346	1,738	2,040	6.2	5.1
	Imports	522	550	618	689	739	773	785	2.2	1.0
Illinois River	Exports	23	26	38	49	62	80	94	6.2	5.1
	Imports	57	60	67	74	80	84	86	2.0	1.2
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	788	919	1,310	1,711	2,161	2,792	3,277	6.2	5.1
	Imports	727	765	861	959	1,029	1,076	1,093	2.2	1.0
Gulf Coast East	Exports	24	28	40	53	66	86	101	6.2	5.1
	Imports	91	95	107	120	128	134	136	2.2	1.0
Warrior River System	Exports	45	52	75	97	123	159	186	6.2	5.1
	Imports	47	49	56	62	68	70	71	2.2	1.0
South Atlantic Coast	Exports	1,041	1,214	1,730	2,261	2,856	3,689	4,329	6.2	5.1
	Imports	1,167	1,228	1,379	1,533	1,638	1,704	1,722	2.1	0.9
Middle Atlantic Coast	Exports	3,270	3,816	5,438	7,105	8,973	11,592	13,604	6.2	5.1
	Imports	4,367	4,593	5,158	5,735	6,129	6,375	6,443	2.1	0.9

7/20/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	45	53	76	99	125	161	189	6.2	5.1
	Imports	485	510	573	637	680	708	715	2.1	0.9
Great Lakes and Seaway	Exports	123	144	205	268	339	438	514	6.2	5.1
	Imports	257	269	300	333	358	379	389	2.0	1.2
Washington/Oregon Coast	Exports	100	116	166	217	273	353	415	6.2	5.1
	Imports	1,496	1,740	2,330	3,126	4,095	5,340	6,270	5.8	5.5
Columbia-Snake Willamette River	Exports	25	30	42	55	70	90	106	6.2	5.1
	Imports	408	475	636	853	1,118	1,457	1,711	5.8	5.5
California Coast	Exports	607	708	1,009	1,318	1,665	2,151	2,524	6.2	5.1
	Imports	3,717	4,324	5,789	7,766	10,174	13,266	15,578	5.8	5.5
Alaska	Exports	20	24	34	44	56	72	84	6.2	5.1
	Imports	137	152	189	235	286	348	392	4.2	4.0
Hawaii and Pacific Territories	Exports	11	13	18	24	30	39	45	6.2	5.1
	Imports	69	76	95	118	144	175	197	4.2	4.0
Domestic Caribbean	Exports	67	79	112	146	185	239	280	6.2	5.1
	Imports	291	323	400	498	607	738	832	4.2	4.0
Total	Exports	6,679	7,794	11,108	14,513	18,329	23,678	27,787	6.2	5.1
	Imports	13,839	15,210	18,558	22,737	27,271	32,627	36,420	3.9	3.7

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: Other Commodities
ALTERNATIVE: High Coal Export

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	153	154	155	157	160	163	165	0.2	0.3
Lower Upper Mississippi	1,253	1,264	1,296	1,333	1,370	1,417	1,450	0.5	0.6
Lower Mississippi	4,885	4,909	4,976	4,646	4,702	4,774	4,824	-0.4	0.3
Baton Rouge to Gulf	4,139	4,189	4,469	4,538	4,773	5,086	5,307	0.7	1.2
Illinois River	83	90	110	134	158	188	209	3.8	3.4
Missouri River	330	331	332	333	335	337	338	0.1	0.1
Ohio River	3,505	3,529	3,595	3,303	3,361	3,433	3,484	-0.5	0.4
Tennessee River	1,632	1,641	1,666	1,720	1,752	1,791	1,819	0.4	0.4
Arkansas River	699	701	707	714	720	728	734	0.2	0.2
Gulf Coast West	12,230	12,474	13,412	14,603	15,793	17,384	18,530	1.4	1.8
Gulf Coast East	6,043	5,922	5,756	5,932	5,836	5,787	5,783	-0.1	-0.2
Warrior River System	1,597	1,555	1,491	1,823	1,790	1,769	1,761	1.0	-0.3
Great Lakes	276	287	340	382	422	476	519	2.5	2.4

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Other Commodities
ALTERNATIVE: High Coal Export

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90 03
Upper Mississippi	16	16	16	16	16	17	17	0.2	0.3
Lower Upper Mississippi	111	113	118	123	129	136	141	0.8	1.0
Lower Mississippi	1,948	1,961	2,001	1,773	1,801	1,838	1,863	-0.7	0.4
Baton Rouge to Gulf	464	466	512	466	484	508	524	0.0	0.9
Illinois River	12	13	15	19	22	26	29	3.8	3.4
Missouri River	40	40	41	41	41	42	42	0.1	0.2
Ohio River	276	283	304	305	327	356	376	0.8	1.6
Tennessee River	55	56	60	70	75	81	85	1.9	1.5
Arkansas River	48	48	49	49	50	51	51	0.2	0.2
Gulf Coast West	1,055	1,052	1,074	1,109	1,145	1,201	1,244	0.4	0.9
Gulf Coast East	269	264	257	294	293	294	296	0.7	0.0
Warrior River System	35	34	33	166	172	181	187	12.8	0.9
Great Lakes	71	74	88	99	109	123	135	2.5	2.4
Total	4,400	4,420	4,568	4,529	4,665	4,852	4,989	0.2	0.7

a = less than 500,000 ton-miles

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: Other Commodities
ALTERNATIVE: Misc. Sensitivity

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	37	37	38	40	41	42	43	0.5	0.7
	Received	151	151	152	153	155	157	158	0.1	0.2
Lower Upper Mississippi	Shipped	1,139	1,141	1,152	1,163	1,175	1,190	1,201	0.2	0.2
	Received	529	533	544	557	569	585	596	0.4	0.5
Lower Mississippi	Shipped	1,210	1,214	1,226	1,241	1,255	1,273	1,287	0.2	0.3
	Received	3,417	3,420	3,428	3,438	3,448	3,461	3,470	0.0	0.1
Baton Rouge to Gulf	Shipped	4,403	4,475	4,770	5,029	5,288	5,616	5,843	1.0	1.2
	Received	7,062	7,094	7,320	7,512	7,705	7,965	8,148	0.5	0.6
Illinois River	Shipped	22	24	30	36	43	51	57	3.8	3.4
	Received	56	60	74	90	106	126	140	3.8	3.4
Missouri River	Shipped	327	327	328	328	329	329	330	0.0	0.0
	Received	329	330	331	332	333	334	335	0.1	0.1
Ohio River	Shipped	2,071	2,087	2,133	2,187	2,241	2,309	2,358	0.4	0.6
	Received	558	572	612	660	708	768	810	1.3	1.6
Tennessee River	Shipped	1,727	1,731	1,742	1,755	1,769	1,785	1,797	0.1	0.2
	Received	88	94	112	134	155	183	203	3.3	3.3
Arkansas River	Shipped	634	626	719	793	884	1,012	1,125	1.7	2.7
	Received	694	685	789	872	974	1,120	1,248	1.8	2.8
Gulf Coast West	Shipped	10,396	10,676	11,664	12,898	14,123	15,735	16,887	1.7	2.1
	Received	11,826	12,064	12,983	14,149	15,311	16,863	17,981	1.4	1.9
Gulf Coast East	Shipped	8,848	8,727	8,555	8,409	8,281	8,190	8,154	-0.4	0.2
	Received	5,813	5,767	5,713	5,674	5,644	5,635	5,641	-0.2	0.0
Warrior River System	Shipped	1,195	1,162	1,111	1,065	1,021	981	958	-0.9	-0.8
	Received	1,427	1,387	1,326	1,269	1,215	1,166	1,138	-0.9	-0.8
South Atlantic Coast	Shipped	646	746	921	1,118	1,357	1,649	1,861	4.3	4.0
	Received	413	478	589	715	868	1,055	1,191	4.3	4.0
Middle Atlantic Coast	Shipped	2,830	3,204	3,855	4,591	5,490	6,593	7,395	3.8	3.7
	Received	2,461	2,777	3,327	3,951	4,713	5,649	6,330	3.7	3.7

7/20/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	284	328	405	491	596	724	817	4.3	4.0
	Received	339	392	483	587	712	865	977	4.3	4.0
Great Lakes and Seaway	Shipped	248	256	303	336	368	412	448	2.4	2.2
	Received	254	263	311	346	380	426	464	2.4	2.3
Washington/Oregon Coast	Shipped	763	880	1,086	1,318	1,598	1,942	2,190	4.3	4.0
	Received	249	286	352	428	518	628	708	4.3	4.0
Columbia-Snake Willamette River	Shipped	68	76	93	113	135	162	181	4.0	3.7
	Received	49	54	66	80	95	114	127	3.9	3.6
California Coast	Shipped	1,482	1,709	2,106	2,553	3,095	3,759	4,241	4.3	4.0
	Received	1,051	1,212	1,492	1,808	2,192	2,661	3,001	4.3	4.0
Alaska	Shipped	243	280	346	420	509	619	699	4.3	4.0
	Received	735	849	1,047	1,271	1,543	1,875	2,116	4.3	4.0
Hawaii and Pacific Territories	Shipped	1,025	1,184	1,461	1,774	2,153	2,616	2,953	4.3	4.0
	Received	1,595	1,844	2,275	2,761	3,351	4,073	4,597	4.3	4.0
Domestic Caribbean	Shipped	476	519	610	712	837	990	1,101	3.1	3.4
	Received	979	1,099	1,326	1,582	1,892	2,273	2,549	3.8	3.7
Total	Shipped	40,074	41,409	44,653	48,369	52,586	57,982	61,927	1.5	1.9
	Received	40,074	41,409	44,653	48,369	52,586	57,982	61,927	1.5	1.9

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: Other Commodities
ALTERNATIVE: Misc. Sensitivity

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	490	572	815	1,065	1,346	1,738	2,040	6.2	5.1
	Imports	522	550	618	689	739	773	785	2.2	1.0
Illinois River	Exports	23	26	38	49	62	80	94	6.2	5.1
	Imports	57	60	67	74	80	84	86	2.0	1.2
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	788	919	1,310	1,711	2,161	2,792	3,277	6.2	5.1
	Imports	727	765	861	959	1,029	1,076	1,093	2.2	1.0
Gulf Coast East	Exports	24	28	40	53	66	86	101	6.2	5.1
	Imports	91	95	107	120	128	134	136	2.2	1.0
Warrior River System	Exports	45	52	75	97	123	159	186	6.2	5.1
	Imports	47	49	56	62	66	70	71	2.2	1.0
South Atlantic Coast	Exports	1,041	1,214	1,730	2,261	2,856	3,689	4,329	6.2	5.1
	Imports	1,167	1,228	1,379	1,533	1,638	1,704	1,722	2.1	0.9
Middle Atlantic Coast	Exports	3,270	3,816	5,438	7,105	8,973	11,592	13,604	6.2	5.1
	Imports	4,367	4,593	5,158	5,735	6,129	6,375	6,443	2.1	0.9

7/20/81

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
North Atlantic Coast	Exports	45	53	76	99	125	161	189	6.2	5.1
	Imports	485	510	573	637	680	708	715	2.1	0.9
Great Lakes and Seaway	Exports	123	144	205	268	339	438	514	6.2	5.1
	Imports	257	269	300	333	358	379	389	2.0	1.2
Washington/Oregon Coast	Exports	100	116	166	217	273	353	415	6.2	5.1
	Imports	1,496	1,740	2,330	3,126	4,095	5,340	6,270	5.8	5.5
Columbia-Snake Willamette River	Exports	25	30	42	55	70	90	106	6.2	5.1
	Imports	408	475	636	853	1,118	1,457	1,711	5.8	5.5
California Coast	Exports	607	708	1,009	1,318	1,665	2,151	2,524	6.2	5.1
	Imports	3,717	4,324	5,789	7,766	10,174	13,266	15,578	5.8	5.5
Alaska	Exports	20	24	34	44	56	72	84	6.2	5.1
	Imports	137	152	189	235	286	348	392	4.2	4.0
Hawaii and Pacific Territories	Exports	11	13	18	24	30	39	45	6.2	5.1
	Imports	69	76	95	118	144	175	197	4.2	4.0
Domestic Caribbean	Exports	67	79	112	146	185	239	280	6.2	5.1
	Imports	291	323	400	498	607	738	832	4.2	4.0
Total	Exports	6,679	7,794	11,108	14,513	18,329	23,678	27,787	6.2	5.1
	Imports	13,839	15,210	18,558	22,737	27,271	32,627	36,420	3.9	3.7

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: Other Commodities
ALTERNATIVE: Misc. Sensitivity

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	153	154	156	158	160	163	165	0.2	0.3
Lower Upper Mississippi	1,255	1,265	1,300	1,340	1,380	1,431	1,468	0.5	0.7
Lower Mississippi	5,187	5,210	5,293	4,938	5,011	5,108	5,182	-0.4	0.4
Baton Rouge to Gulf	10,514	10,665	10,951	11,010	11,253	11,578	11,809	0.3	0.5
Illinois River	84	91	112	136	160	190	211	3.8	3.4
Missouri River	330	331	332	334	335	337	338	0.1	0.1
Ohio River	3,858	3,884	3,961	3,643	3,711	3,799	3,862	-0.4	0.5
Tennessee River	1,792	1,801	1,829	1,888	1,923	1,968	2,000	0.4	0.4
Arkansas River	702	694	801	888	995	1,147	1,282	1.8	2.9
Gulf Coast West	12,241	12,485	13,425	14,619	15,812	17,406	18,556	1.4	1.9
Gulf Coast East	12,449	12,328	12,162	12,371	12,277	12,231	12,228	0.0	-0.1
Warrior River System	1,598	1,556	1,492	1,863	1,832	1,813	1,808	1.2	-0.2
Great Lakes	276	287	341	383	423	478	521	2.5	2.4

a = less than 500 tons

7/20/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: Other Commodities
ALTERNATIVE: Misc. Sensitivity

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90 03
Upper Mississippi	16	16	16	16	16	17	17	0.2	0.4
Lower Upper Mississippi	112	113	118	124	130	138	143	0.8	1.1
Lower Mississippi	2,076	2,084	2,179	1,968	2,049	2,160	2,251	-0.4	1.0
Baton Rouge to Gulf	838	840	888	836	855	882	900	0.0	0.6
Illinois River	12	13	10	19	22	27	30	3.8	3.4
Missouri River	40	40	41	41	41	42	42	0.1	0.2
Ohio River	306	314	338	340	367	401	426	0.8	1.7
Tennessee River	60	61	66	76	82	89	95	1.9	1.7
Arkansas River	48	48	55	61	69	80	89	1.8	2.9
Gulf Coast West	1,057	1,055	1,077	1,113	1,150	1,207	1,251	0.4	0.9
Gulf Coast East	529	524	518	559	558	560	562	0.4	0.0
Warrior River System	35	34	33	179	186	195	202	13.4	1.0
Great Lakes	72	74	88	99	110	124	135	2.5	2.4
Total	5,200	5,217	5,432	5,433	5,636	5,921	6,142	0.3	0.9

s = less than 500,000 ton-miles

11/22/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: All Commodities
ALTERNATIVE: Baseline

SEGMENT	IN/OUT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Shipped	20,619	28,116	33,073	36,271	43,190	48,507	50,919	4.4	2.6
	Received	16,474	18,886	20,717	23,885	26,593	28,629	29,002	2.9	1.5
Lower Upper Mississippi	Shipped	23,149	24,921	28,091	33,678	39,146	44,211	46,619	2.9	2.5
	Received	9,042	9,231	10,947	16,635	21,470	26,154	27,802	4.8	4.0
Lower Mississippi	Shipped	11,136	12,742	13,876	15,270	16,965	18,705	19,647	2.5	2.0
	Received	24,819	24,530	24,788	25,692	27,274	28,469	29,743	0.3	1.0
Baton Rouge to Gulf	Shipped	84,271	85,886	84,480	88,902	91,181	94,153	96,532	0.4	0.6
	Received	99,444	121,533	130,655	144,138	167,346	190,679	199,307	2.9	2.5
Illinois River	Shipped	32,515	35,022	38,118	39,987	46,178	50,875	52,718	1.6	2.1
	Received	71,245	74,932	78,025	41,070	44,794	48,449	50,380	2.1	1.6
Missouri River	Shipped	5,612	6,073	6,127	5,943	5,979	6,210	6,269	0.4	0.4
	Received	4,635	4,621	4,504	4,189	4,066	4,041	3,854	0.8	0.6
Ohio River	Shipped	140,247	146,304	176,175	197,949	228,861	255,874	269,332	2.7	2.4
	Received	134,112	139,060	163,777	172,202	188,202	203,201	211,477	1.9	1.6
Tennessee River	Shipped	10,493	10,649	11,051	12,255	16,489	19,619	21,393	1.2	4.4
	Received	17,457	17,552	17,568	19,146	21,977	25,086	27,030	0.7	2.7
Arkansas River	Shipped	6,636	6,853	6,961	8,171	9,473	10,540	10,857	1.6	2.2
	Received	5,816	6,847	6,697	6,345	6,303	6,335	6,182	0.5	0.2
Gulf Coast West	Shipped	148,122	148,882	136,402	140,838	145,079	148,589	153,415	0.4	0.7
	Received	75,159	87,474	82,482	87,240	90,884	96,520	101,772	1.2	1.2
Gulf Coast East	Shipped	32,236	32,481	35,538	39,802	46,482	51,478	52,728	1.6	2.2
	Received	38,641	37,983	43,449	50,895	58,936	64,838	67,861	2.1	2.2
Waterway River System	Shipped	23,871	24,526	27,356	32,656	35,538	39,952	42,965	2.4	2.1
	Received	20,413	21,210	23,204	27,403	32,377	37,224	41,526	2.3	3.2
South Atlantic Coast	Shipped	12,464	11,950	11,152	11,005	10,723	10,863	11,365	1.0	0.2
	Received	37,490	37,040	33,813	32,824	32,062	31,325	31,777	1.0	0.2
Middle Atlantic Coast	Shipped	159,990	163,283	158,061	158,469	160,740	159,188	161,455	0.1	0.1
	Received	181,200	183,292	165,901	164,924	166,721	163,439	165,854	0.7	0.0

11/22/81

SEGMENT	IN/OUT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
North Atlantic Coast	Shipped	9,914	10,424	9,697	9,041	8,510	7,708	7,494	0.7	1.4
	Received	50,273	51,511	44,827	44,065	42,534	39,555	38,860	1.0	1.0
Great Lakes and Seaway	Shipped	109,590	147,920	162,593	178,712	199,813	222,340	236,820	3.8	2.2
	Received	107,660	143,939	158,106	173,434	193,980	215,608	229,289	3.7	2.2
Washington/Oregon Coast	Shipped	22,600	24,454	23,951	24,778	24,860	25,225	25,495	0.7	0.2
	Received	24,992	39,119	56,292	58,212	59,986	57,225	56,034	6.7	0.3
Columbia Snake Willamette River	Shipped	22,406	27,002	26,438	26,751	26,543	26,950	27,862	1.4	0.3
	Received	25,848	31,502	30,793	31,040	30,707	30,856	31,706	1.4	0.2
California Coast	Shipped	43,257	38,267	38,915	40,271	39,555	37,763	37,874	0.5	0.5
	Received	50,472	81,255	79,778	77,488	74,654	69,501	67,492	3.4	1.1
Alaska	Shipped	19,485	89,101	92,493	87,287	84,025	79,212	77,839	12.2	0.9
	Received	6,077	7,117	7,423	7,994	8,402	8,901	9,299	2.1	1.2
Hawaii and Pacific Territories	Shipped	5,412	5,897	6,585	7,301	8,105	9,097	9,794	2.3	2.3
	Received	6,230	7,641	8,396	9,188	10,148	11,321	12,177	3.0	2.2
Domestic Caribbean	Shipped	32,405	33,726	31,700	31,176	30,983	28,220	28,647	0.3	0.6
	Received	7,931	8,200	8,294	8,504	9,003	9,459	10,014	0.5	1.3
Total	Shipped	976,428	1,114,478	1,160,438	1,226,513	1,318,421	1,397,278	1,448,038	1.8	1.3
	Received	976,428	1,114,478	1,160,438	1,226,513	1,318,421	1,397,278	1,448,038	1.8	1.3

A - less than 500 tons

11/22/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY All Commodities
ALTERNATIVE Baseline

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	59,866	73,608	87,003	90,820	108,124	123,368	131,374	3.3	2.9
	Imports	97,188	108,810	110,798	98,745	102,804	97,260	100,238	0.1	0.1
Illinois River	Exports	2,571	3,979	4,668	4,760	5,864	6,798	7,198	4.9	3.2
	Imports	3,573	2,672	3,266	3,601	3,924	4,283	4,516	0.1	1.8
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	35,406	44,204	48,463	51,881	57,180	63,387	69,783	3.0	2.3
	Imports	137,804	153,612	153,701	133,779	137,693	126,554	129,297	0.2	0.1
Gulf Coast East	Exports	21,553	23,835	28,429	23,765	20,738	17,756	15,939	0.8	3.0
	Imports	17,689	20,063	20,444	19,070	19,520	18,898	19,424	0.6	0.1
Warrior River System	Exports	5,521	7,776	10,142	11,638	13,678	15,670	16,732	5.9	2.8
	Imports	8,167	8,962	9,784	12,667	15,177	17,702	19,589	3.4	3.4
South Atlantic Coast	Exports	8,618	10,234	12,422	13,058	14,093	15,339	16,207	3.2	1.7
	Imports	20,701	19,052	18,447	18,291	17,615	17,315	17,644	0.9	0.3
Middle Atlantic Coast	Exports	56,757	61,590	73,931	78,303	88,244	98,285	104,250	2.5	2.2
	Imports	168,692	161,521	153,323	144,101	142,964	133,629	135,424	1.2	0.5

11/22/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	1,307	1,625	2,032	2,113	2,201	2,305	2,376	3.8	0.9
	Imports	33,997	27,411	30,228	30,452	29,422	26,084	26,583	0.8	-1.0
Great Lakes and Seaway	Exports	33,765	46,044	54,368	58,588	65,314	72,265	77,087	4.3	2.1
	Imports	29,255	29,035	32,430	35,225	38,495	42,356	45,123	1.4	1.9
Washington/Oregon Coast	Exports	18,060	20,723	22,268	20,114	21,413	23,041	23,881	0.8	1.3
	Imports	20,019	12,569	31,065	31,880	35,208	33,690	34,472	3.6	0.6
Columbia Snake Willamette River	Exports	12,821	15,832	16,814	16,081	16,027	16,602	18,614	1.8	1.1
	Imports	4,045	3,743	4,395	4,944	5,820	6,784	7,457	1.6	3.2
California Coast	Exports	15,982	16,267	18,555	19,835	22,119	24,688	26,438	1.7	2.2
	Imports	60,029	28,431	27,902	28,948	31,630	34,321	37,106	5.5	1.9
Alaska	Exports	5,024	2,329	2,309	2,271	2,318	2,387	2,450	5.9	0.6
	Imports	1,619	1,391	1,313	1,290	1,309	1,307	1,352	-1.7	0.4
Hawaii and Pacific Territories	Exports	147	124	152	170	187	211	228	1.1	2.3
	Imports	5,926	4,844	4,719	4,611	4,632	4,527	4,553	1.9	0.1
Domestic Caribbean	Exports	1,463	2,069	1,819	1,839	1,949	2,085	2,183	1.8	1.3
	Imports	51,645	51,931	47,462	45,594	42,985	36,687	36,129	1.0	-1.8
Total	Exports	278,861	332,239	383,377	395,235	439,454	484,149	514,742	2.7	2.1
	Imports	659,651	632,057	649,327	613,489	629,399	601,396	618,903	0.6	0.1

* - less than 500 tons

11/22/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY All Commodities
ALTERNATIVE Baseline

SEGMENT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	30,874	39,495	44,675	48,924	56,881	63,453	65,980	3.6	2.3
Lower Upper Mississippi	77,493	90,012	101,862	113,324	134,164	153,511	161,975	3.0	2.8
Lower Mississippi	123,598	138,223	155,519	157,500	185,170	210,325	222,277	1.9	2.7
Baton Rouge to Gulf	187,253	210,646	224,257	232,997	261,273	291,088	303,242	1.7	2.0
Illinois River	54,342	60,927	67,239	70,301	79,660	87,856	91,768	2.0	2.1
Missouri River	6,735	7,255	7,399	7,316	7,425	7,733	7,817	0.6	0.5
Ohio River	172,509	179,451	212,225	229,135	262,578	292,505	307,482	2.2	2.3
Tennessee River	26,462	26,899	27,305	40,884	52,122	61,473	66,922	3.4	3.9
Arkansas River	9,396	9,670	9,968	11,342	12,808	14,048	14,437	1.5	1.9
Gulf Coast West	168,762	180,838	162,063	167,831	172,774	179,307	186,578	0.0	0.8
Gulf Coast East	69,429	69,166	76,784	91,910	103,377	114,816	116,691	2.2	1.9
Warrior River System	30,006	30,719	33,538	56,166	66,749	76,501	82,651	4.9	3.0
Great Lakes	126,882	169,175	184,320	200,893	223,663	247,829	263,507	3.6	2.1

a - less than 500 tons

11/22/81

WATERBORNE PROJECTED USE
MILLIONS OF TON MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: All Commodities
ALTERNATIVE: Baseline

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	10,330	13,542	14,998	16,099	18,847	21,279	22,215	3.5	2.5
Lower Upper Mississippi	13,889	16,466	18,619	20,111	23,720	27,085	28,588	2.9	2.7
Lower Mississippi	70,398	79,802	90,534	90,123	106,633	121,759	128,763	1.9	2.8
Baton Rouge to Gulf	24,105	26,547	29,168	29,123	32,790	36,396	38,065	1.5	2.1
Illinois River	8,210	9,018	10,117	10,622	12,193	13,567	14,193	2.0	2.3
Missouri River	1,926	2,208	2,369	2,499	2,628	2,832	2,963	2.0	1.3
Ohio River	41,493	43,679	52,855	61,753	73,055	83,142	88,260	3.1	2.8
Tennessee River	4,414	4,572	4,695	7,492	9,523	11,198	12,181	4.2	3.8
Arkansas River	1,399	1,493	1,649	2,266	2,814	3,257	3,445	3.8	3.3
Gulf Coast West	22,012	22,735	22,427	23,841	25,101	26,297	27,413	0.6	1.1
Gulf Coast East	3,479	3,423	3,752	5,020	5,762	6,319	6,638	2.9	2.2
Warrior River System	4,782	4,893	5,606	13,093	16,270	19,222	21,104	8.1	3.7
Great Lakes	59,337	82,904	90,921	99,647	111,754	124,861	133,424	4.1	2.3
Total	265,774	311,281	347,711	381,689	441,089	497,213	527,253	2.8	2.5

0 = less than 500,000 ton miles

11/22/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: All Commodities
ALTERNATIVE: Low Use

SEGMENT	IN/OUT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Shipped	20,619	28,258	32,850	34,588	39,426	42,346	44,001	4.1	1.9
	Received	16,474	18,790	20,277	23,809	25,945	27,626	27,696	2.9	1.2
Lower Upper Mississippi	Shipped	23,149	24,981	27,782	33,270	37,702	41,165	43,196	2.8	2.0
	Received	9,042	9,180	10,777	16,593	20,969	25,403	26,912	4.8	3.8
Lower Mississippi	Shipped	11,136	12,818	13,893	15,070	16,657	17,665	18,511	2.4	1.6
	Received	24,819	24,470	24,229	25,027	25,897	26,715	27,273	0.1	0.7
Baton Rouge to Gulf	Shipped	84,271	85,623	83,073	87,239	88,613	91,253	93,389	0.3	0.5
	Received	99,444	127,726	137,398	145,092	162,779	179,830	187,942	2.9	2.0
Illinois River	Shipped	32,515	35,144	38,989	39,022	43,597	46,771	48,125	1.4	1.6
	Received	31,245	34,794	37,433	40,209	42,896	45,840	47,327	2.0	1.3
Missouri River	Shipped	5,612	6,100	6,090	5,783	5,811	5,833	5,880	0.2	0.1
	Received	4,635	4,624	4,455	4,096	4,005	4,033	3,866	0.9	-0.4
Ohio River	Shipped	140,247	144,326	172,077	191,166	213,030	233,364	243,403	2.4	1.9
	Received	134,112	136,852	159,668	169,272	181,594	194,082	200,386	1.8	1.3
Tennessee River	Shipped	10,493	10,673	11,075	12,694	17,727	20,565	22,319	1.5	4.4
	Received	17,457	17,550	17,748	20,354	22,839	25,590	27,198	1.2	2.3
Arkansas River	Shipped	6,676	6,849	6,735	6,698	6,999	7,214	7,277	0.1	0.6
	Received	6,816	6,836	6,598	6,213	6,185	6,270	6,136	0.7	-0.1
Gulf Coast West	Shipped	148,122	148,486	134,249	136,862	138,815	140,873	144,872	0.6	0.4
	Received	75,159	94,953	90,931	94,341	98,709	105,736	112,572	1.8	1.4
Gulf Coast East	Shipped	32,236	32,314	34,699	38,695	43,832	50,933	49,454	1.4	1.9
	Received	38,641	37,892	41,584	48,325	53,719	58,308	60,251	1.7	1.7
Warrior River System	Shipped	23,871	24,885	27,406	33,447	33,558	37,239	39,902	2.6	1.4
	Received	20,413	21,573	23,516	28,699	32,644	37,675	41,511	2.7	2.9
South Atlantic Coast	Shipped	12,464	11,851	10,884	10,400	9,885	9,871	10,267	1.4	0.1
	Received	37,490	36,673	32,995	31,205	29,693	28,578	28,813	1.4	0.6
Middle Atlantic Coast	Shipped	159,990	162,268	154,762	148,810	144,812	142,378	143,883	0.6	0.3
	Received	181,200	182,828	163,001	155,644	151,288	147,298	148,978	1.2	-0.3

11/22/81

SEGMENT	IN/OUT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
North Atlantic	Shipped	9,914	10,346	9,444	8,406	7,737	6,943	6,712	1.2	1.8
Coast	Received	50,273	50,969	43,525	41,731	39,090	35,721	34,836	1.4	1.4
Great Lakes and	Shipped	109,590	147,110	161,985	164,995	177,838	194,712	205,977	3.2	1.7
Seaway	Received	107,660	143,125	157,532	160,492	173,149	189,735	200,608	3.1	1.7
Washington/Oregon	Shipped	22,600	24,356	23,767	24,310	24,153	24,494	24,740	0.6	0.1
Coast	Received	24,992	35,878	52,044	53,008	53,118	48,926	46,679	6.0	-1.0
Columbia Snake	Shipped	22,406	27,055	26,402	26,566	26,349	26,833	27,781	1.3	0.3
Willamette River	Received	25,848	31,280	30,356	30,386	29,891	29,956	30,738	1.3	0.1
California Coast	Shipped	43,257	38,160	38,084	38,776	37,302	35,204	35,176	-0.8	-0.7
	Received	50,472	71,772	66,915	62,006	54,127	44,383	39,121	1.6	-3.5
Alaska	Shipped	19,485	89,388	92,831	87,637	84,450	79,747	78,457	12.3	0.8
	Received	6,077	7,070	7,331	7,778	8,033	8,463	8,828	1.9	1.0
Hawaii and Pacific	Shipped	5,412	5,855	6,517	7,121	7,757	8,667	9,333	2.1	2.1
Territories	Received	6,230	7,596	8,320	8,977	9,726	10,792	11,607	2.8	2.0
Domestic Caribbean	Shipped	32,405	33,778	31,290	30,059	29,082	26,102	26,360	-0.6	-1.0
	Received	7,931	8,191	8,288	8,449	8,834	9,215	9,735	0.5	1.1
Total	Shipped	976,428	1,110,623	1,144,921	1,181,703	1,235,131	1,290,173	1,329,014	1.5	0.9
	Received	976,428	1,110,623	1,144,921	1,181,703	1,235,131	1,290,173	1,329,014	1.5	0.9

A - less than 500 tons

11/22/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: All Commodities
ALTERNATIVE: Low Use

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	59,866	73,936	86,315	86,528	99,867	108,060	114,330	2.9	2.2
	Imports	97,188	110,978	109,688	95,167	96,354	90,881	93,556	0.2	0.1
Illinois River	Exports	2,521	3,668	4,294	4,191	4,962	5,528	5,817	3.8	2.6
	Imports	3,573	2,673	3,266	3,970	4,417	4,929	5,236	0.8	2.2
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	35,406	44,714	47,686	50,109	54,417	59,429	65,303	2.7	2.1
	Imports	137,104	158,271	153,539	128,858	128,189	116,945	119,163	0.5	0.6
Gulf Coast East	Exports	21,553	23,956	28,482	23,610	20,432	17,042	15,149	0.7	1.4
	Imports	17,689	20,259	20,181	18,454	18,512	17,872	18,316	0.3	0.1
Warrior River System	Exports	5,521	7,158	9,324	10,952	12,757	14,414	15,354	5.4	2.6
	Imports	8,167	8,964	9,784	10,842	12,355	14,096	15,539	2.2	2.8
South Atlantic Coast	Exports	8,618	10,299	12,477	12,965	13,834	14,885	15,682	3.2	1.5
	Imports	20,701	18,859	17,902	17,672	17,018	18,538	16,820	1.2	0.4
Middle Atlantic Coast	Exports	56,757	62,109	75,491	81,523	91,096	100,904	107,189	2.8	2.1
	Imports	168,692	159,065	148,187	137,272	133,563	123,252	124,614	1.6	0.7

11/22/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	1,307	1,628	2,035	2,111	2,190	2,288	2,357	3.8	0.9
	Imports	33,997	27,453	29,840	30,173	29,166	25,946	26,468	0.9	1.0
Great Lakes and Seaway	Exports	33,765	42,658	51,364	56,507	62,441	68,573	73,023	4.0	2.0
	Imports	29,255	29,037	32,411	33,693	36,376	39,368	41,819	1.1	1.7
Washington/Oregon Coast	Exports	18,060	20,804	22,349	19,774	20,573	21,603	22,280	0.7	0.9
	Imports	20,019	12,598	31,049	31,888	35,002	33,357	34,080	3.6	0.5
Columbia Snake Willamette River	Exports	12,821	15,955	16,945	16,206	16,147	16,716	18,750	1.8	1.1
	Imports	4,045	3,769	4,402	5,162	6,020	7,001	7,678	1.9	3.1
California Coast	Exports	15,982	16,446	18,698	19,686	21,640	23,781	25,419	1.6	2.0
	Imports	60,029	26,448	27,855	29,906	32,591	35,560	38,590	-5.2	2.0
Alaska	Exports	5,024	2,337	2,311	2,271	2,315	2,382	2,444	-5.9	0.6
	Imports	1,619	1,391	1,311	1,290	1,298	1,292	1,336	-1.7	0.3
Hawaii and Pacific Territories	Exports	147	125	152	168	182	202	219	1.0	2.1
	Imports	5,926	4,844	4,719	4,647	4,676	4,583	4,616	-1.9	0.1
Domestic Caribbean	Exports	1,463	2,161	1,844	1,833	1,924	2,022	2,114	1.8	1.1
	Imports	51,645	39,704	31,236	30,519	22,147	15,242	13,637	-4.0	6.0
Total	Exports	278,861	327,952	379,768	388,434	424,779	457,828	485,431	2.6	1.7
	Imports	659,651	624,313	625,369	579,513	577,683	546,861	561,468	1.0	0.2

A = less than 500 tons

11/22/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY - All Commodities
ALTERNATIVE - Low Use

SEGMENT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	30,874	39,620	44,346	47,253	52,994	57,119	58,801	3 3	1 7
Lower Upper Mississippi	77,493	90,470	101,668	110,431	126,797	140,721	147,740	2 8	2 3
Lower Mississippi	123,598	138,925	154,180	148,346	166,330	181,331	190,744	1 4	2 0
Baton Rouge to Gulf	187,253	216,644	229,000	230,461	251,002	273,146	284,178	1 6	1 6
Illinois River	54,342	60,991	66,872	68,442	75,371	81,497	84,589	1 8	1 6
Missouri River	6,735	7,285	7,359	7,158	7,262	7,369	7,444	0 5	0 3
Ohio River	172,509	177,389	207,148	221,865	245,784	268,839	280,272	2 0	1 8
Tennessee River	23,885	24,234	24,908	38,598	49,352	57,216	61,680	3 8	3 7
Arkansas River	9,396	9,661	9,700	9,844	10,296	10,698	10,838	0 4	0 7
Gulf Coast West	168,762	188,020	169,231	172,532	176,940	184,051	192,469	0 2	0 8
Gulf Coast East	69,429	69,003	74,626	88,838	97,088	107,461	107,877	1 9	1 5
Warrior River System	30,016	31,097	33,529	56,064	64,081	72,471	78,002	4 9	2 6
Great Lakes	126,882	168,345	183,701	186,291	200,132	218,156	230,338	3 0	1 6

A - less than 500 tons

11/22/81

WATERBORNE PROJECTED USE
MILLIONS OF TON MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: All Commodities
ALTERNATIVE: Low Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	10,330	13,615	14,989	15,440	17,405	18,956	19,611	3.1	1.9
Lower Upper Mississippi	13,889	16,568	18,623	19,504	22,275	24,559	25,787	2.6	2.2
Lower Mississippi	70,398	80,271	89,932	84,818	95,65[illegible]	104,712	110,319	1.4	2.0
Baton Rouge to Gulf	24,105	27,001	29,427	28,9[illegible]6	31,779	34,599	36,167	1.4	1.7
Illinois River	8,210	9,032	10,065	10,388	11,595	12,666	13,198	1.8	1.9
Missouri River	1,926	2,222	2,368	2,454	2,565	2,623	2,739	1.9	0.8
Ohio River	41,493	42,992	51,170	58,569	66,502	74,120	78,111	2.7	2.2
Tennessee River	3,860	3,997	4,159	6,838	8,762	10,113	10,915	4.5	3.7
Arkansas River	1,399	1,490	1,575	1,761	1,932	2,054	2,146	1.8	1.5
Gulf Coast West	22,012	22,891	22,322	23,107	23,837	24,633	25,574	0.4	0.8
Gulf Coast East	3,479	3,422	3,621	4,821	5,351	5,769	6,004	2.5	1.7
Warrior River System	4,782	4,995	5,695	13,079	15,556	18,096	19,799	8.0	3.2
Great Lakes	59,337	82,336	90,468	91,240	98,772	107,877	114,468	3.4	1.8
Total	265,220	310,831	344,395	360,984	401,981	440,778	464,839	2.4	2.0

n = less than 500,000 ton-miles

11/22/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: All Commodities
ALTERNATIVE: High Use

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	20,619	28,139	33,052	38,844	43,550	50,432	52,995	4.6	2.8
	Received	16,474	18,918	20,689	24,636	27,055	31,158	31,732	3.1	2.0
Lower Upper Mississippi	Shipped	23,149	24,977	28,072	34,727	40,190	47,444	49,984	3.2	2.8
	Received	9,042	9,254	10,930	17,110	21,757	27,757	29,452	5.0	4.3
Lower Mississippi	Shipped	11,136	12,742	13,876	15,270	16,965	18,706	19,647	2.5	2.0
	Received	24,819	24,564	24,937	26,303	27,989	29,997	30,679	0.4	1.2
Baton Rouge to Gulf	Shipped	84,271	85,894	84,498	89,080	91,236	94,274	96,649	0.4	0.6
	Received	99,444	121,654	130,161	146,242	170,217	197,364	206,802	3.0	2.7
Illinois River	Shipped	32,515	35,107	39,103	40,514	46,544	52,354	54,472	1.7	2.3
	Received	31,245	34,960	37,983	41,555	45,051	50,180	52,385	2.2	1.8
Missouri River	Shipped	5,612	6,073	6,127	5,943	5,979	6,211	6,269	0.4	0.4
	Received	4,635	4,621	4,504	4,189	4,066	4,041	3,854	-0.8	-0.6
Ohio River	Shipped	140,247	147,237	177,207	217,191	248,488	294,065	306,605	3.4	2.7
	Received	134,112	139,697	164,243	187,116	202,114	228,256	235,067	2.6	1.8
Tennessee River	Shipped	10,493	10,720	11,211	13,230	19,100	25,158	27,302	1.8	5.7
	Received	17,457	17,652	17,960	20,948	24,185	29,653	31,166	1.4	3.1
Arkansas River	Shipped	6,636	6,862	6,931	8,340	9,681	11,070	11,440	1.8	2.5
	Received	6,816	6,847	6,697	6,345	6,303	6,335	6,182	-0.5	-0.2
Gulf Coast West	Shipped	148,122	148,882	136,402	140,838	145,079	148,589	153,415	0.4	0.7
	Received	75,159	87,474	82,482	87,240	90,884	96,520	101,772	1.2	1.2
Gulf Coast East	Shipped	32,236	32,459	35,604	40,464	47,459	55,624	54,799	1.8	2.4
	Received	38,641	38,018	43,636	52,778	61,250	69,921	72,787	2.4	2.5
Warrior River System	Shipped	23,871	24,610	26,789	35,382	37,686	44,525	48,163	3.1	2.4
	Received	20,413	21,288	22,582	30,018	36,285	46,004	51,176	3.0	4.2
South Atlantic Coast	Shipped	12,464	11,950	11,152	11,005	10,723	10,863	11,365	-1.0	0.2
	Received	37,490	37,040	33,813	32,824	32,062	31,325	31,777	-1.0	0.2
Middle Atlantic Coast	Shipped	159,990	164,255	157,729	161,954	165,211	173,381	177,265	0.1	0.7
	Received	181,200	184,265	165,569	168,410	171,192	177,612	181,665	0.6	0.6

11/22/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	9,914	10,424	9,697	9,041	8,510	7,708	7,494	0.7	1.4
	Received	50,273	51,511	44,827	44,065	42,534	39,555	38,860	1.0	1.0
Great Lakes and Seaway	Shipped	109,590	149,172	162,836	182,215	203,315	227,211	243,278	4.0	2.2
	Received	107,660	145,355	158,381	177,419	197,943	221,120	236,595	3.9	2.2
Washington/Oregon Coast	Shipped	22,600	24,454	23,951	24,778	24,860	25,225	25,495	0.7	0.2
	Received	24,992	39,119	56,292	58,212	59,986	57,225	56,034	6.7	0.3
Columbia-Snake Willamette River	Shipped	22,406	27,002	26,438	26,751	26,543	26,950	27,862	1.4	0.3
	Received	25,848	31,502	30,793	31,040	30,707	30,856	31,706	1.4	0.2
California Coast	Shipped	43,257	38,267	38,915	40,271	39,555	37,763	37,874	0.5	0.5
	Received	50,472	81,255	79,778	77,488	74,654	69,501	67,492	3.4	1.1
Alaska	Shipped	19,485	89,101	92,493	87,287	84,025	79,212	77,839	12.2	0.9
	Received	6,077	7,117	7,423	7,994	8,402	8,901	9,299	2.1	1.2
Hawaii and Pacific Territories	Shipped	5,412	5,897	6,585	7,301	8,105	9,097	9,794	2.3	2.3
	Received	6,230	7,641	8,396	9,188	10,148	11,321	12,177	3.0	2.2
Domestic Caribbean	Shipped	32,405	33,726	31,700	31,176	30,983	28,220	28,647	0.3	0.6
	Received	7,931	8,200	8,294	8,504	9,003	9,459	10,014	0.5	1.3
Total	Shipped	976,428	1,117,950	1,160,370	1,259,624	1,353,788	1,474,063	1,528,654	2.0	1.5
	Received	976,428	1,117,950	1,160,370	1,259,624	1,353,788	1,474,063	1,528,654	2.0	1.5

a - less than 500 tons

11/22/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: All Commodities
ALTERNATIVE: High Use

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77 90	% GROWTH 90 03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	59,866	75,108	88,497	93,663	112,534	129,702	137,537	3.5	3.0
	Imports	97,188	108,810	110,798	98,745	102,804	97,260	100,238	0.1	0.1
Illinois River	Exports	2,571	3,982	4,672	4,766	5,873	6,811	7,211	4.9	3.2
	Imports	3,573	2,672	3,266	3,601	3,924	4,283	4,516	0.1	1.8
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	35,406	45,028	49,285	53,445	59,605	66,871	73,173	3.2	2.4
	Imports	137,104	153,612	153,701	133,779	137,693	126,554	129,297	-0.2	0.3
Gulf Coast East	Exports	21,553	23,835	28,429	26,820	26,849	26,922	26,938	1.7	0.0
	Imports	17,689	20,063	20,444	19,070	19,520	18,898	19,424	0.6	0.1
Warrior River System	Exports	5,521	9,200	11,562	14,339	17,868	21,648	22,586	7.6	3.6
	Imports	8,167	8,962	9,784	12,667	15,177	17,702	19,589	3.4	3.4
South Atlantic Coast	Exports	8,618	10,234	12,422	13,470	14,922	16,573	17,688	3.5	2.1
	Imports	20,701	19,052	18,447	18,291	17,815	17,315	17,644	0.9	-0.3
Middle Atlantic Coast	Exports	56,757	67,339	77,668	85,411	99,269	114,121	119,657	3.2	2.6
	Imports	168,692	181,531	153,373	144,393	142,964	133,629	135,424	1.2	0.5

11/22/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77 90	90 03
North Atlantic Coast	Exports	1,307	1,625	2,032	2,113	2,201	2,305	2,376	3 8	0 9
	Imports	33,997	27,411	30,228	30,452	29,422	26,084	26,583	0 8	1 0
Great Lakes and Seaway	Exports	33,765	50,350	58,660	66,753	77,979	90,455	94,785	5 4	2 7
	Imports	29,255	29,035	32,430	35,225	38,495	42,356	45,123	1 4	1 9
Washington/Oregon Coast	Exports	18,060	20,723	22,268	20,114	21,413	23,041	23,881	0 8	1 3
	Imports	20,019	12,569	31,065	31,880	35,208	33,690	34,472	3 6	0 6
Columbia Snake Willamette River	Exports	12,821	15,832	16,814	16,081	16,027	16,602	18,514	1 8	1 1
	Imports	4,045	3,743	4,395	4,944	5,820	6,784	7,457	1 6	3 2
California Coast	Exports	15,982	16,267	18,555	19,835	22,119	24,688	26,438	1 7	2 2
	Imports	60,029	26,431	27,902	28,948	31,630	34,321	37,106	5 5	1 9
Alaska	Exports	5,024	2,329	2,309	2,271	2,318	2,387	2,450	5 9	0 6
	Imports	1,619	1,391	1,313	1,290	1,309	1,307	1,352	1 7	0 4
Hawaii and Pacific Territories	Exports	147	124	152	170	187	211	228	1 1	2 3
	Imports	5,926	4,844	4,719	4,611	4,632	4,527	4,553	1 9	0 1
Domestic Caribbean	Exports	1,463	2,069	1,819	1,839	1,949	2,085	2,184	1 8	1 3
	Imports	51,645	51,931	47,462	45,594	42,985	36,687	36,129	1 0	1 8
Total	Exports	278,861	344,046	395,146	421,087	481,112	544,424	575,748	3 2	2 4
	Imports	659,651	632,057	649,327	613,489	629,399	601,396	618,903	0 6	0 1

R - less than 500 tons

11/22/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: All Commodities
ALTERNATIVE: High Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	30,874	39,526	44,647	49,685	57,356	66,010	68,739	3.7	2.5
Lower Upper Mississippi	77,493	90,186	101,847	115,054	135,734	158,489	167,281	3.1	2.9
Lower Mississippi	123,598	138,418	155,220	160,205	188,715	218,526	231,039	2.0	2.9
Baton Rouge to Gulf	187,253	210,815	223,927	235,422	264,224	297,990	310,908	1.8	2.2
Illinois River	54,342	61,119	67,230	71,250	80,378	90,230	94,623	2.1	2.2
Missouri River	6,735	7,255	7,399	7,316	7,425	7,733	7,818	0.6	0.5
Ohio River	172,509	180,400	212,673	248,533	282,361	331,126	345,183	2.8	2.6
Tennessee River	26,462	27,065	27,944	44,291	58,094	74,089	79,453	4.0	4.6
Arkansas River	9,396	9,680	9,937	11,512	13,017	14,578	15,020	1.6	2.1
Gulf Coast West	168,762	180,838	162,063	167,831	172,774	179,307	186,578	0.0	0.8
Gulf Coast East	69,429	69,203	76,939	93,855	105,770	120,086	121,805	2.3	2.0
Warrior River System	30,006	30,808	32,940	59,864	71,995	87,731	95,176	5.5	3.6
Great Lakes	126,882	170,656	184,608	205,062	227,807	253,594	271,150	3.8	2.2

A - less than 500 tons

11/22/81

WATERBORNE PROJECTED USE
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: All Commodities
ALTERNATIVE: High Use

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	10,330	13,547	14,993	16,234	18,933	21,731	22,702	3.5	2.6
Lower Upper Mississippi	13,889	16,496	18,619	20,325	23,907	27,663	29,219	3.0	2.8
Lower Mississippi	70,398	79,910	90,288	91,528	108,516	126,180	133,647	2.0	3.0
Baton Rouge to Gulf	24,105	26,579	29,092	29,575	33,369	37,751	39,574	1.6	2.3
Illinois River	8,210	9,060	10,118	10,799	12,336	13,989	14,683	2.1	2.4
Missouri River	1,926	2,208	2,369	2,499	2,628	2,832	2,963	2.0	1.3
Ohio River	41,493	43,951	52,795	65,658	77,061	92,631	97,792	3.6	3.1
Tennessee River	4,414	4,597	4,784	7,999	10,473	13,205	14,208	4.7	4.5
Arkansas River	1,399	1,497	1,638	2,329	2,890	3,452	3,659	4.0	3.5
Gulf Coast West	22,012	22,735	22,427	23,841	25,101	26,297	27,413	0.6	1.1
Gulf Coast East	3,479	3,426	3,759	5,145	5,923	6,675	6,985	3.1	2.4
Warrior River System	4,782	4,916	5,428	14,175	17,875	22,655	24,952	8.7	4.4
Great Lakes	59,337	83,572	91,051	101,529	113,625	127,464	136,874	4.2	2.3
Total	265,774	312,494	347,342	391,634	452,637	522,504	554,669	3.0	2.7

a - less than 500,000 ton miles

11/22/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: All Commodities
ALTERNATIVE: Bad Energy

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	20,619	28,736	36,252	42,184	44,400	45,173	52,551	5 7	1 7
	Received	16,474	18,830	20,575	24,171	26,484	28,220	28,859	3.0	1 4
Lower Upper Mississippi	Shipped	23,149	25,065	28,061	32,754	36,910	39,255	41,752	2 7	1 9
	Received	9,042	9,192	10,743	16,471	21,110	25,648	27,275	4 7	4 0
Lower Mississippi	Shipped	11,136	12,864	13,632	13,926	15,701	13,177	16,307	1 7	1 2
	Received	24,819	24,512	24,267	23,930	24,662	25,119	25,700	-0.3	0 6
Baton Rouge to Gulf	Shipped	84,271	85,848	83,434	86,984	87,612	89,533	92,108	0 2	0 4
	Received	99,444	129,089	148,190	176,168	191,754	199,742	229,018	4 5	2 0
Illinois River	Shipped	32,515	35,638	42,366	46,644	48,248	49,461	57,117	2 8	1 6
	Received	31,245	34,840	37,494	41,237	44,383	47,849	49,996	2 2	1 5
Missouri River	Shipped	5,612	6,110	6,337	6,261	6,102	5,873	5,708	0 8	0 7
	Received	4,635	4,627	4,282	3,943	3,805	3,775	3,605	1 2	0 7
Ohio River	Shipped	140,247	148,439	175,057	214,304	246,531	272,459	287,123	3 3	2 3
	Received	134,112	138,786	161,005	180,557	195,567	208,529	215,669	2 3	1 4
Tennessee River	Shipped	10,493	10,676	11,025	12,690	18,014	21,052	22,833	1 5	4 6
	Received	17,457	17,583	17,658	20,311	23,219	26,277	28,213	1 2	2 6
Arkansas River	Shipped	6,636	6,891	7,000	9,050	11,118	12,036	12,963	2 4	2 8
	Received	6,816	6,832	6,669	6,299	6,183	6,200	6,095	0 6	0 3
Gulf Coast West	Shipped	148,122	148,878	134,409	136,552	138,411	140,111	144,044	0 6	0 4
	Received	75,159	95,138	91,653	105,173	112,248	121,265	128,779	2.6	1.6
Gulf Coast East	Shipped	32,236	32,401	36,657	40,275	44,820	48,996	51,117	1 7	1 9
	Received	38,641	38,001	41,552	48,047	54,128	58,451	60,268	1 7	1 8
Warrior River System	Shipped	23,871	24,892	27,002	33,916	34,744	38,014	42,033	2 7	1 7
	Received	20,413	21,599	23,147	29,223	33,974	38,680	43,939	2 8	3 2
South Atlantic Coast	Shipped	12,464	11,856	10,287	9,971	9,515	9,581	10,029	1 7	0 0
	Received	37,490	36,815	32,409	30,587	29,112	27,942	28,124	1 6	0 6
Middle Atlantic Coast	Shipped	159,990	162,738	154,606	149,307	147,350	144,179	145,744	0 5	0 2
	Received	181,200	183,257	162,749	155,843	153,368	148,543	150,250	1 2	0 3

11/22/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	9,914	10,372	9,428	8,527	7,770	6,817	6,544	-1.2	-2.0
	Received	50,273	51,169	43,490	41,329	38,594	34,906	33,861	-1.5	-1.5
Great Lakes and Seaway	Shipped	109,590	147,188	160,473	174,135	192,747	213,637	227,247	3.6	2.1
	Received	107,660	143,209	156,162	168,974	187,233	207,341	220,208	3.5	2.1
Washington/Oregon Coast	Shipped	22,600	24,402	23,792	24,450	24,380	24,644	24,866	0.6	0.1
	Received	74,992	35,905	51,921	57,801	52,932	48 584	46,292	5 9	-1 0
Columbia-Snake Willamette River	Shipped	22,406	27,074	27,750	29,069	28,207	27,611	26,692	2 0	-0.7
	Received	25,848	31,311	31,705	32,821	31,658	30,654	29,576	1.9	-0.8
California Coast	Shipped	43,257	38,185	38,058	38,602	37,068	34,801	34,725	-0 9	0 8
	Received	50,472	71,743	66,512	60,939	52,935	42,957	37,672	1.5	-3.6
Alaska	Shipped	19,485	89,397	92,832	97,808	94,176	88,831	87,347	13 2	-0 9
	Received	6,077	7,075	7,305	7,775	8,087	8,516	8,873	1 9	1.0
Hawaii and Pacific Territories	Shipped	5,412	5,855	6,535	7,217	7,989	8,954	9,629	2.2	2.2
	Received	6,230	7,599	8,339	9,092	10,019	11,162	11,996	3.0	2.2
Domestic Caribbean	Shipped	32,405	33,806	31,146	29,590	28,674	25,654	25,829	-0 7	-1.0
	Received	7,931	8,201	8,314	8,531	9,034	9,488	10,038	0 6	1.3
Total	Shipped	976,428	1,115,312	1,156,140	1,244,219	1,310,487	1,359,849	1,424,306	1.9	1.0
	Received	976,428	1,115,312	1,156,140	1,244,219	1,310,487	1,359,849	1,424,306	1 9	1.0

0 = less than 500 tons

11/22/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: All Commodities
ALTERNATIVE: Bad Energy

SEGMENT	EXP/IMP	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	59,866	77,145	97,380	108,157	115,586	113,678	139,088	4.7	2.0
	Imports	97,188	110,023	108,488	86,962	82,079	71,495	69,673	-0.9	-1.7
Illinois River	Exports	2,571	4,119	5,364	6,024	6,252	6,365	8,008	6.8	2.2
	Imports	3,573	2,670	3,239	3,603	3,934	4,318	4,565	0.1	1.8
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	35,406	45,273	54,043	61,967	65,085	68,078	71,066	4.4	1.1
	Imports	137,104	155,449	150,778	118,415	106,576	87,765	83,216	-1.3	-2.5
Gulf Coast East	Exports	21,553	23,894	28,804	24,446	20,869	17,390	15,857	1.0	-3.3
	Imports	17,689	20,033	19,816	17,329	16,704	15,500	15,466	-0.2	-0.9
Warrior River System	Exports	5,521	9,255	11,369	13,534	17,219	18,738	21,598	7.1	3.7
	Imports	8,167	8,962	9,711	12,219	13,980	16,518	18,398	3.1	3.2
South Atlantic Coast	Exports	8,618	10,236	12,412	13,011	13,914	14,872	15,943	3.2	1.6
	Imports	20,701	18,837	17,415	17,034	16,224	15,649	15,930	-1.5	-0.5
Middle Atlantic Coast	Exports	56,757	67,971	81,327	92,228	101,395	112,600	123,633	3.8	2.3
	Imports	168,692	158,922	147,380	136,672	133,236	123,232	124,675	-1.6	-0.7

11/22/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	1,307	1,624	2,028	2,106	2,191	2,292	2,362	3.7	0.9
	Imports	33,997	27,441	29,939	29,953	28,696	25,283	25,777	-1.0	-1.1
Great Lakes and Seaway	Exports	33,765	50,712	61,208	71,236	80,166	89,580	95,536	5.9	2.3
	Imports	29,255	29,031	31,988	34,449	37,576	41,270	44,030	1.3	1.9
Washington/Oregon Coast	Exports	18,060	20,973	23,915	23,336	22,693	23,682	25,764	2.0	0.8
	Imports	20,019	12,560	31,044	31,859	35,197	33,679	34,450	3.6	0.6
Columbia-Snake Willamette River	Exports	12,821	15,965	19,254	20,423	19,277	18,089	16,829	3.6	-1.5
	Imports	4,045	3,734	4,307	4,873	5,784	6,782	7,477	1.4	3.3
California Coast	Exports	15,982	16,361	19,437	21,539	22,777	24,832	26,841	2.3	1.7
	Imports	60,029	26,431	27,694	28,748	31,464	34,156	36,913	-5.5	1.9
Alaska	Exports	5,024	2,327	2,308	2,270	2,316	2,386	2,449	-5.9	0.6
	Imports	1,619	1,391	1,313	1,290	1,309	1,305	1,348	-1.7	0.3
Hawaii and Pacific Territories	Exports	147	125	151	167	183	205	221	1.0	2.2
	Imports	5,926	4,840	4,615	4,493	4,474	4,362	4,382	-2.1	-0.2
Domestic Caribbean	Exports	1,463	2,039	1,801	1,812	1,911	2,023	2,094	1.7	1.1
	Imports	51,645	52,014	46,302	42,812	39,540	33,237	32,510	-1.4	2.1
Total	Exports	278,861	348,017	420,802	462,254	491,833	514,811	567,266	4.0	1.6
	Imports	659,651	632,338	634,028	568,710	556,771	514,550	518,810	-1.1	-0.7

0 = less than 500 tons

11/22/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: All Commodities
ALTERNATIVE: Red Energy

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	30,874	40,118	48,060	55,241	58,210	60,114	67,914	4.6	1.6
Lower Upper Mississippi	77,493	91,549	109,200	125,832	135,484	143,720	163,294	3.8	2.0
Lower Mississippi	123,598	140,476	163,809	176,971	196,304	207,045	235,891	2.8	2.2
Baton Rouge to Gulf	187,253	218,312	240,711	265,920	286,586	301,492	335,034	2.7	1.8
Illinois River	54,342	61,523	70,335	77,081	81,309	85,901	95,819	2.7	1.7
Missouri River	6,735	7,297	7,396	7,402	7,300	7,137	7,006	0.7	-0.4
Ohio River	172,509	179,643	210,305	245,250	279,582	308,104	324,521	2.7	2.2
Tennessee River	26,462	26,925	27,335	41,488	53,565	62,253	67,305	3.5	3.8
Arkansas River	9,396	9,699	10,002	12,208	14,373	15,451	16,492	2.0	2.3
Gulf Coast West	168,762	188,532	170,080	183,100	190,044	198,883	207,894	0.6	1.0
Gulf Coast East	69,429	69,158	76,531	90,096	98,101	105,390	109,161	2.0	1.5
Warrior River System	30,006	31,123	33,127	56,425	65,621	73,621	80,389	5.0	2.8
Great Lakes	126,882	168,439	182,098	196,028	215,955	238,389	253,110	3.4	2.0

A - less than 500 tons

11/22/81

WATERBORNE PROJECTED USF
MILLIONS OF TON-MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: All Commodities
ALTERNATIVE: Bad Energy

SEGMENT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
Upper Mississippi	10,330	13,810	16,492	18,711	19,454	20,061	23,195	4.7	1.7
Lower Upper Mississippi	13,889	16,795	20,251	22,972	24,282	25,410	29,303	3.9	1.9
Lower Mississippi	70,398	81,265	96,330	103,952	115,041	121,890	139,539	3.0	2.3
Baton Rouge to Gulf	24,105	27,198	30,733	32,471	34,973	36,718	40,855	2.3	1.8
Illinois River	8,210	9,126	10,699	11,845	12,541	13,289	14,967	2.9	1.8
Missouri River	1,926	2,228	2,356	2,528	2,548	2,502	2,499	2.1	-0.1
Ohio River	41,493	43,785	52,389	65,427	77,200	87,234	92,962	3.6	2.7
Tennessee River	4,414	4,577	4,693	7,467	9,613	11,122	11,979	4.1	3.7
Arkansas River	1,399	1,504	1,677	2,632	3,439	3,923	4,271	5.0	3.8
Gulf Coast West	22,012	22,956	22,408	23,997	25,181	26,354	27,439	0.7	1.0
Gulf Coast East	3,479	3,434	3,623	4,803	5,372	5,776	5,986	2.5	1.7
Warrior River System	4,782	5,005	5,604	13,374	16,200	18,868	20,823	8.2	3.5
Great Lakes	59,337	82,667	89,843	97,067	107,896	120,171	128,366	3.9	2.2
Total	265,774	314,351	357,098	407,244	453,738	493,339	542,187	3.3	2.2

A = less than 500,000 ton-miles

11/22/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: All Commodities
ALTERNATIVE: Defense

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	20,619	28,139	33,052	33,461	43,550	50,432	52,995	3.8	3.6
	Received	16,474	18,916	20,689	27,603	27,055	31,158	31,732	4.1	1.1
Lower Upper Mississippi	Shipped	23,149	24,977	28,072	34,378	40,190	47,444	49,984	3.1	2.9
	Received	9,042	9,254	10,930	14,515	21,757	27,757	29,452	3.7	5.6
Lower Mississippi	Shipped	11,136	12,742	13,876	14,499	16,965	18,706	19,647	2.1	2.4
	Received	24,819	24,564	24,937	32,702	27,989	29,997	30,679	2.1	-0.5
Baton Rouge to Gulf	Shipped	84,271	85,894	84,498	118,767	91,236	94,274	96,649	2.7	-1.6
	Received	99,444	121,654	130,161	141,045	170,217	197,364	206,802	2.7	3.0
Illinois River	Shipped	32,515	35,107	39,103	43,203	46,544	52,354	54,472	2.2	1.8
	Received	31,245	34,960	37,983	60,508	45,051	50,180	52,385	5.2	-1.1
Missouri River	Shipped	5,612	6,073	6,127	5,625	5,979	6,211	6,269	0.0	0.8
	Received	4,635	4,621	4,504	4,544	4,066	4,041	3,854	-0.2	-1.3
Ohio River	Shipped	140,247	147,237	177,207	236,803	248,488	294,065	306,605	4.1	2.0
	Received	134,112	139,697	164,243	222,965	202,114	228,256	235,067	4.0	0.4
Tennessee River	Shipped	10,493	10,720	11,211	13,692	19,100	25,158	27,302	2.1	5.5
	Received	17,457	17,652	17,960	23,557	24,185	29,653	31,166	2.3	2.2
Arkansas River	Shipped	6,636	6,882	6,931	7,253	9,681	11,070	11,440	0.7	3.6
	Received	6,816	6,847	6,697	8,971	6,303	6,335	6,182	2.1	-2.8
Gulf Coast West	Shipped	148,122	148,882	136,402	181,285	145,079	148,589	153,415	1.6	-1.3
	Received	75,159	87,474	82,482	113,085	90,884	96,520	101,772	3.2	-0.8
Gulf Coast East	Shipped	32,236	32,459	35,604	41,020	47,459	55,624	54,799	1.9	2.3
	Received	38,641	38,018	43,636	55,475	61,250	69,921	72,767	2.8	2.1
Warrior River System	Shipped	23,871	24,610	26,789	40,772	37,686	44,525	48,163	4.2	1.3
	Received	20,413	21,288	22,582	34,654	36,285	46,004	51,178	4.2	3.0
South Atlantic Coast	Shipped	12,464	11,950	11,152	14,831	10,723	10,863	11,365	1.3	-2.0
	Received	37,490	37,040	33,813	45,009	32,062	31,325	31,777	1.4	-2.6
Middle Atlantic Coast	Shipped	159,990	164,255	157,729	211,910	165,211	173,361	177,285	2.2	-1.4
	Received	181,200	184,265	165,569	222,767	171,192	177,612	181,665	1.6	-1.6

11/22/81

SEGMENT	IN/OUT	1977	1980	1985	YEARS 1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
North Atlantic Coast	Shipped	9,914	10,424	9,697	12,404	8,510	7,708	7,494	1.7	-3.8
	Received	50,273	51,511	44,827	59,276	42,534	39,555	38,860	1.3	-3.2
Great Lakes and Seaway	Shipped	109,590	149,172	162,836	302,127	203,315	227,211	243,278	8.1	-1.7
	Received	107,660	145,355	158,381	286,283	197,943	221,120	236,595	7.8	-1.5
Washington/Oregon Coast	Shipped	22,600	24,454	23,951	26,829	24,860	25,225	25,495	1.3	-0.4
	Received	24,992	39,119	56,292	76,828	59,986	57,225	56,034	9.0	-2.4
Columbia-Snake Willamette River	Shipped	22,406	27,002	26,438	25,386	26,543	26,950	27,862	1.0	0.7
	Received	25,848	31,502	30,793	31,759	30,707	30,856	31,706	1.6	0.0
California Coast	Shipped	43,257	38,267	38,915	52,628	39,555	37,763	37,874	1.5	-2.5
	Received	50,472	81,255	79,778	114,689	74,654	69,501	67,492	6.5	-4.0
Alaska	Shipped	19,485	89,101	92,493	138,629	84,025	79,212	77,839	16.3	-4.3
	Received	6,077	7,117	7,423	8,764	8,402	8,901	9,299	2.9	0.5
Hawaii and Pacific Territories	Shipped	5,412	5,897	6,585	7,251	8,105	9,097	9,794	2.3	2.3
	Received	6,230	7,641	8,396	10,166	10,148	11,321	12,177	3.8	1.4
Domestic Caribbean	Shipped	32,405	33,726	31,700	42,525	30,983	28,220	28,647	2.1	-3.0
	Received	7,931	8,200	8,294	10,111	9,003	9,459	10,014	1.9	-0.1
Total	Shipped	976,428	1,117,950	1,160,370	1,605,275	1,353,788	1,474,063	1,528,654	3.9	-0.4
	Received	976,428	1,117,950	1,160,370	1,605,275	1,353,788	1,474,063	1,528,654	3.9	-0.4

a = less than 500 tons

11/22/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: All Commodities
ALTERNATIVE: Defense

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	59,866	75,108	88,497	80,707	112,534	129,702	137,537	2.3	4.2
	Imports	97,188	108,810	110,798	84,579	102,804	97,260	100,238	-1.1	1.3
Illinois River	Exports	2,571	3,982	4,672	4,245	5,873	6,811	7,211	3.9	4.2
	Imports	3,573	2,672	3,266	2,685	3,924	4,283	4,516	-2.2	4.1
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	35,406	45,028	49,285	45,779	59,605	66,871	73,173	2.0	3.7
	Imports	137,104	153,612	153,701	117,012	137,693	126,554	129,297	-1.2	0.8
Gulf Coast East	Exports	21,553	23,835	28,429	28,708	26,849	26,922	26,938	2.2	-0.5
	Imports	17,689	20,063	20,444	15,772	19,520	18,898	19,424	-0.9	1.6
Warrior River System	Exports	5,521	9,200	11,562	11,404	17,868	21,648	22,586	5.7	5.4
	Imports	8,167	8,962	9,784	7,828	15,177	17,702	19,589	-0.3	7.3
South Atlantic Coast	Exports	8,618	10,234	12,422	12,290	14,922	16,573	17,688	2.8	2.8
	Imports	20,701	19,052	18,447	15,748	17,815	17,315	17,644	2.1	0.9
Middle Atlantic Coast	Exports	56,757	67,339	77,668	76,853	99,269	114,121	119,657	2.4	3.5
	Imports	168,692	161,531	153,373	122,471	142,964	133,629	135,424	2.4	0.8

11/22/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	1,307	1,625	2,032	2,038	2,201	2,305	2,376	3.5	1.2
	Imports	33,997	27,411	30,228	23,758	29,422	26,084	26,583	-2.7	0.9
Great Lakes and Seaway	Exports	33,765	50,350	58,660	58,161	77,979	90,455	94,785	4.3	3.8
	Imports	29,255	29,035	32,430	26,308	38,495	42,356	45,123	-0.8	4.2
Washington/Oregon Coast	Exports	18,060	20,723	22,268	20,440	21,413	23,041	23,881	1.0	1.2
	Imports	20,019	12,569	31,065	25,876	35,208	33,690	34,472	2.0	2.2
Columbia-Snake Willamette River	Exports	12,821	15,832	16,814	15,163	16,027	16,602	18,614	1.3	1.6
	Imports	4,045	3,743	4,395	4,082	5,820	6,784	7,457	0.1	4.7
California Coast	Exports	15,982	16,267	18,555	17,598	22,119	24,688	26,438	0.7	3.2
	Imports	60,029	26,431	27,902	26,906	31,630	34,321	37,106	-6.0	2.5
Alaska	Exports	5,024	2,329	2,309	2,248	2,318	2,387	2,450	-6.0	0.7
	Imports	1,619	1,391	1,313	1,204	1,309	1,307	1,352	-2.3	0.9
Hawaii and Pacific Territories	Exports	147	124	152	149	187	211	228	0.1	3.4
	Imports	5,926	4,844	4,719	3,749	4,632	4,527	4,553	-3.5	1.5
Domestic Caribbean	Exports	1,463	2,069	1,819	1,843	1,949	2,085	2,184	1.8	1.3
	Imports	51,645	51,931	47,462	36,253	42,985	36,687	36,129	-2.7	0.0
Total	Exports	278,861	344,046	395,146	377,626	481,112	544,424	575,748	2.4	3.3
	Imports	659,651	632,057	649,327	514,231	629,399	601,396	618,903	-1.9	1.4

A - less than 500 tons

11/22/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: All Commodities
ALTERNATIVE: Defense

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	30,874	39,526	44,647	49,528	57,356	66,010	68,739	3.7	2.6
Lower Upper Mississippi	77,493	90,186	101,847	114,610	135,734	158,489	167,281	3.1	3.0
Lower Mississippi	123,598	138,418	155,220	163,684	188,715	218,526	231,039	2.2	2.7
Baton Rouge to Gulf	187,253	210,815	223,829	256,583	264,224	297,990	310,908	2.5	1.5
Illinois River	54,342	61,119	67,230	91,875	80,378	90,230	94,623	4.1	0.2
Missouri River	6,735	7,255	7,399	7,292	7,425	7,733	7,818	0.6	0.5
Ohio River	172,509	180,400	212,673	277,080	282,361	331,128	345,163	3.7	1.7
Tennessee River	26,462	27,065	27,944	46,760	58,094	74,089	79,453	4.5	4.2
Arkansas River	9,396	9,680	9,937	12,709	13,017	14,578	15,020	2.4	1.3
Gulf Coast West	168,762	180,838	162,063	217,588	172,774	179,307	186,578	2.0	-1.2
Gulf Coast East	69,429	69,203	76,939	101,641	105,770	120,086	121,805	3.0	1.4
Warrior River System	30,006	30,808	32,940	66,964	71,995	87,731	95,176	6.4	2.7
Great Lakes	126,882	170,656	184,608	342,415	227,807	253,594	271,150	7.9	-1.8

A - less than 500 tons

11/22/81

WATERBORNE PROJECTED USE
MILLIONS OF TON MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY All Commodities
ALTERNATIVE Defense

SEGMENT	YEAR 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	10,130	11,547	14,993	16,382	18,933	21,731	22,702	3.6	2.5
Lower Upper Mississippi	13,889	16,496	18,619	20,379	23,907	27,663	29,219	3.0	2.8
Lower Mississippi	70,398	79,910	90,263	91,548	108,516	126,180	133,647	2.0	3.0
Baton Rouge to Gulf	24,105	26,579	29,077	32,539	33,369	37,751	39,574	2.3	1.5
Illinois River	8,210	9,060	10,118	12,472	12,336	13,969	14,683	3.3	1.3
Missouri River	1,926	2,208	2,369	2,413	2,628	2,832	2,963	1.7	1.6
Ohio River	41,491	43,951	52,795	73,394	77,061	92,631	97,792	4.5	2.2
Tennessee River	4,414	4,597	4,784	8,374	10,423	13,205	14,206	5.0	4.1
Arkansas River	1,399	1,497	1,638	2,243	2,890	3,452	3,659	3.7	3.8
Gulf Coast West	22,012	22,735	22,427	31,105	25,101	26,297	27,413	2.7	1.0
Gulf Coast East	3,479	3,426	3,759	5,985	5,923	6,675	6,985	4.3	1.2
Warrior River System	4,782	4,916	5,428	15,746	17,875	22,655	24,952	9.6	3.6
Great Lakes	59,337	81,572	91,051	190,871	113,625	127,464	136,874	9.4	2.5
Total	265,774	312,494	347,322	503,451	452,637	522,504	554,669	5.0	0.7

A = less than 500,000 ton-miles

11/22/84

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: All Commodities
ALTERNATIVE: High Coal Export

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	20,619	28,139	33,052	36,844	43,550	50,432	52,995	4.6	2.8
	Received	16,474	18,916	20,689	24,636	27,055	31,158	31,732	3.1	2.0
Lower Upper Mississippi	Shipped	23,149	24,999	28,159	35,131	41,202	49,402	52,259	3.3	3.1
	Received	9,042	9,254	10,930	17,110	21,757	27,757	29,452	5.0	4.3
Lower Mississippi	Shipped	11,138	12,742	13,876	15,270	18,985	18,706	19,647	2.5	2.0
	Received	24,819	24,564	24,937	26,303	27,989	29,997	30,679	0.4	1.2
Baton Rouge to Gulf	Shipped	84,271	85,894	84,498	89,080	91,236	94,274	96,649	0.4	0.6
	Received	99,444	121,802	130,664	148,579	176,228	209,109	220,478	3.1	3.1
Illinois River	Shipped	32,515	35,107	39,103	40,514	46,544	52,354	54,472	1.7	2.3
	Received	31,245	34,960	37,983	41,555	45,051	50,180	52,385	2.2	1.8
Missouri River	Shipped	5,612	6,073	6,127	5,943	5,979	6,211	6,269	0.4	0.4
	Received	4,635	4,821	4,504	4,189	4,066	4,041	3,854	-0.8	-0.6
Ohio River	Shipped	140,247	147,377	177,768	219,616	254,900	306,387	320,994	3.5	3.0
	Received	134,112	139,697	164,243	187,116	202,114	228,256	235,067	2.6	1.8
Tennessee River	Shipped	10,493	10,724	11,227	13,300	21,251	29,284	32,298	1.8	7.1
	Received	17,457	17,652	17,960	20,948	24,185	29,653	31,166	1.4	3.1
Arkansas River	Shipped	6,636	6,871	6,963	8,484	10,042	11,775	12,260	1.9	2.9
	Received	6,818	6,847	6,697	6,345	6,303	6,335	6,182	-0.5	-0.2
Gulf Coast West	Shipped	148,122	148,882	136,402	140,838	145,079	148,589	153,415	-0.4	0.7
	Received	75,159	87,478	82,591	87,777	91,985	98,478	104,006	1.2	1.3
Gulf Coast East	Shipped	32,236	32,459	35,604	40,464	47,459	55,624	54,799	1.8	2.4
	Received	38,641	38,016	43,636	52,778	61,250	69,921	72,767	2.4	2.5
Warrior River System	Shipped	23,871	25,070	28,376	38,576	40,221	49,380	54,060	3.8	2.6
	Received	20,413	21,772	24,252	33,382	41,644	56,267	63,641	3.9	5.1
South Atlantic Coast	Shipped	12,464	11,950	11,152	11,005	10,723	10,863	11,365	-1.0	0.2
	Received	37,490	37,040	33,813	32,824	32,082	31,325	31,777	-1.0	-0.2
Middle Atlantic Coast	Shipped	159,990	164,255	157,729	161,954	165,211	173,361	177,265	0.1	0.7
	Received	181,200	184,265	165,569	168,410	171,192	177,612	181,665	0.6	0.6

11/22/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	9,914	10,424	9,697	9,041	8,510	7,708	7,494	0.7	-1.4
	Received	50,273	51,511	44,827	44,065	42,534	39,555	38,860	-1.0	-1.0
Great Lakes and Seaway	Shipped	109,590	149,172	162,836	182,235	203,315	227,211	243,278	4.0	2.2
	Received	107,660	145,355	158,381	177,419	197,943	221,120	236,595	3.9	2.2
Washington/Oregon Coast	Shipped	22,600	24,454	23,951	24,778	24,860	25,225	25,495	0.7	0.2
	Received	24,992	39,119	56,292	58,212	59,986	57,225	56,034	6.7	-0.3
Columbia-Snake Willamette River	Shipped	22,406	27,002	26,438	26,751	26,543	26,950	27,862	1.4	0.3
	Received	25,848	31,502	30,793	31,040	30,707	30,856	31,706	1.4	0.2
California Coast	Shipped	43,257	38,267	38,915	40,271	39,555	37,763	37,874	-0.5	-0.5
	Received	50,472	81,255	79,778	77,488	74,654	69,501	67,492	3.4	-1.1
Alaska	Shipped	19,485	89,101	92,493	87,287	84,025	79,212	77,839	12.2	0.9
	Received	6,077	7,117	7,423	7,994	8,402	8,901	9,299	2.1	1.2
Hawaii and Pacific Territories	Shipped	5,412	5,897	6,585	7,301	8,105	9,097	9,794	2.3	2.3
	Received	6,230	7,641	8,396	9,188	10,148	11,321	12,177	3.0	2.2
Domestic Caribbean	Shipped	32,405	33,726	31,700	31,176	30,983	28,220	28,647	0.3	0.6
	Received	7,931	8,200	8,294	8,504	9,003	9,459	10,014	0.5	1.3
Total	Shipped	976,428	1,118,586	1,162,652	1,265,860	1,366,258	1,498,028	1,557,029	2.0	1.6
	Received	976,428	1,118,586	1,162,652	1,265,860	1,366,258	1,498,028	1,557,029	2.0	1.6

A = less than 500 tons

11/22/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: All Commodities
ALTERNATIVE: High Coal Export

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	59,866	74,995	91,745	104,194	127,993	154,376	164,349	4.4	3.6
	Imports	97,188	108,810	110,798	98,745	102,804	97,260	100,238	0.1	0.1
Illinois River	Exports	2,571	3,982	4,672	4,766	5,873	6,811	7,211	4.9	3.2
	Imports	3,573	2,672	3,266	3,601	3,924	4,283	4,516	0.1	1.8
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	35,406	44,864	51,541	58,399	66,895	78,615	85,959	3.9	3.0
	Imports	137,104	153,612	153,701	133,779	137,893	126,554	129,297	0.2	-0.3
Gulf Coast East	Exports	21,553	23,835	28,429	26,820	26,849	26,922	26,938	1.7	0.0
	Imports	17,689	20,063	20,444	19,070	19,520	18,898	19,424	0.6	0.1
Warrior River System	Exports	5,521	9,196	16,112	25,180	33,767	46,914	50,018	12.4	5.4
	Imports	8,187	8,962	9,784	12,667	15,177	17,702	19,589	3.4	3.4
South Atlantic Coast	Exports	8,618	10,234	12,422	13,470	14,922	16,573	17,688	3.5	2.1
	Imports	20,701	19,052	18,447	18,291	17,815	17,315	17,644	-0.9	-0.3
Middle Atlantic Coast	Exports	56,757	77,258	102,656	106,712	124,570	155,721	165,126	5.0	3.4
	Imports	168,692	161,531	153,373	144,393	142,964	133,629	135,424	1.2	-0.5

11/22/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	1,307	1,625	2,032	2,113	2,201	2,305	2,376	3.8	0.9
	Imports	33,997	27,411	30,228	30,452	29,422	26,084	26,583	-0.8	1.0
Great Lakes and Seaway	Exports	33,765	50,350	58,660	66,753	77,979	90,455	94,785	5.4	2.7
	Imports	29,255	29,035	32,430	35,225	38,495	42,356	45,123	1.4	1.9
Washington/Oregon Coast	Exports	18,060	20,723	22,268	20,951	28,692	33,997	35,643	1.1	4.2
	Imports	20,019	12,548	31,043	31,856	35,185	33,666	34,448	3.6	0.6
Columbia-Snake Willamette River	Exports	12,821	15,832	16,814	16,081	16,027	16,602	18,614	1.8	1.1
	Imports	4,045	3,743	4,395	4,943	5,819	6,783	7,456	1.6	3.2
California Coast	Exports	15,982	16,287	19,108	24,023	28,186	33,818	36,240	3.2	3.2
	Imports	60,029	26,156	27,616	28,637	31,326	34,006	36,791	-5.5	1.9
Alaska	Exports	5,024	2,329	2,309	2,271	2,318	2,387	2,450	-5.9	0.6
	Imports	1,619	1,391	1,313	1,290	1,309	1,307	1,352	-1.7	0.4
Hawaii and Pacific Territories	Exports	147	124	152	170	187	211	228	1.1	2.3
	Imports	5,926	4,844	4,719	4,611	4,632	4,527	4,553	-1.9	-0.1
Domestic Caribbean	Exports	1,463	2,069	1,819	1,839	1,949	2,085	2,184	1.8	1.3
	Imports	51,645	51,931	47,462	45,594	42,985	36,687	36,129	1.0	-1.8
Total	Exports	278,861	353,704	430,742	473,740	558,407	667,794	709,809	4.2	3.2
	Imports	659,651	631,760	649,019	613,154	629,071	601,057	618,564	-0.6	0.1

A = less than 500 tons

11/22/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: All Commodities
ALTERNATIVE: High Coal Export

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	30,874	39,526	44,647	49,685	57,356	66,010	68,739	3.7	2.5
Lower Upper Mississippi	77,493	90,209	101,933	115,458	136,746	160,447	169,556	3.1	3.0
Lower Mississippi	123,598	138,595	155,916	163,016	195,659	231,900	246,567	2.2	3.2
Baton Rouge to Gulf	187,253	210,991	224,623	238,298	271,336	311,693	326,819	1.9	2.5
Illinois River	54,342	61,119	67,230	71,250	80,378	90,230	94,623	2.1	2.2
Missouri River	6,735	7,255	7,399	7,316	7,425	7,733	7,818	0.6	0.5
Ohio River	172,509	180,544	213,251	250,958	288,773	343,448	359,552	2.9	2.8
Tennessee River	26,462	27,069	27,960	44,522	61,086	79,826	86,403	4.1	5.2
Arkansas River	9,396	9,689	9,969	11,656	13,377	15,283	15,840	1.7	2.4
Gulf Coast West	168,762	180,842	162,171	168,367	173,875	181,265	188,813	0.0	0.9
Gulf Coast East	69,429	69,227	77,023	93,924	105,939	120,414	122,188	2.4	2.0
Warrior River System	30,006	31,292	34,610	63,293	77,522	98,323	108,024	5.9	4.2
Great Lakes	126,882	170,656	184,608	205,062	227,807	253,594	271,150	3.8	2.2

a = less than 500 tons

11/22/81

WATERBORNE PROJECTED USE
MILLIONS OF TON MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: All Commodities
ALTERNATIVE: High Coal Export

SEGMENT	1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	% GROWTH 90-03
				YEARS					
Upper Mississippi	10,330	13,547	14,993	16,234	18,933	21,731	22,702	3.5	2.6
Lower Upper Mississippi	13,889	16,498	18,626	20,358	23,990	27,823	29,406	3.0	2.9
Lower Mississippi	70,398	80,023	90,719	93,342	112,996	134,805	143,660	2.2	3.4
Baton Rouge to Gulf	24,105	26,614	29,229	30,139	34,771	40,457	42,716	1.7	2.7
Illinois River	8,210	9,080	10,118	10,799	12,338	13,969	14,683	2.1	2.4
Missouri River	1,926	2,208	2,369	2,499	2,628	2,832	2,963	2.0	1.3
Ohio River	41,493	44,002	53,011	66,581	79,542	97,381	103,337	3.7	3.4
Tennessee River	4,414	4,598	4,787	8,050	11,039	14,291	15,521	4.7	5.2
Arkansas River	1,399	1,500	1,650	2,381	3,023	3,711	3,961	4.2	4.0
Gulf Coast West	22,012	22,735	22,445	23,929	25,283	26,620	27,782	0.6	1.2
Gulf Coast East	3,479	3,430	3,770	5,154	5,945	6,719	7,037	3.1	2.4
Warrior River System	4,782	5,056	5,909	15,207	19,628	26,016	29,029	9.3	5.1
Great Lakes	59,337	83,572	91,051	101,529	113,625	127,464	136,874	4.2	2.3
Total	265,774	312,844	348,677	396,202	463,739	543,819	579,670	3.1	3.0

A = less than 500,000 ton-miles

11/22/81

WATERBORNE PROJECTED USE (1000'S TONS)
DOMESTIC TRAFFIC

COMMODITY: All Commodities
ALTERNATIVE: Misc. Sensitivity

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	Shipped	20,697	28,220	33,137	36,935	43,644	50,534	53,101	4.6	2.8
	Received	16,603	19,059	20,882	24,907	27,406	31,647	32,315	3.2	2.0
Lower Upper Mississippi	Shipped	23,481	25,317	28,451	35,135	40,633	47,942	50,505	3.1	2.8
	Received	9,208	9,426	11,203	17,704	22,590	28,921	30,718	5.2	4.3
Lower Mississippi	Shipped	11,275	12,883	14,020	15,425	17,136	18,901	19,860	2.4	2.0
	Received	25,519	25,250	25,712	27,191	29,008	31,189	31,942	0.5	1.2
Baton Rouge to Gulf	Shipped	88,711	90,331	91,465	96,865	99,998	104,309	107,516	0.7	0.8
	Received	103,667	126,042	137,222	155,188	181,500	211,983	223,603	3.7	2.8
Illinois River	Shipped	32,623	35,215	39,223	40,647	46,694	52,527	54,666	1.7	2.3
	Received	31,380	35,099	38,173	41,790	45,335	50,533	52,774	2.2	1.8
Missouri River	Shipped	5,658	6,120	6,174	5,991	6,027	6,259	6,318	0.4	0.4
	Received	4,641	4,628	4,513	4,200	4,078	4,055	3,868	-0.8	-0.6
Ohio River	Shipped	155,755	163,434	196,658	241,242	275,860	326,283	340,198	3.4	2.7
	Received	149,078	155,206	182,457	208,213	224,898	253,931	261,541	2.6	1.8
Tennessee River	Shipped	10,956	11,206	11,761	13,900	20,257	26,730	29,057	1.8	5.8
	Received	18,618	18,830	19,202	22,421	25,899	31,745	33,398	1.4	3.1
Arkansas River	Shipped	6,666	6,794	7,855	10,372	13,364	17,417	19,945	3.5	5.2
	Received	6,827	6,783	7,574	7,882	8,697	9,969	10,784	1.1	2.4
Gulf Coast West	Shipped	148,926	149,715	137,355	141,931	146,329	150,019	154,996	-0.4	0.7
	Received	75,310	87,630	82,689	87,648	91,461	97,267	102,595	1.2	1.2
Gulf Coast East	Shipped	35,517	35,743	38,930	43,834	50,891	59,154	58,393	1.6	2.2
	Received	42,189	41,512	47,456	57,030	65,910	75,021	78,031	2.3	2.4
Warrior River System	Shipped	23,899	24,640	26,824	35,421	37,731	44,576	48,219	3.1	2.4
	Received	20,455	21,331	22,635	30,103	36,886	47,010	52,379	3.0	4.4
South Atlantic Coast	Shipped	12,464	11,950	11,152	11,005	10,723	10,863	11,365	-1.0	0.2
	Received	37,490	37,040	33,813	32,824	32,062	31,325	31,777	-1.0	0.2
Middle Atlantic Coast	Shipped	159,990	164,255	157,729	161,954	165,211	173,361	177,265	0.1	0.7
	Received	181,200	184,265	165,569	168,410	171,192	177,612	181,665	-0.6	0.6

11/22/81

SEGMENT	IN/OUT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Shipped	9,914	10,424	9,697	9,041	8,510	7,708	7,494	-0.7	-1.4
	Received	50,273	51,511	44,827	44,065	42,534	39,555	38,860	-1.0	-1.0
Great Lakes and Seaway	Shipped	109,605	149,188	162,861	182,269	203,362	227,276	243,359	4.0	2.2
	Received	107,696	145,451	158,472	177,530	198,085	221,297	236,797	3.9	2.2
Washington/Oregon Coast	Shipped	22,600	24,454	23,951	24,778	24,860	25,225	25,495	0.7	0.2
	Received	24,992	39,119	56,292	58,212	59,986	57,225	56,034	6.7	-0.3
Columbia Snake Willamette River	Shipped	22,406	27,002	26,438	28,551	29,643	31,250	32,962	1.9	1.1
	Received	25,848	31,502	30,793	32,840	33,807	35,156	36,806	1.9	0.9
California Coast	Shipped	43,257	38,267	38,915	40,271	39,555	37,763	37,874	-0.5	-0.5
	Received	50,472	81,255	79,778	77,488	74,654	69,501	67,492	3.4	-1.1
Alaska	Shipped	19,485	89,101	92,493	87,287	84,025	79,212	77,839	12.2	-0.9
	Received	6,077	7,117	7,423	7,994	8,402	8,901	9,299	2.1	1.2
Hawaii and Pacific Territories	Shipped	5,412	5,897	6,585	7,301	8,105	9,097	9,794	2.3	2.3
	Received	6,230	7,641	8,396	9,188	10,148	11,321	12,177	3.0	2.2
Domestic Caribbean	Shipped	32,405	33,726	31,700	31,176	30,983	28,220	28,647	-0.3	0.6
	Received	7,931	8,200	8,294	8,504	9,003	9,459	10,014	0.5	1.3
Total	Shipped	1,001,702	1,143,879	1,193,375	1,301,332	1,403,542	1,534,625	1,594,867	2.0	1.6
	Received	1,001,702	1,143,879	1,193,375	1,301,332	1,403,542	1,534,625	1,594,867	2.0	1.6

a = less than 500 tons

11/22/81

WATERBORNE PROJECTED USE (1000'S TONS)
FOREIGN TRADE

COMMODITY: All Commodities
ALTERNATIVE: Misc. Sensitivity

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77 90	90 03
Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Upper Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Lower Mississippi	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Baton Rouge to Gulf	Exports	59,920	75,108	88,497	93,663	112,534	129,702	137,537	3.5	3.0
	Imports	97,255	108,810	110,798	98,745	102,804	97,260	100,238	0.1	0.1
Illinois River	Exports	2,571	3,982	4,672	4,766	5,873	6,811	7,211	4.9	3.2
	Imports	3,573	2,672	3,266	3,601	3,924	4,283	4,516	0.1	1.8
Missouri River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Ohio River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Tennessee River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Arkansas River	Exports	0	0	0	0	0	0	0	0.0	0.0
	Imports	0	0	0	0	0	0	0	0.0	0.0
Gulf Coast West	Exports	35,406	45,028	49,285	53,445	59,605	66,871	73,173	3.2	2.4
	Imports	137,104	153,612	153,701	133,779	137,693	126,554	129,297	-0.2	-0.3
Gulf Coast East	Exports	22,089	23,835	28,429	26,820	26,849	26,922	26,938	1.5	0.0
	Imports	17,812	20,083	20,444	19,070	19,520	18,898	19,424	0.5	0.1
Warrior River System	Exports	5,521	9,200	11,562	14,339	17,868	21,648	22,586	7.6	3.6
	Imports	8,167	8,962	9,784	12,667	15,177	17,702	19,589	3.4	3.4
South Atlantic Coast	Exports	8,618	10,234	12,422	13,470	14,922	16,573	17,688	3.5	2.1
	Imports	20,701	19,052	18,447	18,291	17,815	17,315	17,644	-0.9	-0.3
Middle Atlantic Coast	Exports	56,757	67,339	77,668	85,411	99,269	114,121	119,657	3.2	2.6
	Imports	168,692	161,531	153,373	144,393	142,964	133,629	135,424	-1.2	-0.5

11/22/81

SEGMENT	EXP/IMP	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
North Atlantic Coast	Exports	1,307	1,625	2,032	2,113	2,201	2,305	2,376	3.8	0.9
	Imports	33,997	27,411	30,228	30,452	29,422	26,084	26,583	-0.8	-1.0
Great Lakes and Seaway	Exports	33,765	50,350	58,660	66,753	77,979	90,455	94,785	5.4	2.7
	Imports	29,255	29,035	32,430	35,225	38,495	42,356	45,123	1.4	1.9
Washington/Oregon Coast	Exports	18,060	20,723	22,268	20,114	21,413	23,041	23,881	0.8	1.3
	Imports	20,019	12,569	31,065	31,880	35,208	33,690	34,472	3.6	0.6
Columbia-Snake Willamette River	Exports	12,821	15,332	16,814	16,081	16,027	16,602	18,614	1.8	1.1
	Imports	4,045	3,743	4,395	4,944	5,820	6,784	7,457	1.6	3.2
California Coast	Exports	15,982	16,267	18,555	19,835	22,119	24,688	26,438	1.7	2.2
	Imports	60,029	26,156	27,616	28,637	31,326	34,006	36,791	-5.5	1.9
Alaska	Exports	5,024	2,329	2,309	2,271	2,318	2,387	2,450	-5.9	0.6
	Imports	1,619	1,391	1,313	1,290	1,309	1,307	1,352	-1.7	0.4
Hawaii and Pacific Territories	Exports	147	124	152	170	187	211	228	1.1	2.3
	Imports	5,926	4,844	4,719	4,611	4,632	4,527	4,553	-1.9	-0.1
Domestic Caribbean	Exports	1,463	2,069	1,819	1,839	1,949	2,085	2,184	1.8	1.3
	Imports	51,645	51,931	47,462	45,594	42,985	38,687	38,129	-1.0	-1.8
Total	Exports	279,451	344,046	395,146	421,087	481,112	544,424	575,748	3.2	2.4
	Imports	659,840	631,781	649,042	613,178	629,094	601,082	618,589	-0.6	0.1

a - less than 500 tons

11/22/81

WATERBORNE PROJECTED USE (1000'S TONS)
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC - INBOUND, OUTBOUND, LOCAL, AND THROUGH

COMMODITY: All Commodities
ALTERNATIVE: Misc. Sensitivity

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	31,081	39,750	44,925	50,047	57,801	66,601	69,427	3.7	2.5
Lower Upper Mississippi	78,547	91,333	103,258	116,990	138,138	161,572	170,685	3.1	2.9
Lower Mississippi	128,194	143,137	161,550	167,485	198,897	232,921	248,412	2.1	3.1
Baton Rouge to Gulf	197,369	221,082	235,463	247,977	279,497	317,028	332,603	1.8	2.3
Illinois River	54,638	61,477	67,656	71,764	81,001	90,997	95,489	2.1	2.2
Missouri River	6,787	7,308	7,454	7,374	7,485	7,795	7,881	0.6	0.5
Ohio River	191,360	200,024	235,818	275,861	313,311	367,311	382,936	2.9	2.6
Tennessee River	25,510	26,060	27,087	44,369	59,042	75,714	81,397	4.3	4.8
Arkansas River	9,436	9,583	11,262	14,321	17,976	22,949	26,204	3.3	4.8
Gulf Coast West	169,717	181,827	163,222	169,331	174,602	181,484	188,983	0.0	0.8
Gulf Coast East	76,329	76,055	84,173	102,166	114,625	129,571	131,581	2.3	2.0
Warrior River System	30,076	30,881	33,027	61,786	74,890	91,512	99,332	5.7	3.7
Great Lakes	126,935	170,767	184,724	205,207	227,995	253,838	271,432	3.8	2.2

a = less than 500 tons

11/22/81

WATERBORNE PROJECTED USE
MILLIONS OF TON MILES
MISSISSIPPI RIVER SYSTEM/GREAT LAKES
DOMESTIC TRAFFIC

COMMODITY: All Commodities
ALTERNATIVE: Misc Sensitivity

SEGMENT	YEARS 1977	1980	1985	1990	1995	2000	2003	% GROWTH 77-90	90-03
Upper Mississippi	10,415	13,640	15,109	16,387	19,124	21,986	23,001	3.5	2.6
Lower Upper Mississippi	14,084	16,710	18,874	20,649	24,300	28,158	29,771	3.0	2.9
Lower Mississippi	73,055	82,648	94,052	95,658	114,127	133,823	142,601	2.1	3.1
Baton-Rouge to Gulf	25,101	27,598	30,292	30,802	34,923	39,759	41,891	1.6	2.4
Illinois River	8,267	9,137	10,206	10,903	12,465	14,129	14,865	2.2	2.4
Missouri River	1,952	2,234	2,396	2,527	2,657	2,862	2,994	2.0	1.3
Ohio River	46,063	48,769	58,563	72,827	85,444	102,683	108,436	3.6	3.1
Tennessee River	4,183	4,360	4,579	7,984	10,617	13,465	14,529	5.1	4.7
Arkansas River	1,409	1,485	1,860	2,899	3,994	5,436	6,386	5.7	6.3
Gulf Coast West	22,329	23,084	22,813	24,317	25,670	26,966	28,155	0.7	1.1
Gulf Coast East	3,785	3,727	4,093	5,602	6,428	7,234	7,567	3.1	2.3
Warrior River System	4,788	4,923	5,436	14,808	18,830	23,902	26,322	9.1	4.5
Great Lakes	59,359	83,618	91,099	101,589	113,702	127,584	138,991	4.2	2.3
Total	274,790	321,914	359,372	406,953	472,282	547,967	583,508	3.1	2.8

A = less than 500,000 ton-miles

GLOSSARY OF TERMS

AISI: American Iron and Steel Institute

AIWW: Atlantic Intracoastal Waterway

BADENERGY2003A: A macroeconomic forecast that estimates higher crude oil prices during the forecast period. From 1981 to 2003, the price of imported oil is assumed to rise at a rate of 1.5 percentage points faster per year, so that by 2003 imported oil prices are 36.3% above TRENDLONG2003A.

Baseline: Refers to TRENDLONG2003A.

CCDWD: Commodity Code for Domestic Waterborne Commerce - 4 digit number used by the Army Corps of Engineers Waterborne Commerce Statistics Center to identify specific commodities for reporting purposes. Previously known as CCCS codes.

Analysis Commodity: Forty-eight commodity groups defined as aggregates of the CCDWC codes for NWS analysis purposes (Appendix A).

Reporting Commodity: Fourteen commodity groups defined as aggregates of the 48 analysis commodities for NWS reporting purposes.

Compound Annual Growth: Calculates the growth rate over a period of time, including the effects of increases or decreases in the time series on a year-by-year basis that accounts for multiplicative impacts on overall period growth.

COE: Army Corps of Engineers

Demand Projections: Forecast of future industry or transportation activity.

Econometric: The analysis of historical relationships between time series and a set of explanatory variables, including the use of estimated relationships to forecast future values of the time series.

GIWW: Gulf Intracoastal Waterway

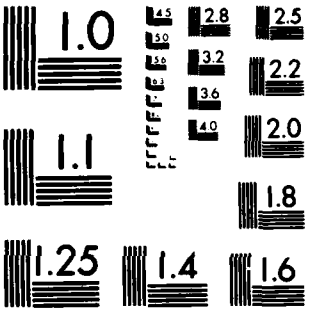
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Industrial Production Index: A measure of the value added by an industry sector to the commodities it processes. The index measures growth in the industry, relative to other sectors.

LARGERGOVT2003A: A macroeconomic forecast that postulates a significantly larger government share in total economic activity. Total government spending rises from 32.3% of GNP in 1981 to 36.2% in 2003, compared to a constant share in the TRENDLONG scenario.

LOOP: A deep draft oil transfer facility in the Gulf of Mexico.

Macroeconomic Scenario: A collection of judgments about the future of the United States economy that are used to develop a forecast of future economic activity. Typical judgments include the role of the government in the economy and energy prices.

Market Share: The percentage of a defined economic market attributable to a firm. For example, waterways have a market share of total coal shipments in the United States.

NWS: National Waterway Study

Port Equivalent: A reach of river or waterway within the Mississippi River and tributaries, and the Gulf Coast Waterways systems. A port equivalent is usually defined on physical features and locks. Port equivalents are smaller than NWS segments.

Price Deflation: Adjusting a current dollar measure to produce a constant dollar measure is accomplished using a series of how prices of the measure have changed over time (the price deflator).

Real Wages: Wage measures corrected for general inflation over time. Measures changes in total hours worked or how energy prices relate to general price changes.

Segment: A stretch of inland or coastal waterway including all contiguous ports and facilities. Can refer to bordering banks and shores as well as component waterway projects and channels.

Analysis Segments: Sixty-two segments defined for National Waterway Study to encompass all commercial ports and waterways for analysis purposes.

Reporting Segments: Twenty-two segments defined as aggregates of the analysis segments for reporting purposes.

Sensitivity: Testing how a measure changes when an underlying explanatory factor shifts. For example, analyzing the impact of changing gasoline prices on the quantity of gasoline demanded.

Ton: A unit of weight equal to 2,000 pounds avoirdupuis (907.20 kilograms); short ton.

Ton-Mile: A unit of transportation production equal to the movement of one tone a distance of one statute mile.

Transit Time: Total time involved in moving equipment through a facility. For example, the time a towboat and barges take to transit a lock on the river system.

TRENDLONG2003A: A macroeconomic forecast that estimates that the economy returns to its balanced growth path by the mid-1980s, in the context of moderating inflation.

Unconstrained Traffic Demand: Traffic growth unrestricted by transportation facility capacities.

Variable: A concept that is allowed to change over time, as opposed to a parameter which is assumed to be constant over time.

WCSC: Waterborne Commerce Statistics Center - Data collection and publication center for the the Army Corps of Engineers.

Traffic Terminology:

Inbound: Traffic which terminates on a given segment, having originated on a different segment.

Outbound: Traffic which originates on a given segment, but terminates on a different segment.

Through: Traffic which traverses all or part of a given segment, but originates and terminates on other segments.

Within: Traffic which both originates and terminates on a given segment. Also occasionally referred to as internal or local traffic, although these terms have other formal meanings.

Lakewise: Domestic waterborne traffic which moves between ports on the Great Lakes.

Coastwise: Domestic waterborne traffic receiving carriage over the ocean or the Gulf of Mexico (e.g., New Orleans to Tampa, Chicago to Boston, or New York to San Francisco). Does not include traffic within Chesapeake Bay or Puget Sound.

Internal: Domestic waterborne traffic between ports or landings where the entire movement takes place on inland waterways or on both inland waterways and the Great Lakes. Also includes marine products taken from the ocean beds (sand and gravel, shells, fish), and traffic between offshore installations and inland waterways.

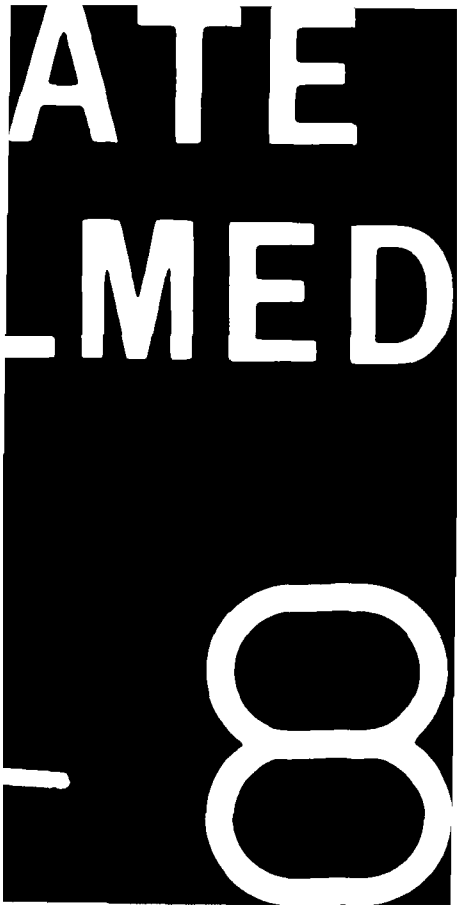
Local: Waterborne movements which occur wholly within the confines of a given port. Also, marine products taken from the Great Lakes.

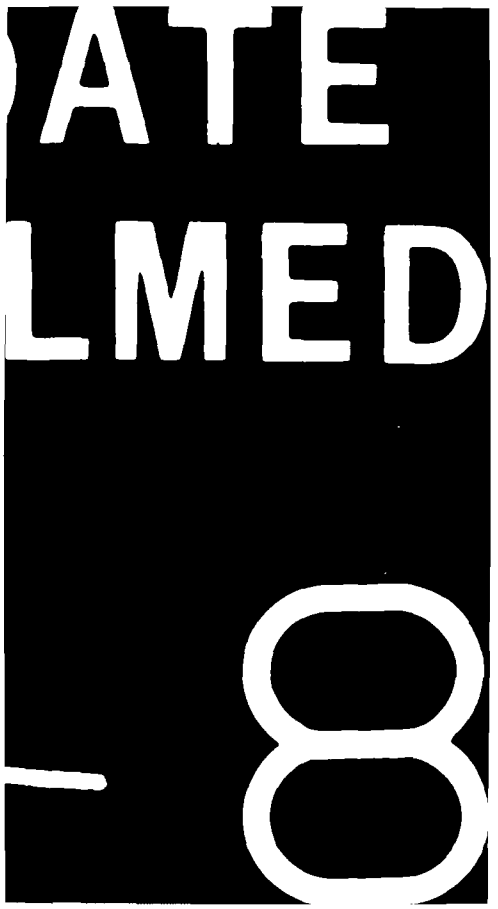
Intraterritory: Traffic between ports in the Virgin Islands and Puerto Rico.

Received: Unloaded from a barge or vessel in a specified area. Also referred to as "terminated" or "terminating" in the are, or as receipts.

Shipped: Loaded onto a barge or vessel in a specified area. Also referred to as "originated" or "originating" in the area, or as shipments.

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