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PRELIMINARY DRAFT

ENVIRONMENTAL IMPACT STATEMENT
FOR PROPOSED CLOSURE OF
EAKER AFB, ARKANSAS



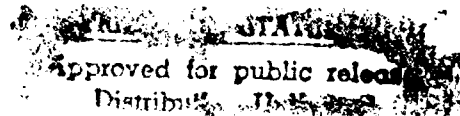
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PRELIMINARY DRAFT

ENVIRONMENTAL IMPACT STATEMENT

FOR PROPOSED CLOSURE OF

EAKER AIR FORCE BASE, ARKANSAS

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United States Air Force

May 1990

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COVER SHEET

DRAFT ENVIRONMENTAL IMPACT STATEMENT
PROPOSED CLOSURE OF EAKER AIR FORCE BASE,
ARKANSAS

- a. **Responsible Agency:** U.S. Air Force
- b. **Proposed Action:** Closure of Eaker Air Force Base (AFB), Arkansas
- c. **Written comments and inquiries on this document should be received by TBS and directed to:**
Director of Environmental Planning, AFRCE-BMS/DEP, Norton AFB, San Bernardino,
California 92409-6448.
- d. **Designation:** Draft Environmental Impact Statement (DEIS)
- e. **Abstract:** During the late summer of 1989, the Air Force began a thorough review of its force structure, property, and facility requirements needed to support national security policy and future fiscal realities. As a result of this review process, the Secretary of Defense, on 29 January 1990, announced his proposal to close or realign a number of military bases. Eaker AFB, Arkansas, has been identified as a candidate for closure by late 1993. Prior to closure decisions, studies of strategic, operational, budgetary, fiscal, environmental, and local economic consequences are required under Title 10 USC 2687. In accordance with the National Environmental Policy Act (NEPA), the results of the environmental study are described in this DEIS, which includes analyses of community setting, land use and aesthetics, transportation, utilities, hazardous materials, geology and soils, water resources, air quality, noise, biological resources, and cultural and paleontological resources. Alternatives to closure of Eaker AFB analyzed in this DEIS include closure of Wurtsmith AFB, Michigan, and no action. If a decision is made to close either Eaker AFB or Wurtsmith AFB, a second EIS will be prepared to cover the final disposition/reuse of the excess property. After base closure, but prior to final decisions on reuse, a caretaker force would be established to provide maintenance of buildings, grounds, and essential utility systems, and to restrict access to the base.

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SUMMARY

PURPOSE AND NEED

During the late summer of 1989, the Air Force began a thorough review of its force structure, property, and facility requirements needed to support national security policy and future fiscal realities. As a result of this review process, the Secretary of Defense, on 29 January 1990, announced his proposal to close or realign a number of military bases. Eaker Air Force Base (AFB), Arkansas, has been identified as a candidate for closure by late 1993. Prior to closure decisions, studies of strategic, operational, budgetary, fiscal, environmental, and local economic consequences are required under Title 10 USC 2687. In accordance with the National Environmental Policy Act (NEPA), the results of the environmental study are described in this Draft Environmental Impact Statement (DEIS). Alternatives to closure of Eaker AFB analyzed in this DEIS include closure of Wurtsmith AFB, Michigan, and no action. If a decision is made to close either Eaker AFB or Wurtsmith AFB, a second EIS will be prepared to cover the final disposition/reuse of the excess property. After base closure, but prior to final decisions on reuse, a caretaker force would be established to provide maintenance of buildings, grounds, and essential utility systems, and to restrict access to the base.

SCOPE OF STUDY

The Air Force initiated the scoping process on 9 February 1990 with the publication in the *Federal Register* of the Notice of Intent (NOI) to prepare an EIS to address impacts of the proposed closure of Eaker AFB, Arkansas. A second NOI was published on 4 May 1990 announcing that closure of Wurtsmith AFB, Michigan, would be studied as an alternative. Public scoping meetings were held on 13 March 1990 in Blytheville, Arkansas, and 16 May 1990 in Oscoda, Michigan. These meetings were conducted to solicit public comments and to identify environmental concerns related to the possible closure actions. Comments were also invited on the environmental issues that should be analyzed in subsequent studies on the final disposition/reuse of base properties. The scope of study for this EIS was based on the results of the public scoping process, discussions with public officials, past experience with programs of a similar nature, and the requirements of NEPA.

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According to the Council on Environmental Quality regulations for implementing NEPA, "The NEPA process is intended to help public officials make decisions that are based on understanding environmental consequences, and take actions that protect, restore, and enhance the environment" (40 CFR 1500.1). The focus of this EIS is, therefore, on evaluation of impacts to the environment associated with the proposed action and its alternatives. In order to provide the context in which impacts to the environment may occur, discussions of potential changes to community setting, land use and aesthetics, transportation, and community utility services are included in the EIS. In addition, issues related to current and future management of hazardous materials are discussed. Impacts to the natural or physical environment are evaluated for the following resource categories: geology and soils, water resources, air quality, noise, biological resources, and cultural and paleontological resources. These impacts may occur as a direct result of base closure or as an indirect result of changes to the community or changes in hazardous material management practices.

CHANGES TO THE LOCAL COMMUNITIES

Base closures would cause changes in the support communities for either Eaker AFB or Wurtsmith AFB.

Eaker AFB

Community Setting. It is estimated that the closure of Eaker AFB would result in a reduction of approximately \$84 million in total income and about \$60 million in total spending. These changes are expected to result in the loss of a total of approximately 4,500 jobs. Total expected population outmigration would be about 14,200.

It has been estimated that the housing vacancy rate in the surrounding communities of Blytheville and Gosnell would increase from about 5 percent to 50 percent, making it difficult to sell homes and relocate. Area schools would lose about 1,414 students, most of them from the Gosnell School District, which could experience a 63.8 percent decrease in enrollment.

Land Use and Aesthetics. Although housing vacancies would increase and some businesses would close, local land use patterns and zoning policies would probably not change significantly. Any such

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changes would probably be in the context of reuse and development plans. Current Air Installation Compatible Use Zone incompatibilities would be removed as a result of discontinuation of flight operations at the base.

Transportation. Vehicle traffic in the vicinity of the base gates would decrease by about 65 percent during peak traffic hours and about 45 percent overall. This would contribute, along with the cessation of aircraft operations, to a reduction in noise levels and air pollution emissions on and near the base.

Utilities. Wastewater facilities at the base and neighboring communities would experience significant underloading if the base is closed. Failure to adequately address this problem would result in impacts to local surface water quality. Base closure would also decrease demand for potable water, natural gas, and electricity.

Wurtsmith AFB

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HAZARDOUS MATERIALS

Eaker AFB

All hazardous materials and waste used or generated by Eaker AFB would be properly disposed of and all residual contamination would be remediated in accordance with an Environmental Protection Agency Resource Conservation and Recovery Act-approved closure plan. Phases 3 and 4 of the Installation Restoration Program will be conducted for the eight identified sites independent of the base closure process. Removal of polychlorinated biphenyls, a comprehensive asbestos survey, and testing of underground storage tanks would be completed by the base prior to closure.

Wurtsmith AFB

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IMPACTS TO THE PHYSICAL ENVIRONMENT

Impacts to the physical environment associated with closure of Eaker AFB or Wurtsmith AFB are summarized in Table S1. Under the no action alternative, Eaker AFB would remain active. This alternative would not alleviate growing fiscal constraints or allow the necessary streamlining of the strategic forces. The no action alternative is not expected to have any significant environmental consequences.

Table S1

Impacts to the Physical Environment
Associated with Base Closure Actions

Resource Category	Impacts of Base Closure	
	Eaker AFB	Wurtsmith AFB
Geology and Soils	• No effect on geology or available mineral resources. • Future soil contamination and erosion would be avoided.	
Water Resources	• Decreased demand on groundwater aquifers. • No effect on local water supply. • Reduced potential for onbase surface water and groundwater contamination from future hazardous waste handling. • Offbase surface water quality could be affected if reduced flows at the sewage treatment plants are not properly mitigated.	
Air Quality	• Reduced emissions from motor vehicles, aircraft, and the base incinerator would result in 0.1 to 14% reductions of various contaminants in Mississippi County.	
Noise	• Substantial reduction in aircraft noise. • Reduced traffic noise.	
Biological Resources	• No effects on vegetation or wildlife. • Minor beneficial impacts to wetlands may occur. • No threatened or endangered species would be adversely affected.	
Cultural and Paleontological Resources	• Some vandalism of prehistoric resources could occur if proper caretaker security is not implemented. • No historic structures occur on the base. • No paleontological resources would be affected.	

1.0 PURPOSE AND NEED FOR ACTION

1.1 INTRODUCTION

The Department of Defense (DOD) has a continuing policy to identify facilities, property, and installations that are no longer essential to support current or programmed force structure. During the late summer of 1989, the Air Force began a thorough review of its force structure, property, and facility requirements needed to support national security policy and future fiscal realities. As the Air Force went through the process of determining how best to scale its assets to the threat environment and fiscal constraints, it found that existing Air Force property use is not always maximized. In addition, the perceived reduced Soviet military threat has provided the opportunity to consider scaling down United States military force structure. As a result, the Secretary of Defense, on 29 January 1990, announced his proposal to close or realign a number of military bases. Eaker Air Force Base (AFB), Arkansas, has been identified as a candidate for closure.

Base closure is defined as the inactivation of all flying and support units, and the transferral of all personnel and equipment. No construction or demolition activities are planned as part of this proposed closure action. A caretaker team will be established in the event of closure to provide sufficient maintenance to prevent deterioration of buildings, perform minimal maintenance of grounds, maintain the water supply system, and provide adequate security. The installation will remain under Air Force control within a secured boundary.

During 1990, the Air Force will address closure and realignment options along with the strategic, operational, budgetary, fiscal, environmental, and local economic consequences of the potential closure of Eaker AFB as required by Title 10 USC 2687. In accordance with the National Environmental Policy Act (NEPA), the decision on whether or not to proceed with the closure of Eaker AFB will not be made without an analysis of the environmental consequences of the proposal. As part of this environmental study process, the Air Force will prepare an Environmental Impact Statement (EIS) to assess the potential environmental impacts of the possible closure of Eaker AFB. If a decision is made to close the base, a second EIS will be completed to cover the final disposition/reuse of the excess property.

1.2 SCOPING PROCESS

The Council on Environmental Quality (CEQ) regulations implementing NEPA require an early and open process for determining the scope of issues related to the proposed action. The Air Force initiated this process with the publication of a Notice of Intent to prepare an EIS for the proposed closure action in the *Federal Register* on 9 February 1990. Soon after, written requests were sent by the Air Force to the responsible federal, state, and local agencies to submit their concerns and issues to be analyzed in the EIS. On 13 March 1990, a public scoping meeting was conducted at the Ritz Theater in Blytheville, Arkansas, to solicit comments and identify concerns related to the closure of Eaker AFB. Comments were also invited on the environmental issues that should be analyzed in subsequent environmental studies on the final disposition/reuse of base property.

1.2.1 Summary of Scoping Issues

The following issues and concerns were identified either at the scoping meeting for the proposed closure of Eaker AFB or in written statements received before or after the meeting. Comments that are related to environmental issues are presented first, followed by general comments.

- The historic sites on Eaker AFB should be preserved because these are potential teaching tools that need to be developed for future students.
- The burial sites of Native Americans might be left unguarded after the base is closed.
- A security system should be implemented if the base is closed.
- Toxic compounds and ordnance onbase should be removed prior to base closure.
- As a result of the decrease in customers, the local sewage treatment facility would experience operational difficulties due to sewer underloading.

General Comments

- If the base is closed, a federal agency must be appointed to determine whether the base will be converted into a prison or low-income housing.

- Road improvements for county and city streets would be less because there would not be enough tax revenue generated by the remaining industries in the area, which are predominantly agronomic-related.
- Analysis of the economic impact of closing the base is critical because closure of the base would economically cripple 100 square miles around Eaker AFB; if the local area becomes more depressed, there would be more dependence on the federal government; adverse economic effects are already being experienced by the economy with the announcement of the study to close the base; it would be difficult to attract industry and people to move into Mississippi County with the closure of the base; and a number of businesses would experience significant losses or possible closure.
- The base creates 2,500 jobs that would be lost if Eaker AFB was closed.
- Eaker AFB is the 30th largest employer in the State of Arkansas and the largest employer in Mississippi County. This represents a significant number of lost jobs if the base was closed.
- Unemployment in Mississippi County is 15.3 percent, which is twice the national average. Loss of jobs from the base closure would increase that rate.
- As a result of losses in income, an estimated 20 to 30 homes would have to be foreclosed. An estimated \$99 million in FHA/VHA loan foreclosures would occur if the base was closed.
- With an estimated 11,000 people gone, 37 percent of houses would be empty, and real property values would decline.
- Closure of the base would cause the local sewage treatment facility to pass on losses to customers by increasing service costs approximately 35 percent.
- Closing the base, plus the impact of vacant houses, would cause the local electrical facility to lose an estimated \$4 million in revenue.
- Eaker AFB is the second largest user of natural gas in the county, and the closure of the base would affect this utility's source of revenue.

- Inactive military retirees from the four-state region use Eaker AFB for medical and commissary privileges, and closure of the base would cause hardships for people who would have to go to other bases.
- The county hospitals would experience a revenue loss as a result of base closure, and would have a difficult time attracting health care professionals to the area if there is a decrease in revenue.
- There would be a strong effect on the Gosnell Public Schools System if the base was closed because more than 50 percent of the students are military dependents. The school system would lose the \$1.2 million per year it receives for military dependent students.
- Military dependents who are employed as teachers and noncertified aids would also be lost to the school system if the base is closed.
- The local community college would experience an estimated 20 percent loss in both students and budget as a result of base closure.
- Eaker AFB should be kept open as it is strategically located, the area has good weather, local community support is very strong for the Air Force, and closure of the base would have a negative social, economic, and cultural impact on the community.

1.2.2 Issues Beyond the Scope of this EIS

Concerns and issues regarding impacts that would be caused by the disposal of the facilities or their reuse were also expressed in the public scoping meeting and through written comments received during the comment period. Issues that were identified that are beyond the scope of this EIS include the following:

- Environmental impacts of Eaker AFB reuse.
- Socioeconomic impacts on local communities including changes in jobs, population, school enrollments, housing, income, property values, tax revenues, and other local economic activities resulting from disposition or reuse of base facilities.

- Continuation of the Installation Restoration Program (IRP) activities. The IRP sites are addressed only to the extent that they are related to the closure action.
- The potential environmental impacts that may occur at the receiving bases will be addressed in separate environmental assessments at those installations and are beyond the scope of this EIS.

1.2.3 Related Environmental Studies

Other studies recently completed or being conducted by federal, state, or local agencies that are closely related to the proposed closure of Eaker AFB include the following:

- In addition to this EIS, the Air Force is conducting five other studies as required by Title 10 USC 2687. These are:
 - A strategic study that will address the changing global military power base and examine the interplay between force structure, national defense policy, and power projection requirements. This study will also address the impact of reducing conventional, strategic, and space systems as the threat to national security is reduced.
 - An operational study that will address the operational environment of aircraft and identify special operational characteristics, restricted areas, military operating areas, zoning, range-use rights, and other significant operational issues. It will also include all tenant units and joint service missions, supported or needing replacement, if the decision is made to close the installation.
 - A budgetary study that will determine current year programmed dollar costs and savings associated with the relocation or retirement of the aircraft and the inactivation or relocation of associated operations and support units.
 - A fiscal study that will use the budget evaluation as a springboard, and analyze past, present, and future costs and savings associated with the retirement of aircraft and the inactivation or relocation of associated

operational and support units. Costs of closing and savings will be detailed through a life-cycle cost model.

- A local economic consequences study that will address the direct payroll loss to the immediate community and the secondary payroll impact on local businesses caused by the loss of military personnel, dependents, and civilian workforce. In addition, the study will examine the effects on the local real estate market and schools from a loss of personnel. If data are available, the study will address losses to other local industries that depend on the base. The study will also cover projected growth in the community and the potential for reuse, both interim and long term, if available.
- Separate environmental documents will be prepared as needed for the transfer of aircraft to the following receiving bases: Malmstrom AFB, Montana; Barksdale AFB, Louisiana; and Plattsburgh AFB, New York. Additional documents may be prepared when the destination of other aircraft is known.

1.3 RELEVANT FEDERAL, STATE, AND LOCAL STATUTES, REGULATIONS, AND GUIDELINES

Federal:

- NEPA: Requires consideration of environmental impacts in federal decision-making.
- President's CEQ regulations: Implement the NEPA process.
- Endangered Species Act of 1973: Conserves ecosystems for the use of endangered or threatened species.
- National Historic Preservation Act: Protects districts, buildings, sites, and objects significant to American history.
- Clean Water Act: Reduces water pollution and the discharge of toxic and waste materials into all waters.
- Clean Air Act: Reduces air pollution dangerous to public health, crops, livestock, and property.

- Resource Conservation and Recovery Act: Regulates the disposal of hazardous waste.
- Federal Insecticide, Fungicide, and Rodenticide Act: Controls the application of pesticides to provide greater protection to humans and the environment.
- Comprehensive Environmental Response, Compensation and Liability Act, as amended by the Superfund Amendments and Reauthorization Act: Provides for liability, compensation, clean-up, and emergency response for hazardous substances released into the environment and the clean-up of inactive hazardous waste disposal sites.
- Toxic Substance Control Act: Regulates commerce and protects human health and the environment by requiring testing and use restrictions on certain chemical substances and for other purposes.
- Intergovernmental Review of Federal Programs, Executive Order 12372: Provides the opportunity for consultation by state and local governments of federal financial assistance or direct federal development.

Air Force:

- Environmental Impact Analysis Process (Air Force Regulation [AFR] 19-2): Gives specific procedural requirements for Air Force implementation of NEPA.
- Pollution Abatement and Environmental Quality (AFR 19-1): States policies and assigns responsibilities for the development of an organized, integrated, and multidisciplinary environmental protection program to ensure the Air Force, at all levels of command, conducts its activities in a manner that protects and enhances environmental quality.
- Environmental Pollution Monitoring (AFR 19-7): Sets up environmental pollution monitoring programs for Air Force installations.
- Interagency and Intergovernmental Coordination of Land, Facility, and Environmental Plans, Programs, and Projects (AFR 19-9): Requires intergovernmental and interagency coordination.

- Conservation and Management of Natural Resources (AFR 126-1): Provides policies, procedures, and functional responsibilities for managing and conserving soil, water, forest, fish, wildlife, and outdoor recreation resources on Air Force lands.
- Natural Resources Land Management (AFR 126-2): Provides for development, improvement, maintenance, and conservation of real property on DOD installations.

State:

- Arkansas Air Pollution Control Regulations: Establishes standards and permitting processes.
- Arkansas Hazardous Waste Management Act: Establishes a program to provide safe and adequate management and disposal of hazardous wastes.
- Arkansas Regulations Establishing Water Quality Standards for Surface Waters: Establishes water quality standards for surface waters.
- Arkansas Regulations for the Control of Volatile Organic Compounds: Establish standards, permitting processes, and compliance testing and reporting.
- Arkansas Resource Reclamation Act: Establishes a program for recovery and conservation of natural resources including reclamation of hazardous wastes.
- Arkansas Solid Waste Disposal Regulations: Establish permitting procedures, storage and disposal methods, and inspection and enforcement.
- Arkansas Solid Waste Management Act: Regulates collection and disposal of solid waste.
- Arkansas Utility Facility Environmental and Economic Protection Act: Requires filing an EIS, discussion of alternatives, and economic evaluation to obtain certificate of Environmental Compatibility and Public Need.
- Arkansas Water and Air Pollution Control Act: Establishes standards for existing air and water pollution, permitting processes, and compliance testing.

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- State Plan for the Conservation of Archeological Resources in Arkansas: Provides policy statements, information on existing cultural resources data and research contexts, development of operating plans and management units for planning purposes, and standards for conducting fieldwork and preparing reports.

Local:

- No local statutes or regulations pertain to the base closure process.

2.0 ALTERNATIVES INCLUDING PROPOSED ACTION AND SUMMARY OF IMPACTS

2.1 INTRODUCTION

The perceived reduction in the Soviet military threat has provided the opportunity to consider scaling down the United States force structure. Growing fiscal constraints in combination with a reduced threat mandate a restructuring of the strategic force. The Department of Defense is, therefore, studying the closure of numerous military installations across the United States, including Eaker Air Force Base (AFB), Arkansas.

2.2 DESCRIPTION OF THE PROPOSED ACTION

The proposed action is to close Eaker AFB by the end of fiscal year 1993. Closure of Eaker AFB would involve the inactivation or relocation of the following units:

- Inactivation of the 97th Bombardment Wing. This would include retiring 13 B-52G aircraft to Davis-Monthan AFB, Arizona, and reassigning one B-52G aircraft to a location to be determined (Figure 2.2-1).
- Relocation of the 14 KC-135 aircraft assigned to 97th Bombardment Wing among three Strategic Air Command Wings as follows.
 - 8 KC-135As to Malmstrom AFB, Montana;
 - 4 KC-135As to Barksdale AFB, Louisiana; and
 - 2 KC-135As to Plattsburgh AFB, New York.
- Inactivation of all remaining Eaker AFB support units, as appropriate. These include the 2102nd Communications Squadron; 3753rd Field Training Squadron; Det. 14, 21st Weather Squadron; and Det. 814, Air Force Office of Special Investigation.

Manpower Drawdown Schedule. The proposed action would result in a reduction of 3,022 military and 722 civilian jobs at the base. The proposed schedule for manpower drawdown, as a result of the base closure, is shown in Figure 2.2-2.

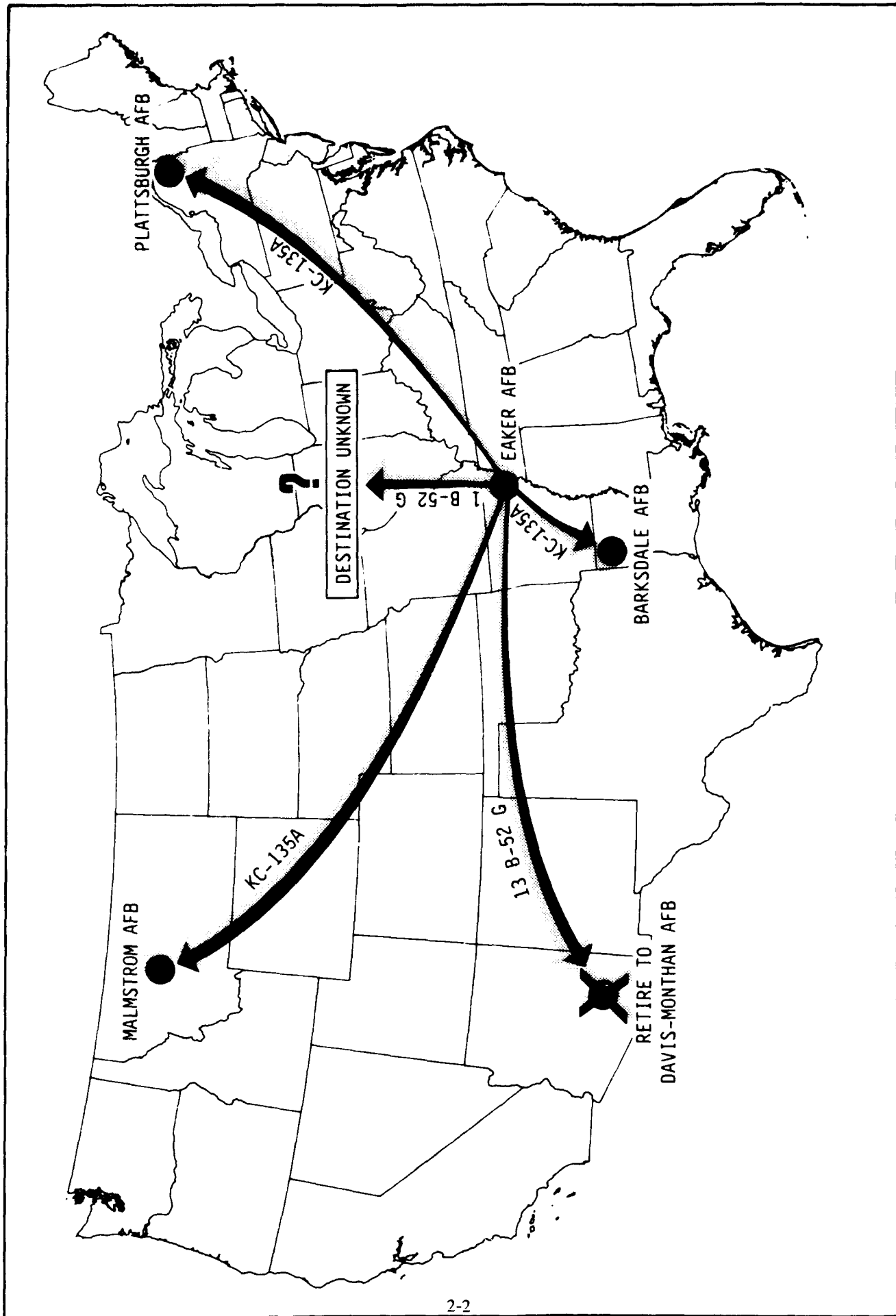
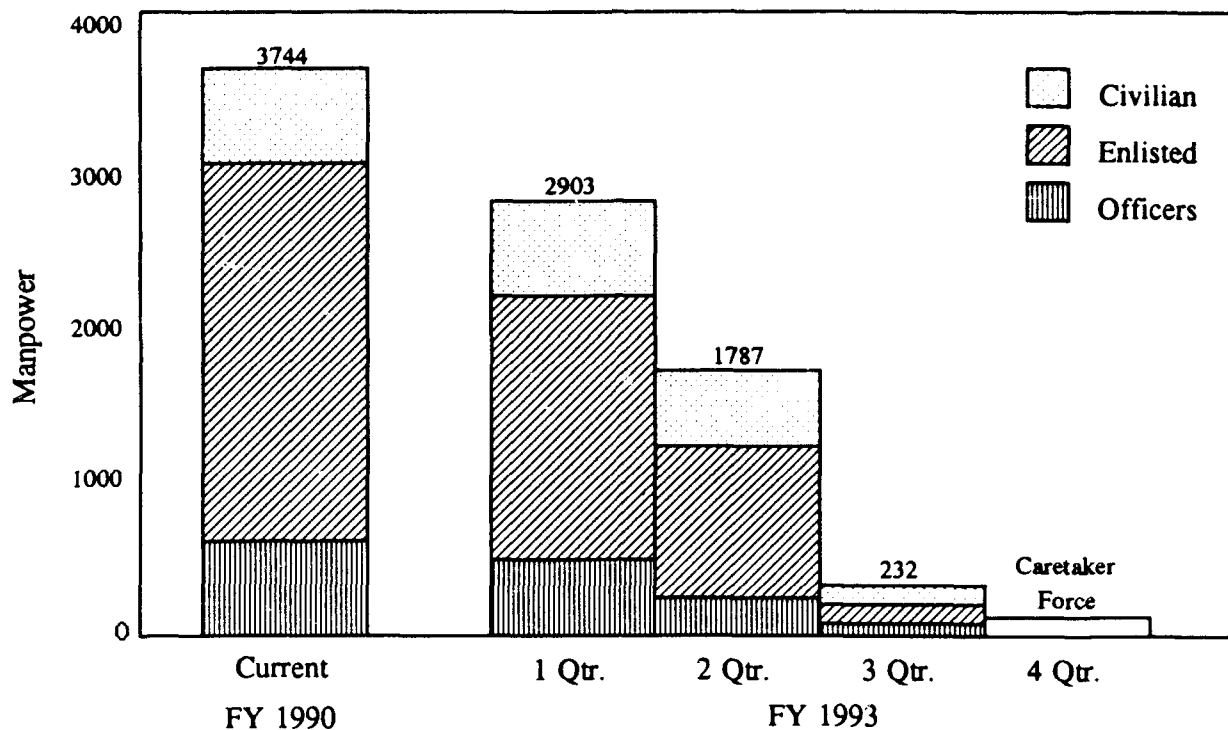


FIGURE 2.2-1 RELOCATION OR DEACTIVATION OF UNITS FROM EAKER AFB, ARKANSAS



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FIGURE 2.2-2 MANPOWER DRAWDOWN SCHEDULE FOR THE PROPOSED CLOSURE OF EAKER AFB, ARKANSAS

2.3 ALTERNATIVE 1, WURTSMITH AIR FORCE BASE, MICHIGAN

Under this alternative, Wurtsmith AFB, Michigan, would be closed in place of Eaker AFB, Arkansas. However, Wurtsmith AFB is ideally suited for training operations since it is close to low-level training routes, which minimizes flight time while maximizing tanker aircraft capability. Wurtsmith AFB is also a future home for the Peacekeeper Rail Garrison Program. In addition, classified justification exists for not considering Wurtsmith AFB as an alternative.

2.4 NO ACTION ALTERNATIVE

Under the no action alternative, Eaker AFB would remain active. This alternative would not alleviate growing fiscal constraints or allow the necessary streamlining of the strategic forces. The no action alternative is not expected to have any significant environmental consequences.

2.5 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

Three alternatives were investigated but eliminated from further consideration. These are:

Remove B-52s From Eaker AFB; Backfill the Base With Another Mission. Reduced requirements have driven a reduced force structure and an associated decrease in funding. This has created a need to consolidate Air Force assets. In an attempt to do more with less, assets will have to be based in the North and Northeast to provide the greatest efficiency. With the new force structure, there will be sufficient assets in the central and southern United States to support the required training and operational taskings. The defense budget does not warrant supporting a replacement mission. This, in addition to the military construction requirements for a new mission, precludes the feasibility of this alternative.

Keep Eaker AFB Open With Tankers Only. This option retires the 14 B-52G aircraft, but keeps remaining force structure and personnel in place. To operate Eaker AFB as a tanker wing only would require 1,800 personnel to support 84 tanker crewmembers and 14 tankers. These figures are skewed because a minimum support package is required to maintain adequate support for a wing. This alternative significantly reduces the personnel and maintenance savings to be derived from base closure. It also reduces the strategic benefits gained by increasing the bomber-to-tanker ratio at proposed KC-135 gaining locations. Therefore, this alternative is not feasible.

Close Barksdale AFB in Place of Eaker AFB. As a large multimission base, Barksdale AFB is home to a large Air Force Reserve A-10 unit. It encompasses 22,382 acres of land, 5.8 times the acreage of Eaker AFB. The base's infrastructure replacement value is \$1,128 million, almost three times the value of Eaker AFB. Barksdale AFB's location and extensive conventional weapons storage capacity provide the Air Force flexibility and timely support of conventional operation in both the European and Pacific theaters. Peacetime training is enhanced by Barksdale AFB's structure and location. The base's tanker assets are vital to meet the high demand of receiver aircraft refueling requirements in this region. Over 60 percent of their air refueling missions provide operational refueling support for Headquarters and Joint Chiefs of Staff-directed missions. Barksdale AFB is a future home for Peacekeeper Rail Garrison, a modernized intercontinental ballistic missile system. Considering the overall value of this base in comparison to Eaker AFB, closure of this base was not considered further.

2.6 SUMMARY OF ENVIRONMENTAL IMPACTS

A complete summary of changes to the local community, changes in hazardous materials management practices, and impacts to the physical environment is provided in the Summary and Table S1. More detailed discussions are provided in Chapter 4.0, Environmental Consequences.

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3.0 AFFECTED ENVIRONMENT

Chapter 3.0 provides descriptions of the environmental context and affected environment at both Eaker Air Force Base (AFB), Arkansas, and Wurtsmith AFB, Michigan. Within the section on each base, discussions of the environmental setting or context are provided first. The parameters of the local community setting, land use and aesthetics, transportation, and utilities are detailed because changes in these conditions may cause impacts to the physical environmental resources. Issues relating to the current treatment of hazardous materials are also discussed. Baseline environmental conditions are organized within the following resource categories: geology and soils, water resources, air quality, noise, biological resources, and cultural and paleontological resources.

3.1 EAKER AIR FORCE BASE, ARKANSAS

Eaker AFB was activated as Blytheville Army Air Field on June 10, 1942. The field served as an advanced flying school, and its role as a training center continued until the end of World War II. After the war, the base was used as a processing center for personnel being discharged until the installation was deactivated in October 1945. Upon deactivation, control of the land was transferred to the City of Blytheville. From 1947 to 1955, the site was used for manufacturing, private housing, a church and cemetery, and an airport. The base was reactivated as Blytheville AFB in 1955 under the control of the Tactical Air Command, and became home to the 461st Bombardment Wing. The 461st was inactivated in 1958 and the base was transferred to Strategic Air Command (SAC) under the 4229th Air Base Squadron.

The 97th Combat Support Group took charge of Blytheville AFB in 1959 and the base became the home of the 97th Bombardment Wing. The first B-52G aircraft arrived at the base in 1960. In May 1972, B-52s were deployed for bombing missions in the Southeast Asia war zone. Crews from the 97th Bomb Wing flew the final bombing missions over Vietnam and Cambodia in 1973.

Blytheville AFB was considered for possible closure between 1975 and 1979, and again in 1985. In May 1988, the base was renamed Eaker AFB in honor of the late General Ira C. Eaker. Since about 1958 the base's primary mission has not changed, and it continues to be home of the 97th

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Bombardment Wing. As of September 1986, the base was assigned 15 B-52G bombers, 15 KC-135A tankers, and 5 T-35B trainers.

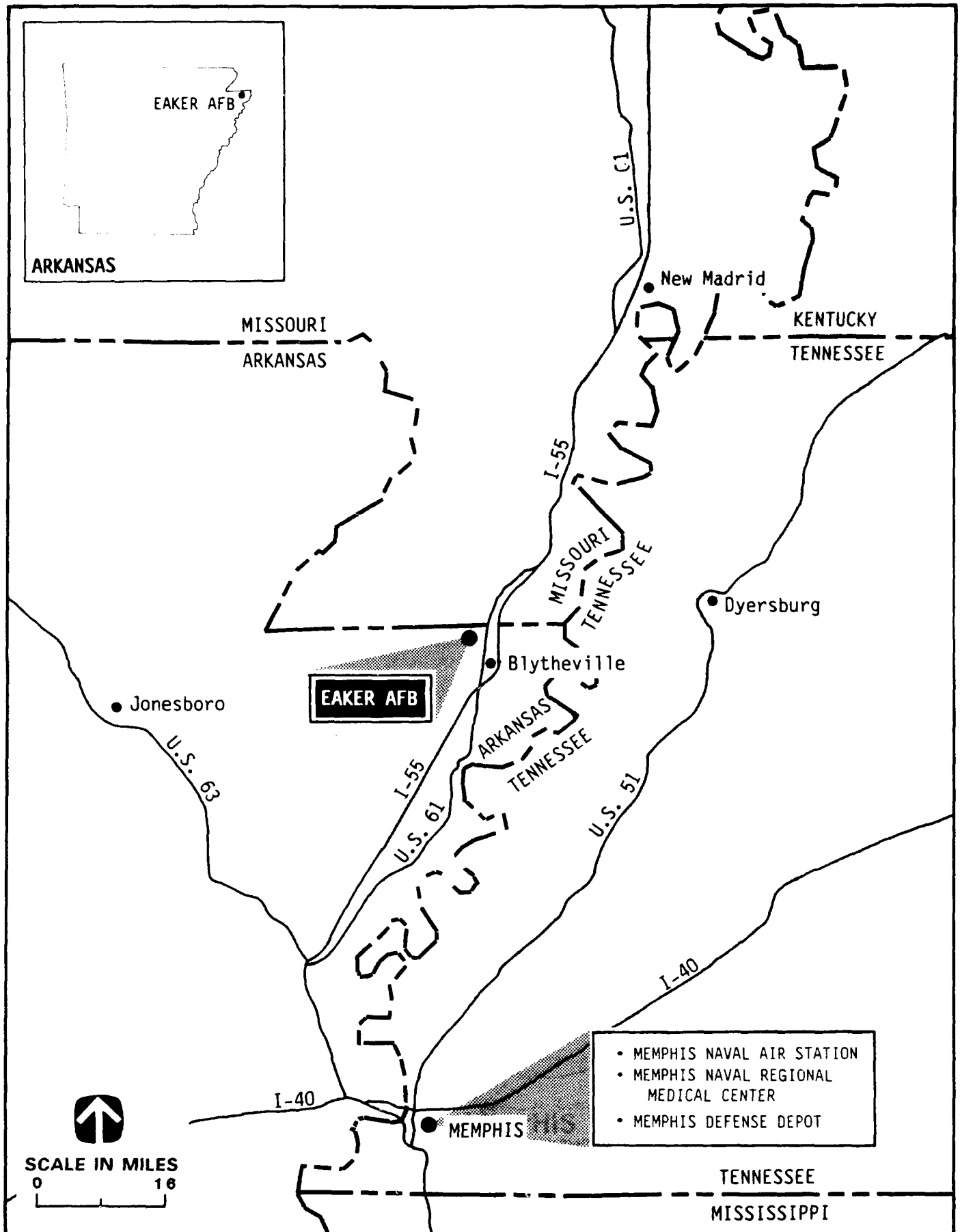
Eaker AFB comprises an area of 3,931 acres adjacent to Blytheville to the south and Gosnell to the west. The host unit for this Strategic Air Command base is the 97th Bombardment Wing, with B-52G bomber and KC-135A tanker aircraft. Eaker AFB employed a total of 3,290 military personnel (461 officer and 2,829 enlisted), 408 appropriated fund civilian personnel, and 356 other civilian personnel at the end of fiscal year 1989. Approximately 53 percent of the military-related population live on Eaker AFB and 47 percent live in communities near the base.

3.1.1 Local Community

Eaker AFB is located in northern Mississippi County, Arkansas, within the Eastern Lowland portion of the central Mississippi River Valley (Figures 3.1.1-1 and 3.1.1-2). Although the region's topography and environment have long been dominated by the river, the landscape around the base began to resemble its present form only in the last 5,000 years. During that time, Pemiscot Bayou incised a channel through the extensive floodplain backswamp and began depositing the levees and point bars upon which much of the base is built. Sometime in the last 1,000 years the Mississippi River moved about 3 kilometers to the east, leaving behind a well-drained levee at the east side of what is now Eaker AFB.

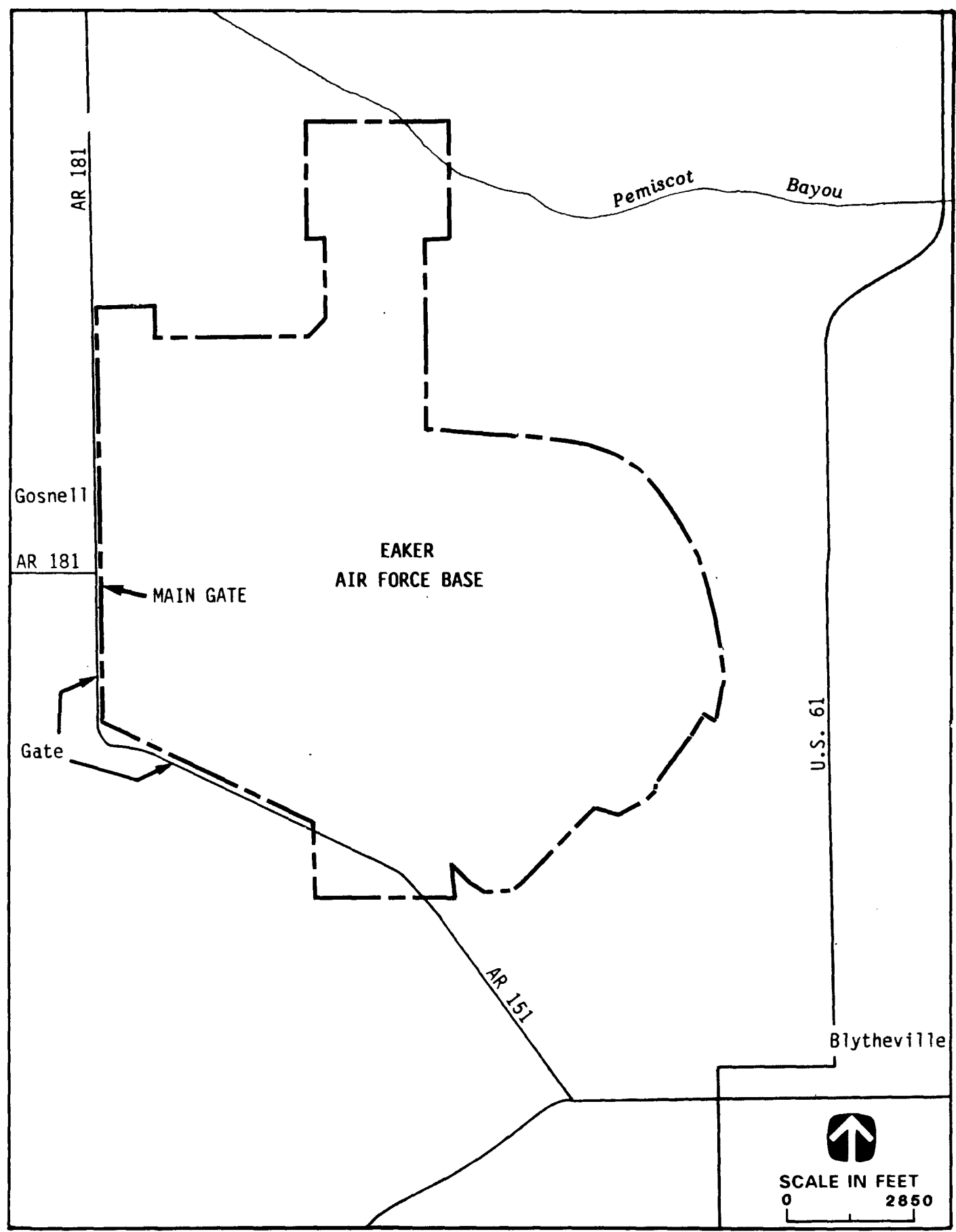
Beginning in the late 19th century, efforts were made to drain the swamplands, construct levees to control flooding, and harvest the timber resources of the region. Prior to that time, the area was dominated by vast virgin southern floodplain forests containing species such as bald cypress, elm, ash, and sweetgum. Streams and bayous were the only arteries for travel through the swamplands until the early 1900s. Blytheville was established on Pemiscot Bayou in 1853 to provide access to the Mississippi River and its levee, which comprised the main overland transportation route between Memphis and St. Louis.

The Blytheville region has a subtropical climate characterized by mild winters and hot, humid summers. The average annual temperature is 60°F, and precipitation averages 50 inches a year. Rainfall is fairly evenly distributed throughout the year, with minor peaks in early spring and



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FIGURE 3.1.1-1 REGIONAL SETTING, EAKER AFB, ARKANSAS



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FIGURE 3.1.1-2 EAKER AFB, ARKANSAS AND VICINITY

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mid-summer. Frost occurs in most winters but snow is rare; winter precipitation often occurs as ice and sleet. The growing season is between 200 and 300 days.

3.1.1.1 Community Setting

The City of Blytheville, located southeast of the base, is the host community for Eaker AFB. Approximately 60 percent of the personnel living offbase reside in Blytheville. Most of the remaining personnel live in the City of Gosnell (population 3,755), though some personnel live in other small communities near the base. Blytheville, located in a predominantly agricultural region, had an estimated 1986 population of 23,200, including Eaker AFB. Mississippi County had an estimated 1986 population of 58,000. The region's economy is based primarily on the agriculture, manufacturing, retail trade, government, and service sectors. Memphis, Tennessee, approximately 70 miles south, serves as the major commercial, trade, and transportation center in the region.

Population and Employment. Based on 1985 census information, Mississippi County population has decreased since 1980 from 59,500 to 58,800. Blytheville's population was about 23,800 in 1980 and increased to 24,100 in 1985. Gosnell's population was approximately 3,755 in 1980, decreasing to about 2,900 in 1985. The population of Blytheville and Gosnell together including the base is projected to be approximately 28,400 in 1990. Military personnel and their dependents accounted for 24 percent of the area's estimated 1990 population.

Total employment in Mississippi County was approximately 28,400 in 1984, a decrease from the 1980 level of 28,600. The manufacturing sector is the leading sector, followed by the government, services, retail trade, and farm sectors. Together, manufacturing and government accounted for more than half the total employment in the county in 1984. Total employment in the region is projected to increase to 595,800 in 1990. The regional unemployment rate is projected to decline from 7.4 percent in 1986 to 7 percent in 1990.

Housing. The permanent year-round housing stock in the City of Blytheville is currently estimated to be approximately 10,000 units, with a vacancy rate of about 5 percent. The permanent year-round housing stock in the City of Gosnell was approximately 1,300 units, with 7 percent vacancies.

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Eaker AFB family housing consists of 102 two-bedroom, 568 three-bedroom, and 158 four-bedroom Capehart units. An additional 100 four-bedroom units have recently been completed, bringing the total number of units to 928. There are five unaccompanied enlisted personnel housing facilities onbase with a total of over 132,000 square feet of space.

Education. Blytheville School District No. 5 and Gosnell School District No. 6 provide public education services to area residents. Blytheville School District No. 5 serves the City of Blytheville and also has one rural school 7 miles to the south in Burdett. The district has approximately 4,420 students enrolled for the 1987-1988 school year. Military dependents make up approximately 5 percent of the Blytheville School District's total enrollment.

Gosnell School District No. 6 has three schools that serve the City of Gosnell and one school in the community of Dell. The district had approximately 2,020 students enrolled in the 1987-1988 school year. Military dependents from adjacent Eaker AFB account for approximately 58 percent of the district's enrollment. A new high school facility has recently been completed.

Community Services. There are two hospitals serving the Blytheville area: the Mississippi County Hospital in Blytheville, which provides health services to the civilian population, and the 97th Strategic Hospital at Eaker AFB, which serves the military community. The Mississippi County Hospital contains 168 beds, with a medical staff of 28 physicians, 9 dentists, 44 registered nurses, and 50 practical nurses. The 97th Strategic Hospital at Eaker AFB has 20 beds with an expansion capacity of 34 beds and a 13-chair dental clinic. The hospital staff consists of 169 military personnel and 36 civilian employees. This hospital provides in-care services for 16 patients a day and outpatient care averages 7,000 visits a month.

Over 5,000 military retirees and dependents reside in the general area. Eaker AFB provides retired personnel access to medical, dental, and optometry services; legal services; and the Base Exchange and Commissary. The 97th Strategic Hospital at Eaker AFB provides basic inpatient and outpatient care (including prescriptions and medical testing) and specialty services, without charge, to retired military personnel and their dependents.

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If needed medical care is not available at Eaker AFB for retirees and dependents, the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) provides payment for health services rendered in civilian facilities. Under the standard CHAMPUS program, the patient is responsible for 25 percent of the total bill or a fixed daily amount of \$210. Under the prime CHAMPUS program, participating health care providers charge patients a nominal fee for services. Mississippi County Hospital is a participating provider.

Eaker AFB maintains several mutual assistance agreements with the local communities of Blytheville and Gosnell. Such an agreement is in effect with the municipal fire departments of both Blytheville and Gosnell. Annex B of the Disaster Preparedness Operations Plan covers response procedures to natural disasters and are incorporated to assist the local civilian communities. Response drills using simulated exercises are performed every 60 days.

3.1.1.2 Land Use and Aesthetics

Existing Land Use Patterns. The predominant existing land uses surrounding Eaker AFB are agricultural and residential (Figure 3.1.1-3). Agricultural land uses consist of the cultivation of cotton, soybeans, and winter wheat on nonirrigated cropland both within Eaker AFB and on the surrounding private land. East of the northern end of the base runway is a quarter-section of irrigated cropland. All croplands at the base are classified as prime farmland by the Soil Conservation Service, and a total of 1,980 acres (50% of the base area) are outleased for crop production.

Residential land uses occur north and east of the base. There are 23 inhabited buildings north of the base, 17 in a mobile home park west of the Eaker AFB runway, 1 north of the runway, 2 along the former alignment of Arkansas State Highway 150, and 3 on the south side of Arkansas State Highway 150 and east of the base runway. East of the base boundary (Pemiscot Bayou), five inhabited buildings are located on the western end of an unpaved county road. The 60-acre residential Golf Links subdivision is located between the eastern base boundary and U.S. 61. In addition, the corridor of U.S. 61 contains a strip of low-density residential development and a small mobile home park about 2,000 feet north of the Golf Links subdivision. The area also contains four low-voltage electrical distribution lines, a railroad communications line, a buried telephone cable, a waterline, two gas lines, U.S. 61, Arkansas State Highway 150, three county roads, and three city roads.

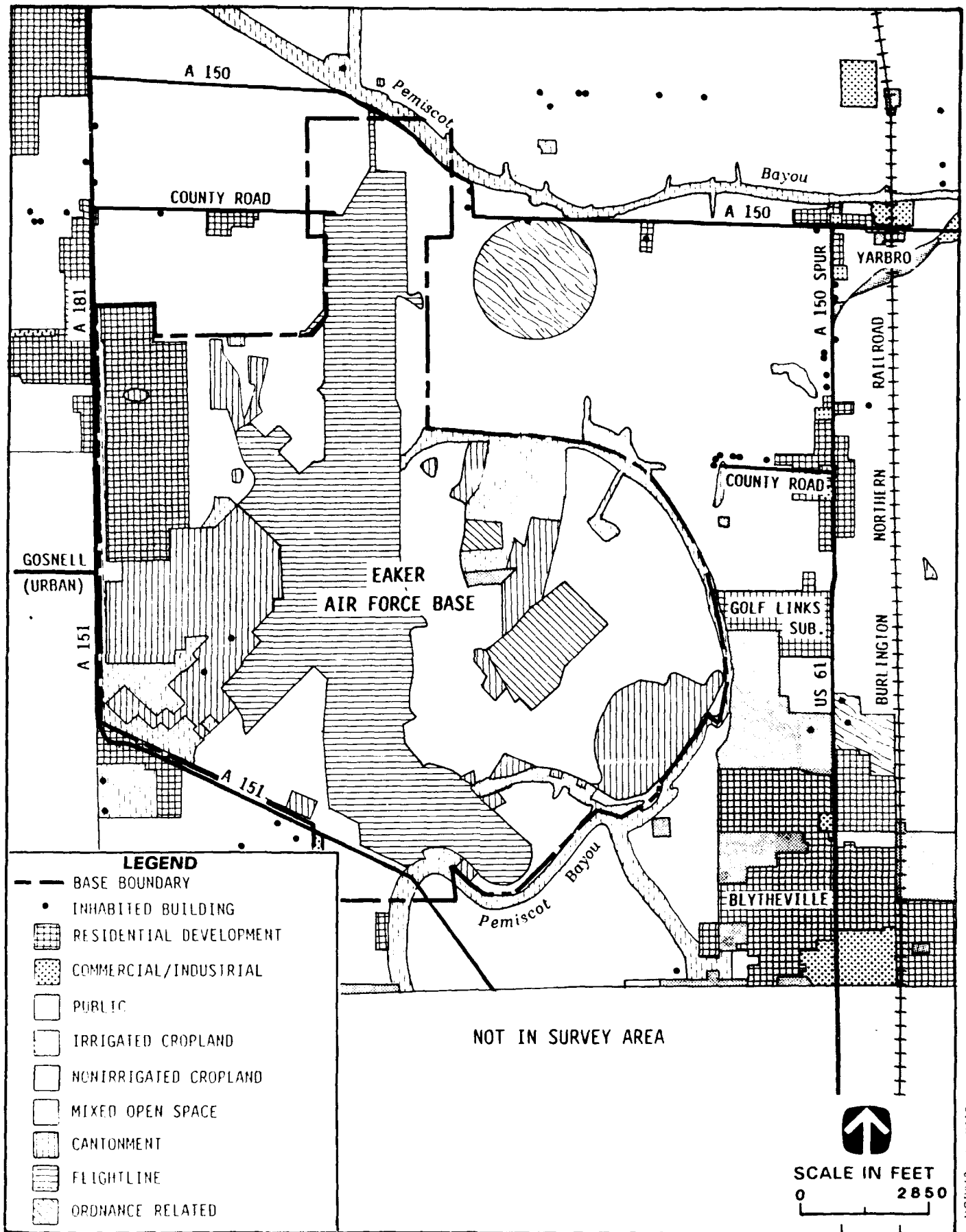


FIGURE 3.1.1-3 EXISTING LAND USE, EAKER AFB, ARKANSAS

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The base operates a 342-acre recreation area at Sardis Lake, Panola County, Mississippi. The Air Force has a 25-year long-term lease from the Vicksburg District, Army Corps of Engineers. According to the Base Comprehensive Plan, capital improvements and maintenance at the lake are the responsibility of Eaker AFB. Proposed development includes cabins, recreational vehicle hook-ups, picnic areas, athletic fields, a riding stable, boat ramp, playgrounds, and pavilions.

An Air Installation Compatible Use Zone (AICUZ) study was conducted for Eaker AFB (then Blytheville AFB) in 1976. Three areas adjacent to the base have land uses that are incompatible with noise and safety standards suggested in the AICUZ study. Portions of two residential areas, Gosnell and the west side of Blytheville, occur within the 65 to 75 day/night sound level (L_{dn}) noise contours. (Figure 3.1.3-4, Section 3.1.3.4). Acceptable noise levels for residential areas are recommended as 65 L_{dn} and below. A low-density residential and commercial area is along State Highway 18, about 1.5 miles south of the runway. This area is in Accident Potential Zone (APZ) 2. St. Matthews Church, in Dunklin County, Missouri, is within APZ 2 and Compatible Use District 9, which are considered incompatible with public services and areas of public assembly.

Land Use Policies and Plans. Most of Eaker AFB is within the corporate limits of the City of Blytheville. The housing addition at the extreme northwest corner of the base is within Gosnell. The city has adopted a comprehensive plan and zoning ordinance; however, the base is exempt from their provisions. The unincorporated private land within the city's sphere of influence between the eastern base boundary (Pemiscot Bayou) and U.S. 61 is designated for residential use by the comprehensive plan. Other lands around the base are governed by Mississippi County, which does not have a comprehensive plan or zoning ordinance. Current zoning is mapped in Figure 3.1.1-4.

Eaker AFB has developed a Base Comprehensive Plan (BCP) designed to provide policy guidelines for future base development and facility siting. The BCP contains a land use component plan which is integrated with the transportation, landscape development, and community center concept portions of the BCP. Development on the installation is required to be consistent with the BCP and all plan components.

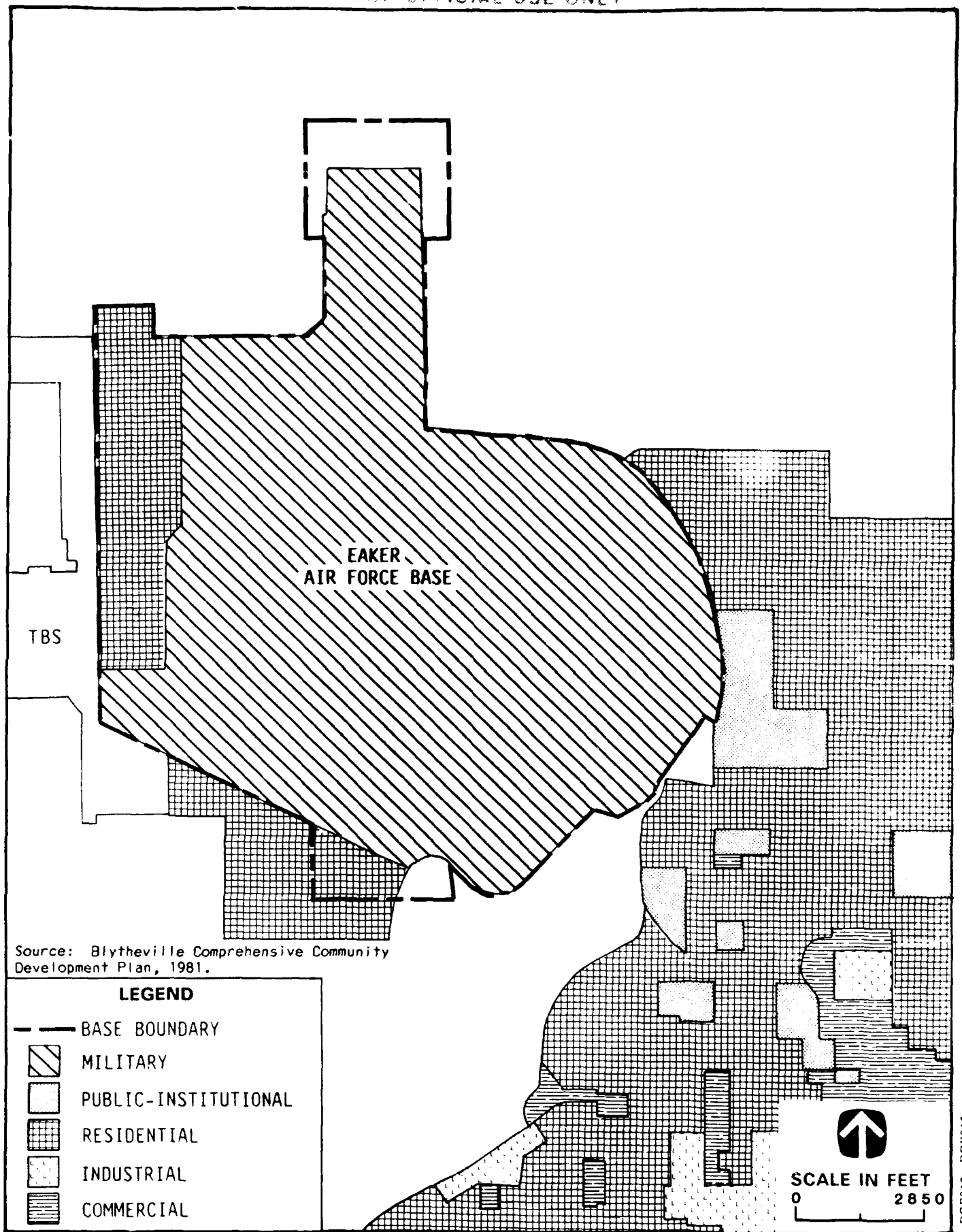


FIGURE 3.1.1-4 EXISTING ZONING, EAKER AFB, ARKANSAS AND VICINITY
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Aesthetics and Visual Resources. The visual attributes of the Blytheville area are typical of the northern part of the Gulf Coastal Plains section of the Coastal Plains Physiographic Province. Landscape forms are flat and horizontal; colors are mostly green and light brown, with dark browns in winter. Textures are medium and well ordered. The vicinity of the base is very flat with little topographical relief. Natural vegetation has been removed to accommodate agriculture and urbanization. Existing onbase structures are very low on the horizon (where views are not blocked by offbase structures and trees) as viewed from U.S. 61 (annual average daily traffic [AADT] 2,400-6,000) east of the base, and Arkansas State Highway 150 (AADT 1,300) north of the base. Water towers are the most prominent onbase structures. The terrain is so flat that only those dozen or so residences in the Golf Links subdivision that back up to the eastern base boundary actually have views into the base area. The views from other residences are blocked by those homes that adjoin the base boundary.

Architecture at Eaker AFB represents an eclectic range of one- and two-story buildings constructed from a variety of materials including corrugated metal, brick, asbestos shingles, metal or wood siding, and stucco. There is no distinct architectural style and buildings reflect the era in which they were built. The general landscape pattern consists of trees, planted along streets as screens or randomly in open areas, and shrubs planted along foundations or as screens. The general landscape pattern is noticeable in the housing areas whereas the mission areas lack a definable landscaping plan. Vegetation onbase is generally in poor condition due to the lack of an irrigation system, inadequate manual watering, and improper maintenance.

3.1.1.3 **Transportation**

Transportation Systems. Eaker AFB is located close to major rail lines and to the U.S. Interstate Highway System. The two major rail lines in the area are the St. Louis Southwestern (Southern Pacific) and the Burlington Northern. Interstate 55 is located about 6 miles east of Eaker AFB, and is a north-south highway connecting Blytheville with Interstate 40 and Memphis, Tennessee, to the south and Cape Girardeau and St. Louis, Missouri, to the north. The nearest commercial airport is Memphis International, about 100 miles south; however, Blytheville has a small municipal airport without commercial passenger service.

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The principal city streets in Blytheville consist of segments of the primary highways that pass through the city. Main Street, part of Arkansas State Highways 18, 151, and 239, had segments with an AADT ranging between 11,840 and 15,040 in 1987. Within the central business district, Arkansas State Highways 18, 151, and 239 pass through one-way couplets Walnut and Ash, which had AADTs of 6,010 per direction. South Division Road and 6th Street, part of U.S. 61, had AADTs ranging between 6,150 and 10,810 in 1987. Arkansas State Highway 151, which connects Blytheville with Gosnell and Eaker AFB, had an AADT between 10,160 and 13,250 in 1987.

The primary access to the main base is provided by Arkansas State Highways 18 and 151. The base has three gates. The main gate is across Arkansas State Highway 151 from the City of Gosnell, Arkansas. The second gate is approximately 2,000 feet south of the main gate on Arkansas State Highway 151. The third gate is also along Arkansas State Highway 151, on the south side of the base, and is approximately 2.5 miles from the City of Blytheville.

Ground Traffic. Traffic flow along the major roads is generally free flowing; level of service (LOS) is mainly A. However, there are two areas of congestion around Blytheville. One is the section of Arkansas State Highway 18 or Main Street within the City of Blytheville, which has an estimated LOS C. This is due to the lack of vehicle access in the area that channels traffic onto Interstate 55. The second area of congestion is along Arkansas State Highway 151, a two- to four-lane highway from Blytheville to the base main gate. The two-lane portion of this highway is heavily used by base personnel and also by civilians living in Gosnell and working in Blytheville. During the peak hours (between 7:00 A.M. and 8:00 A.M. and between 4:00 P.M. and 5:00 P.M.), this section was rated at LOS C in 1987. Traffic stoppage is frequent due to military and civilian personnel entering the base main gate.

Peak hour traffic volume through the main gate at Eaker AFB is close to 1,000 vehicles. Gate 2, about 2,000 feet south of the main gate, is open for inbound traffic only between 6:30 A.M. to 8:00 A.M. and 11:00 A.M. to 1:00 P.M. Traffic volume through the third gate is 750 vehicles during peak hours. The base does not have many traffic problems. Only short queues occur at the main gate at the close of the workday. Traffic flow was rated at LOS B during the peak hours. The cantonment areas are located adjacent to the housing area, thereby minimizing driving problems for personnel living onbase.

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Air Traffic. Controlled air space at Eaker AFB consists of an airport traffic area, a control zone, and a terminal area, all of which are common to military and civilian airfields where radar and air traffic controls services are provided (Figure 3.1.1-5). The airport control zone at Eaker AFB extends 7,000 feet above mean sea level. The terminal area includes all air space within 25 miles of the base.

Eaker AFB averages about 14,900 hours of flying time a year including locally based B-52G Stratofortresses, KC-135A Stratotankers, and T-35B Trainers.

3.1.1.4 Utilities

Water Supply. The City of Blytheville and Eaker AFB derive their potable water from groundwater aquifers. Average daily water demand at the base is 0.76 million gallons per day (MGD), with a summer high of 0.9 MGD and an average of 0.63 MGD for the winter months. The average daily potable water demand for the city was 4.3 MGD in 1987. Potable water treatment (iron removal) capacity is 6.0 MGD. The city's water storage of 2.0 MG is adequate to handle increased summer demands. The average daily potable water demand for the city is projected to be 4.46 MGD in 1990. Gosnell Water Company provides service to the City of Gosnell from two wells with an estimated capacity of 0.5 MGD. In 1987, average daily demands were 0.35 MGD and are projected to increase to 0.38 MGD in 1990. The average daily potable water demand for the base from 1985 to 1987 averaged 0.75 MGD or 56 percent of its water treatment capacity.

Wastewater Treatment. In the City of Blytheville, wastewater is treated by sewage lagoons. The average daily wastewater flow for 1987 was 3.0 MGD and the treatment system is operating at capacity. As a result of an out-of-court settlement with the Environmental Protection Agency (EPA), the city constructed three activated-sludge wastewater facilities with a total capacity of 3.75 MGD. The facilities were brought on-line in mid-1989. The City of Gosnell operates a lagoon system with a 0.40-MGD capacity. Average daily flows are estimated to be 0.27 MGD. Eaker AFB operates its own 0.86-MGD wastewater treatment facility that consists of primary and secondary clarifiers, a trickling filter, and rotating biological contactors. Currently, it is adequate to handle present average daily flows of 0.49 MGD.

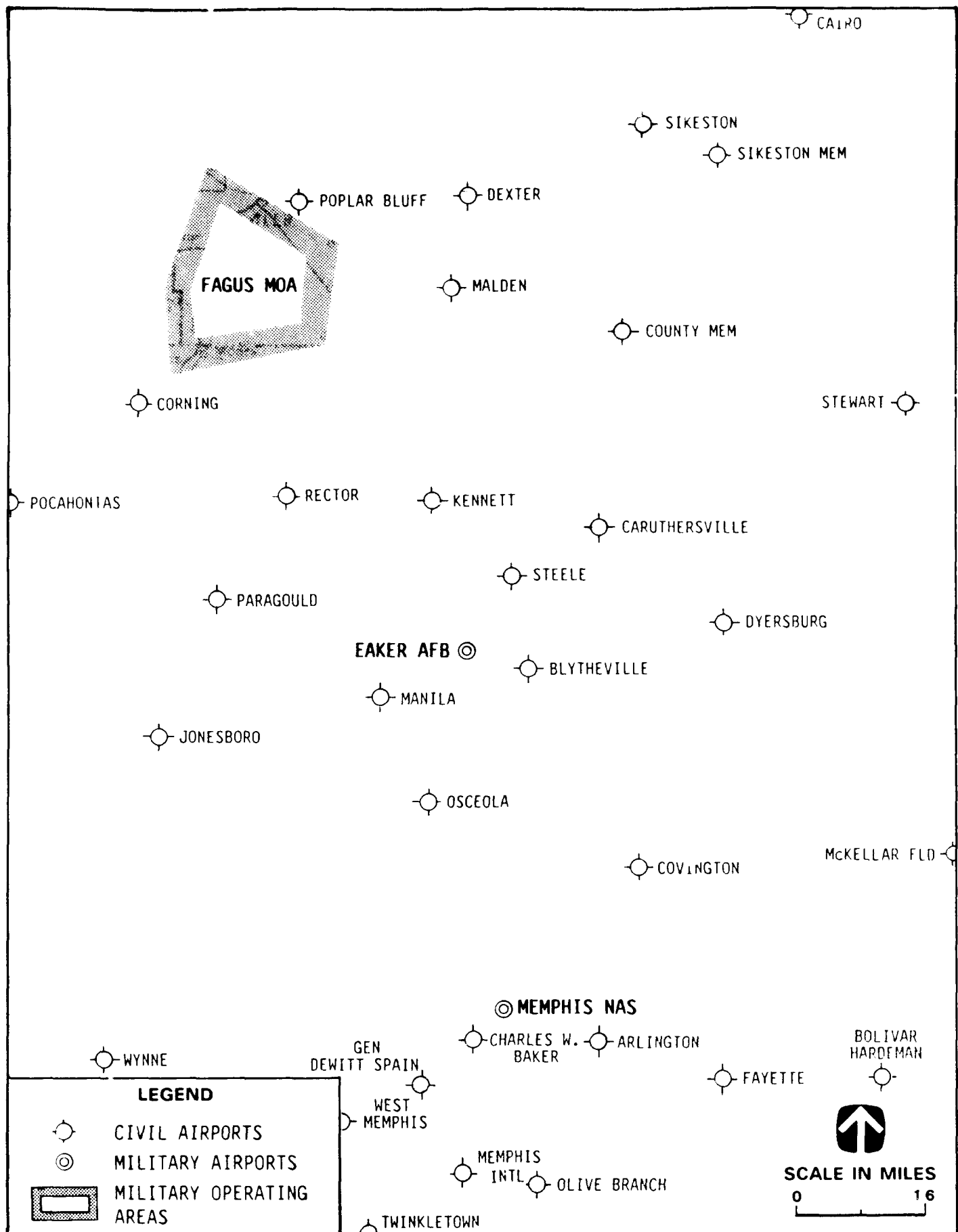


FIGURE 3.1.1-5 AIRPORTS AND AIRSPACE SURROUNDING EAKER AFB, ARKANSAS

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Solid Waste. Solid waste for the City of Blytheville is collected by private and public collectors. Solid waste at Eaker AFB is collected by a private contractor. The solid waste generated by the city and base is currently disposed of at the Mississippi County landfill, which has a service life of 10 years.

Four landfills and four hardfill locations occur onbase, although they are not in current use (Figure 3.1.2-1, Section 3.1.2.2). The four landfill sites contain mostly municipal and domestic solid waste and some industrial waste materials. All four landfills are designated as Installation Restoration Program (IRP) sites (Section 3.1.2.2) and have been recommended for further study. The four hardfill locations contain construction rubble, brush, and other materials. Part of the family housing area has been built over hardfill location No. 1; the other locations are in undeveloped sections of the base.

Energy. Arkansas Power and Light (AP&L) provides electric power to Eaker AFB, the majority of Arkansas, and a portion of Missouri. As part of the Middle South Utilities System, AP&L is interconnected into a system that provides service to a four-state region. In 1986, peak demand reached 3,804 megawatts (MW) with the company having a total capability of 6,101 MW. AP&L projects peak demand will increase to 4,468 MW in 1990. Additional demands will be met by increasing purchased power and maintaining current generating facilities. Eaker AFB consumed 41,135,517 kilowatt-hours in 1987, with current peak power demands of 10 MW. A 27.5 megavolt-amperes substation was recently constructed and provides power to existing and future missions.

Natural gas is provided to the region by Associated Natural Gas (ANG) Company and sales of their Arkansas district were 3,080 million cubic feet in 1987. Their system is supplied by Texas Eastern and Texas Gas and there is an excess supply. Eaker AFB consumed 210,898 thousand cubic feet in fiscal year 1987 and supplies are available from ANG to meet existing demands.

3.1.2 Hazardous Materials

3.1.2.1 Hazardous Waste Management

A Hazardous Waste Management Plan (1984) for Eaker AFB establishes procedures for managing and controlling hazardous wastes currently used and temporarily stored at the base. Some types of

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hazardous wastes are disposed of at Eaker AFB; other types of hazardous waste are transported by the Defense Reutilization and Marketing Office (DRMO) to treatment and disposal facilities offbase. The majority of hazardous waste includes off-specification JP-4 fuel, waste oil, and other fuels. Other types of waste include solvents, acids, batteries and battery acid, sodium chromate, oils, paints, thinners, x-ray fixer, pathological medical waste, and other regulated materials. Hazardous wastes generated on the base are stored temporarily at designated accumulation points within shops and hangars in which the wastes are generated (not longer than 90 days storage at these points). These wastes are then transported to underground waste oil tanks near the Fire Protection Training Area (FPTA) or to the base's DRMO yard in the southwestern portion of the base. The DRMO yard operates under a Resource Conservation and Recovery Act Permit (RCRA Part A). Drummed and bottled wastes and polychlorinated biphenyl (PCB) containing and contaminated transformers are stored in the DRMO warehouse or outdoors on pallets over concrete pads or floors.

3.1.2.2 Installation Restoration Program Sites

The IRP was implemented by the Department of Defense (DOD) to identify, report, and correct potential environmental deficiencies that could result in groundwater contamination and migration of contaminants beyond DOD installation boundaries. The IRP serves as the basis for response actions of Air Force installations under the provisions of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as clarified by Executive Order 12316. The IRP was originally developed as a four-phase program consisting of initial assessment and records search, confirmation and quantification, technology base development, and operations/remedial actions.

The initial assessment and records search phase was conducted at Eaker AFB in 1985; nine sites were identified as potential sources of contamination and recommended for follow-on confirmation and quantification studies (Figure 3.1.2-1). The locations include three JP-4 fuel spill locations, four landfills, several large underground storage tanks, and the FPTA. From April through June 1988, confirmation and quantification studies were completed on the nine locations. Contaminants were present at eight sites; spill site No. 3 contained no evidence of the anticipated contaminants and was recommended for removal from the IRP list.

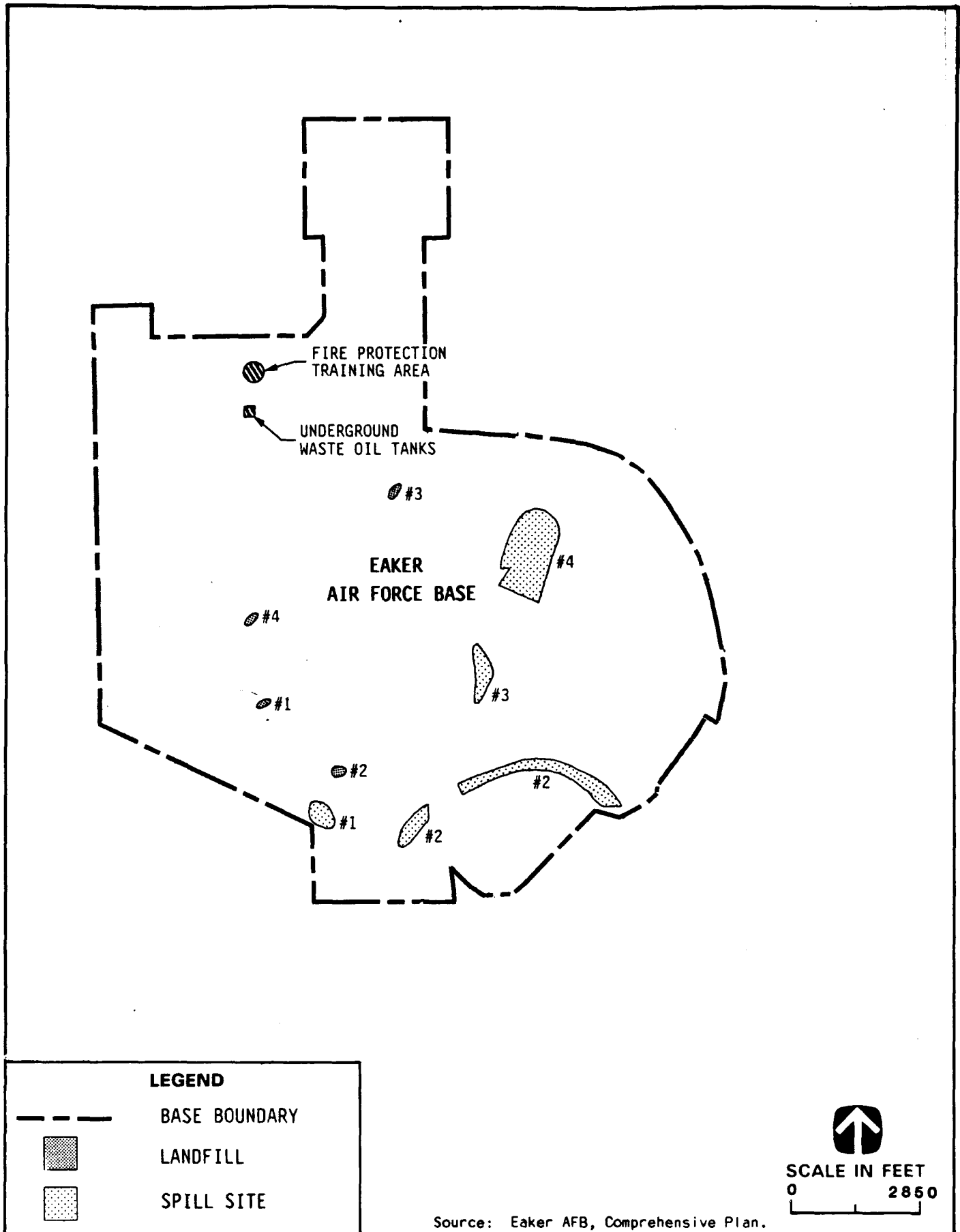


FIGURE 3.1.2-1 INSTALLATION RESTORATION PROGRAM (IRP) SITES,
EAKER AFB, ARKANSAS

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Eight IRP sites have been identified at Eaker AFB and consist of two JP-4 jet fuel spill sites, four landfills, the FPTA, and an area containing underground storage tanks near the FPTA.

Spill site No. 1 is northwest of Building 1235 (Figure 3.1.2-1). In 1973, JP-4 jet fuel leaked from a faulty hydrant system line. Three monitoring wells were installed around the spill site in 1988 and soil and groundwater samples were collected. Only one groundwater sample was contaminated with petroleum hydrocarbons, volatiles, and dissolved solids. All three soil samples contained petroleum hydrocarbons and volatiles. An unacceptable carcinogenic risk was identified due to the amount of benzene in the groundwater. Adverse noncarcinogenic health effects were not expected from the contaminants in either the soil or groundwater.

Spill site No. 2 is in the southwestern portion of the base (Figure 3.1.2-1). In 1974, JP-4 jet fuel leaked from a faulty hydrant system line. Three monitoring wells were installed around the spill site in 1988 and soil, sediment, and groundwater samples were collected. Petroleum hydrocarbons, volatiles, and dissolved solids were identified in varying quantities in all samples. An unacceptable carcinogenic risk was identified due to the amount of benzene in the groundwater and soil. Adverse noncarcinogenic health effects were not expected from the contaminants in either the soil or groundwater.

Landfill site No. 1 is southeast of the wastewater treatment plant (Figure 3.1.2-1). This landfill was operated between 1942 and 1947, and contains mostly ash from the base incinerator along with some primary refuse. Three monitoring wells were installed in 1988 and surface soil, subsurface soil, and groundwater samples were collected. Petroleum hydrocarbons, volatiles, pollutant metals, base neutral/acid extractables, pesticides, and dissolved solids were identified in varying quantities in all samples. Unacceptable carcinogenic risks were identified due to the amount of arsenic in the soil and benzo(a)pyrene in the groundwater. Adverse noncarcinogenic health effects are expected from the contaminants if groundwater is ingested.

Landfill site No. 2 is near the present Strategic Air Command alert area (Figure 3.1.2-1) and portions of the landfill are adjacent to Lake Razorback. This landfill was operated between 1950 and 1954 by the City of Blytheville and contains municipal refuse. Some burning of the refuse occurred during that time. Six monitoring wells were installed in 1988 and surface and subsurface soil, sediment,

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surface water, and groundwater samples were collected. Petroleum hydrocarbons, volatiles, pollutant metals, base neutral/acid extractables, pesticides, and dissolved solids were identified in varying quantities in all samples. Unacceptable carcinogenic risks were identified due to the amount of arsenic in the soil and groundwater and the number of different organic compounds in the soil and groundwater. Adverse noncarcinogenic health effects are expected from the contaminants if groundwater is ingested.

Landfill site No. 3 is west of the WSA (Figure 3.1.2-1). This landfill was operated between 1955 and 1962, and contains household and industrial refuse. Five monitoring wells were installed in 1988 and surface and subsurface soil and groundwater samples were collected. Petroleum hydrocarbons, volatiles, pollutant metals, base neutral/acid extractables, pesticides, and dissolved solids were identified in varying quantities in all samples. An unacceptable carcinogenic risk was identified due to the amount of arsenic in the soil and groundwater. Adverse noncarcinogenic health effects are expected from the contaminants if groundwater is ingested.

Landfill site No. 4 is north of the Weapons Storage Area (WSA) (Figure 3.1.2-1). This landfill was operated from 1962 to 1989 and contains household and industrial refuse. Seven monitoring wells were installed in 1988 and surface and subsurface soil and groundwater samples were collected. Petroleum hydrocarbons, polynuclear aromatic hydrocarbons (PAHs), volatiles, pollutant metals, base neutral/acid extractables, pesticides, and dissolved solids were identified in varying quantities in all samples. An unacceptable carcinogenic risk was identified due to the amount of PAHs and other organic compounds in the soil and groundwater. Adverse noncarcinogenic health effects are expected from the contaminants if groundwater is ingested.

The FPTA is in the northwest section of the base (Figure 3.1.2-1). Fire training exercises have been conducted in this area since 1955. Waste fuels and oils were burned prior to the late 1960s; waste solvents were burned in an adjacent pit. Since the late 1960s, only waste jet fuel (JP-4) is used for training and residual liquids are drained to an oil/water separator before disposal. Four monitoring wells were installed in 1988 and surface and subsurface soil, sediment, and groundwater samples were collected. Petroleum hydrocarbons, PAHs, volatiles, and pollutant metals were identified in varying quantities in all samples. Unacceptable carcinogenic risks were identified due to the amount of benzene, arochlor 1254, and other organic compounds in the soil and groundwater. Adverse

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noncarcinogenic health effects were not expected from the contaminants in either the soil or groundwater.

Underground storage tanks were located south of the FPTA (Figure 3.1.2-1). Waste oils, solvents, and fuels were stored at this location in five underground storage tanks; however, the tanks were approximately 30 years old and were not cathodically protected. A concrete pad was placed under the transfer area in 1980 but spills have occurred. The five tanks were removed and replaced in 1988. Four monitoring wells were installed in 1988 and soil, sediment, and groundwater samples were collected. Petroleum hydrocarbons, volatiles, base neutral/acid extractables, pesticides, pollutant metals, and dissolved solids were identified in varying quantities in all samples. Unacceptable carcinogenic risks were identified due to the amount of benzene in the groundwater and arsenic and organic compounds in the soil. Adverse noncarcinogenic health effects were not expected from the contaminants in either the soil or groundwater.

The extent of contamination at each of the IRP sites has not been delineated and further testing was recommended.

3.1.2.3 Hazardous Materials Storage and Handling

When possible, Eaker AFB attempts to reclaim hazardous materials or dispose of them through burning for fire training exercises. The DRMO is responsible for handling all materials sent offbase for contract disposal or reclamation. Disposal techniques include offbase disposal through DRMO of waste acids and alkaline solutions, recycling of JP-4 fuel or burning at the fire training area, reclamation of silver content from photo lab waste materials, and incineration of hospital-generated infectious wastes.

Hazardous wastes are stored on the base in underground and aboveground storage tanks, bowlers, outdoor concrete pads (i.e., PCB transformers), and small drums and containers.

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5/21/90**3.1.2.4 Storage Tanks**

Eaker AFB has 119 aboveground and underground storage tanks. A 1989 base survey identified 108 steel or fiberglass underground storage tanks that have been or are used for storing JP-4 fuel, fuel oil, diesel fuel, gasoline, used oil, detergent, or JP-10. These tanks range in size from 250 gallons to 50,000 gallons. Fifteen additional underground tanks either have been removed or soon will be removed. Only seven tanks have been tested for leaks; four were identified with leakage and were removed in 1988. Aboveground storage tanks included nine bowzers located near shops throughout the base, a JP-4 fuel tank located at the FPTA, propane tanks located at various buildings, and two diked storage areas for JP-4 fuel in the southwestern portion of the base.

Jet fuel (JP-4) is stored in 21 underground tanks ranging in size from 1,000 gallons to 50,000 gallons. One tank is made of fiberglass (Bldg. 168) and the rest are steel. Heating fuels are stored in 56 underground tanks located adjacent to individual buildings or facilities. These tanks range in size from 250 gallons to 25,000 gallons. Thirty-one underground storage tanks store other products such as automotive gasoline (MOGAS), diesel fuel, waste oil, PD-680, or JP-10.

According to the IRP Phase I report, there are 18 oil/water separators on the base. The separators are inspected monthly. The waste oil is pumped out as necessary and transported to the waste oil tanks. The water is drained to the sanitary sewers. According to the recent underground storage tank inventory, only 1 of the 18 oil/water separators is an underground storage tank.

3.1.2.5 Asbestos

A comprehensive asbestos survey of base facilities has not yet been conducted. However, it is known that asbestos occurs within the floor tiles in base housing. The base has been tasked to complete an asbestos survey and the results will be available to support any necessary reuse studies.

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3.1.2.6 Polychlorinated Biphenyls

Eaker AFB has 112 transformers which will be removed, disposed of, and replaced prior to base closure. Disposal will be according to regulations implemented under the Toxic Substances Control Act.

3.1.2.7 Radon

The Air Force has developed a Radon Assessment and Mitigation Program (RAMP) to evaluate the concentration of radon in family housing units on military installments. If high concentrations of radon are detected, methods for venting the gas will be implemented under the RAMP.

The initial Radon Screening Survey at Eaker AFB was conducted in 1988. Thirty-five structures were tested and all results were below the EPA's recommended mitigation level of 4 picocuries per liter of air.

3.1.2.8 Radioactive Materials

Only one low-level radioactive waste site has been identified at Eaker AFB. A small dumpsite for radio tubes was established near the cemetery and was used from 1960 to 1963. The radio tubes and contaminated soil were removed from that location and disposed off offbase in 1962 or 1963. The site is no longer considered a source of environmental contamination.

3.1.2.9 Ordnance

The Explosive Ordnance Disposal (EOD) Range at Eaker AFB consists of an open field with several small bunkers used by personnel participating in disposal activities. Explosives such as dynamite, cartridges, flares, 40-millimeter rifle grenades, 50-caliber shells, and other types of ordnance are detonated or burned in 6-foot-deep pits and residue is covered with topsoil. Buried EOD residues are considered inert substances and no longer hazardous.

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3.1.3 Physical Environment

3.1.3.1 Geology and Soils

Geology. Eaker AFB lies within the extensive, flat, lowland alluvial floodplain of the Mississippi River. Quaternary deposits composed of clay, sandy clay, sand, and gravel occur to a depth of approximately 125 feet. Paleozoic bedrock strata form a trough or depression beneath the central Mississippi Valley. This trough is filled with Cretaceous and Tertiary deposits underlying the Quaternary alluvial materials. The valley deposits are known geologically as the Mississippi Embayment, an extension of the Gulf Coastal Plain.

The installation is within the New Madrid seismic zone, which is historically characterized by large magnitude earthquakes (Figure 3.1.3-1). Three events of magnitude 8.5 (Mercalli Intensity 10-11) or greater occurred between December 1811 and February 1812. Recent estimates conclude that a 6.0 magnitude earthquake has a 40 to 63 percent probability of occurring in the New Madrid seismic zone by the year 2000. Ground surface rupture and vertical ground movement have accompanied large earthquakes in the area during historic times (Figure 3.1.3-2). Depth to groundwater is generally 10 to 15 feet and the lithology of sediments at the base is very conducive to liquefaction.

No oil, gas, or coal leases/fields have been identified in the vicinity of Eaker AFB. No uranium mines/leases, Known Geothermal Resource Areas, or critical and strategic metallic/nonmetallic mineral resource mining or leasing activities occur at or near the base.

Soils. The Soil Conservation Service has mapped 15 soil types on the base. The dominant soil types are the Routon-Dundee-Crevasse Complex and the Tunica Silty Clay. They occur on generally level alluvial sediments and range from poorly to excessively drained. The dominant soil type is well suited to support grain, seed crops, and grasses when adequate drainage is provided. Base soils are moderately susceptible to wind erosion and have variable susceptibility to sheet erosion.

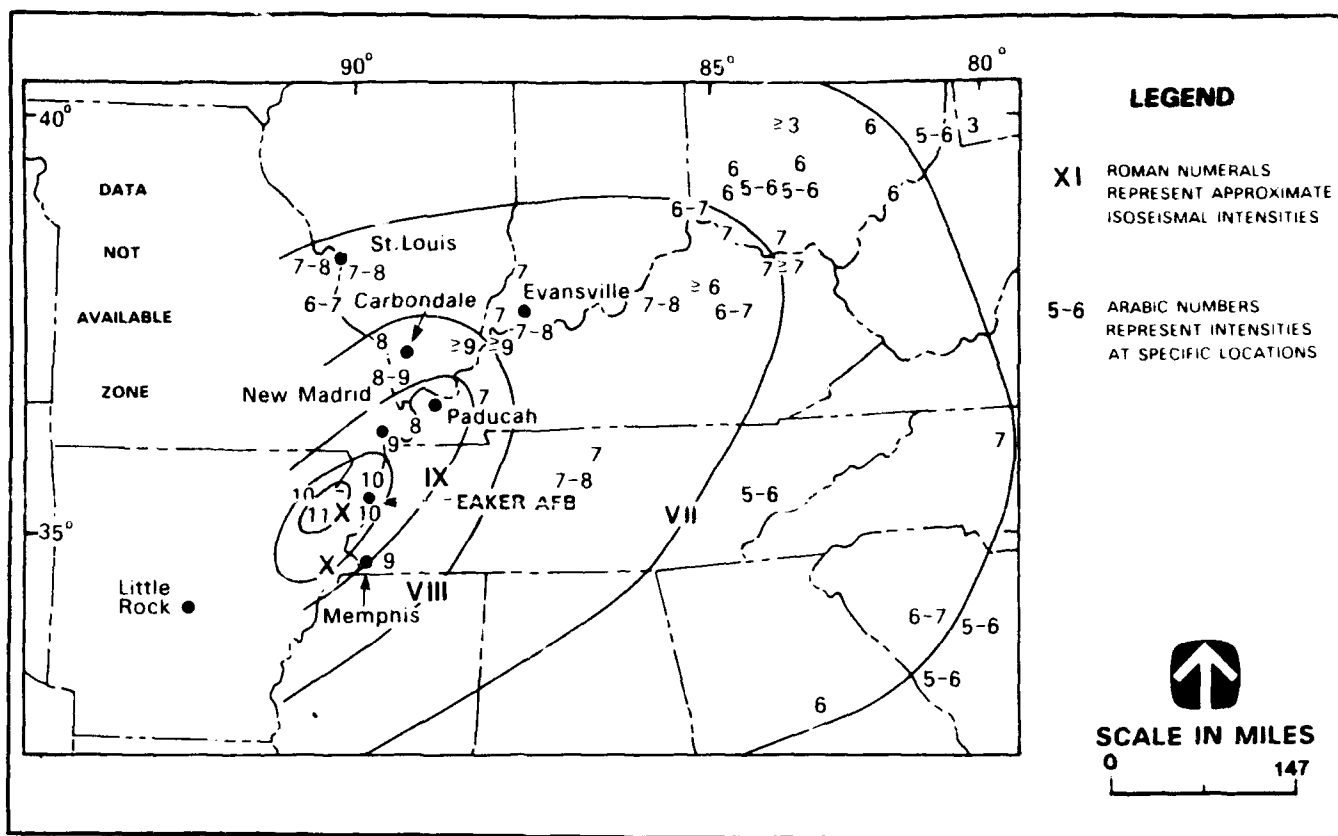


FIGURE 3.1.3-1 ISOSEISMAL MAP OF MODIFIED MERCALLI INTENSITIES FOR THE DECEMBER 16, 1811 EARTHQUAKE IN THE NEW MADRID SEISMIC ZONE

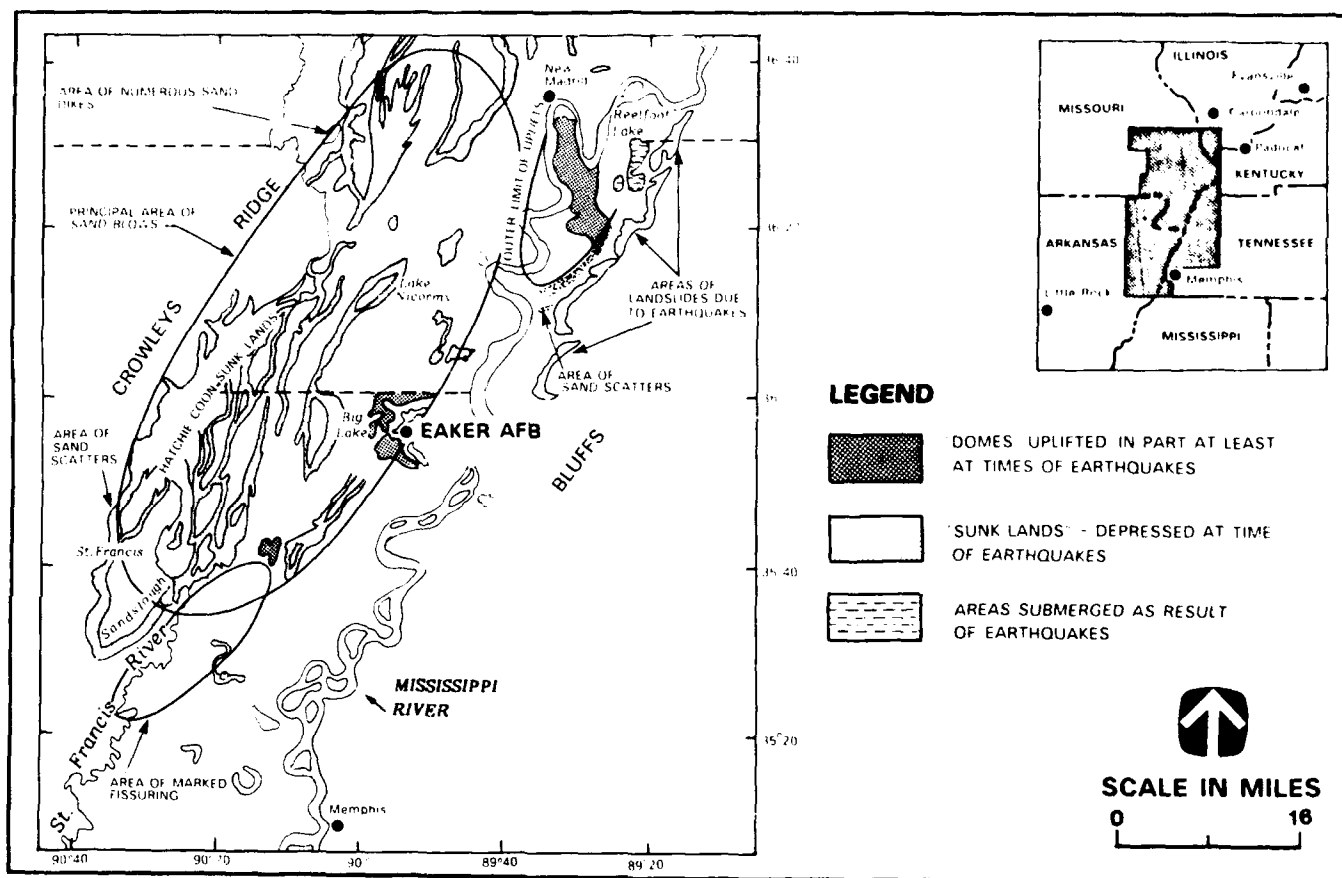


FIGURE 3.1.3-2 TYPES OF GROUND EFFECTS RECORDED IN THE NEW MADRID SEISMIC ZONE NEAR EAKER AFB, ARKANSAS

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BVG 4/2 BCE005

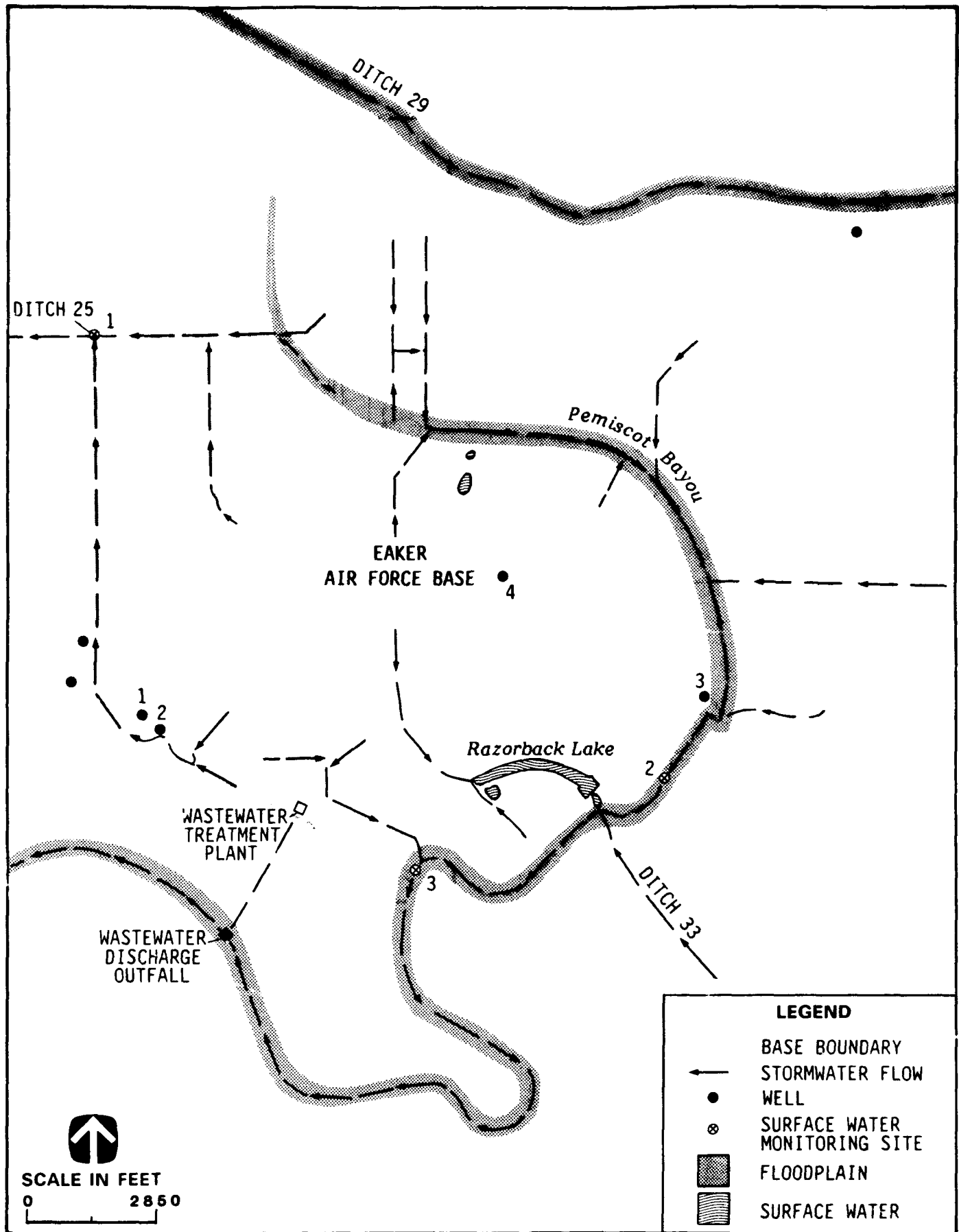
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3.1.3.2 Water Resources

Groundwater. Most of the water use in the Blytheville region is supplied by abundant groundwater resources. The Wilcox Formation (Tertiary age) is the principal aquifer. This is a deep, confined aquifer of regional importance that supplies all of the municipal water requirements of the communities surrounding the base. The water quality of this aquifer is excellent. Irrigation wells and rural residences generally obtain water of inferior quality from more shallow Quaternary deposits. Moderate historical declines in the groundwater levels of the Wilcox Formation have been reported, although levels have stabilized in recent years.

Total water use in Mississippi County amounted to approximately 97,220 acre-feet (acre-ft) in 1985. The agricultural category was the largest user, accounting for about 91 percent of the total. Nearly two-thirds of the agricultural water use was supplied from groundwater sources. Municipal use accounted for 5 percent. Current water use by Eaker AFB and the cities of Blytheville and Gosnell is 850, 4,820, and 400 acre-ft per year, respectively. These entities obtain their water from deep wells. Eaker AFB obtains potable water from two deep wells in the Wilcox Formation, shown as wells 1 and 2 in Figure 3.1.3-3. Chemical analyses on samples from these wells indicate the base's drinking water is of excellent quality. The median concentration for dissolved solids, nitrate, and chloride are all considerably lower than the drinking water standards. Most observations indicate the water is soft (calcium carbonate < 60 milligrams per liter). Only iron concentrations are somewhat elevated, with about half the observations higher than 600 micrograms per liter. A third well, drilled into the Quaternary deposits under the golf course, is used for nonpotable water. The fourth well on the base is for monitoring groundwater quality in the landfill north of the WSA. The cities' water supplies are adequate to meet all anticipated needs and no major water resource developments are expected.

Surface Water. Eaker AFB and the surrounding region are within the St. Francis River watershed of the Mississippi River Basin. The hydrologic setting is typical of the Mississippi River floodplain. The terrain is very flat and there are numerous agricultural drainage ditches in the area. There are also several bayous that have been dredged for use in the drainage system. Stormwater runoff from the eastern part of the base drains to Pemiscot Bayou. The western part of the base drains to Ditch No. 25 (Figure 3.1.3-3). These both flow southwest to the Little River, into the St. Francis River which, in turn, discharges to the Mississippi River approximately 150 miles south of Eaker AFB.



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Surface water quality is monitored at three locations on the base (Figure 3.1.3-3). Water in Ditch 25 is monitored where the ditch leaves the base. Water in Pemiscot Bayou is monitored near the golf course clubhouse and farther downstream at the Highway 151 bridge. Runoff from the main base and most of the flightline drains to Ditch 25. Runoff from areas east of the runway, including the landfill, WSA, golf course, and alert apron, enters Pemiscot Bayou at various points along the base boundary. The locations of the Pemiscot Bayou monitoring stations are designed to indicated the effects of runoff from the alert apron on the water quality of the bayou.

Chemical analyses indicate that water quality is similar at all three stations. Runoff from the alert apron results in readings at the highway bridge that are slightly higher for oil and grease and for sulfate than at the golf course station. Conversely, higher concentrations of calcium and magnesium are reported near the golf course. Ditch 25 exhibits relatively higher concentrations of potassium and sulfates.

The base discharges treated wastewater effluent into Pemiscot Bayou about 0.5 mile south of the base (Figure 3.1.3-3). The discharge is permitted under the National Pollutant Discharge Elimination System (NPDES) and effluent is in compliance with permit requirements. Effluent from five other major entities in the region is discharged into the Little River drainage system. Total discharge amounts to about 4,320 acre-ft per year. Surface water quality in the region is fair. Water quality problems include elevated fecal coliform bacteria counts and high sediment loads, both attributed to nonpoint source runoff from agricultural activities. Stream channelization also contributes considerably to the sedimentation problem.

Several small ponds constitute additional minor surface waters on the base. Two artificial ponds at the southern end of the base serve as capture lagoons for deicing runoff from the alert apron. Razorback Lake is a 4-acre pond just east of the alert apron. Two smaller ponds, possibly the result of construction borrow pits, occur south of Pemiscot Bayou east of the runway. Water quality information is available only for Razorback Lake, which is characterized by elevated concentrations of phosphorous.

Stream channelization also contributes considerably to the sedimentation problem. The potential for flooding at the base is minimal. Only a narrow corridor along Pemiscot Bayou and a small cutoff

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meander of the bayou west of the runway are subject to inundation during a 100-year flood event (Figure 3.1.3-3).

3.1.3.3 Air Quality

Existing Regional Air Quality. Eaker AFB is located in the Northeast Arkansas Air Quality Control Region (No. 020). There are no Prevention of Significant Deterioration Class I areas within 50 miles of the base. Ambient air quality has not been monitored at Eaker AFB or in Mississippi County. A particulate matter (PM₁₀) monitoring station is located in Stuttgart, a town in east-central Arkansas about 160 miles southwest of Blytheville. The site is in a rural setting similar to the Blytheville area, and the air quality measurements made there should be representative of the Eaker AFB area. The maximum 24-hour PM₁₀ observation was 81 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) and the annual arithmetic mean was 31 $\mu\text{g}/\text{m}^3$; both are within the standards. Eaker AFB and Mississippi County are classified as attainment areas for all criteria pollutants.

Air Pollutant Emission Sources. The air quality emissions (carbon monoxide [CO], sulfur oxides [SO_x], nitrogen oxides [NO_x], volatile organic compounds [VOC, a measure of reactive hydrocarbons], and total suspended particulates [TSP]) from various sources in Mississippi County are shown in Table 3.1.3-1. Emissions from the base constitute a small proportion of the Mississippi County totals. The highest proportional base contributions are in VOCs (14 percent of total) and CO (10 percent of total). The vast majority of base emissions are the result of aircraft operations and motor vehicles (Table 3.1.3-2). Future emissions of TSP, CO, and sulfur dioxide will increase slightly as a result of the construction of a steel mill in Mississippi County. However, these increases should not cause any violation of the National Ambient Air Quality Standards.

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Table 3.1.3-1

Mississippi County, Arkansas, Air Emissions Inventory, 1987
(tons per year)

Emission Source	TSP	SO _x	NO _x	VOC	CO
Fuel Combustion	98	249	551	173	536
Industrial Processes	0	0	0	1,750	0
Solid Waste Disposal	152	6	36	228	711
Air/Water Transportation	254	36	270	733	2,119
Land Transportation	906	267	3,149	1,531	7,792
Miscellaneous	21,102	0	2	14	77
Eaker AFB	28	58	177	743	1,312
(Percentage of Total) (0.01)	(0.01)	(9)	(4)	(14)	(10)
TOTAL:	22,540	616	4,185	5,172	12,547

Source: Environmental Protection Agency 1988.

Table 3.1.3-2

Eaker AFB, Arkansas, Air Emissions Inventory, 1986
(tons per year)

Emission Source	TSP	SO _x	NO _x	VOC	CO
Aircraft Emissions	12.50	49.70	72.20	546.00	583.20
Motor Vehicle & Aircraft Ground Operations Emissions	12.79	4.41	93.50	87.11	716.20
Stationary Sources (BX Service Station, Military Vehicle Fueling and Jet Fuel Distribution)	2.76	3.37	10.80	110.30	11.75
Total Emission Rate	28.10	57.50	176.50	743.40	1,311.65

Source: Booker Associates 1989.

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3.1.3.4 Noise

Noise may be defined as any sound considered unacceptable. It is expressed as a difference in sound pressure and is measured in decibel (dB) units. A 10-dB increase will be perceived by most people as a doubling of the sound level. The A-weighted scale (dBA) approximates the sensitivity response of the human ear and is used to measure compliance with noise standards.

The EPA specifies maximum noise levels which, if exceeded, could cause adverse health effects (Table 3.1.3-3). Standards for highway traffic noise have been established by the Federal Highway Administration (FHWA). The FHWA has identified a noise abatement level of 65 dBA for highway projects in areas adjacent to parks, residences, and schools (Code of Federal Regulations 1983, 24 CFR 51).

Day and night noise levels in a community differ. To take daily fluctuations into account, the statistical distribution of noise levels over time is considered. The L_{dn} is a measure of noise for a 24-hour period, based on a single event descriptor corrected for the number of events (repetition) and the time of day. The single event descriptor is a value which accounts for frequency, magnitude, and duration of individual sounds. The L_{dn} measure is weighted for noises measured between 10:00 P.M. and 7:00 A.M. because of the increased sensitivity during these designated sleeping hours.

The major noise sources at Eaker AFB are aircraft operations and vehicular traffic in the vicinity of the base. Aircraft noise contours and related AICUZ are shown in Figure 3.1.3-4. Present noise levels exceed 75 dBA expressed as L_{dn} . Base housing residents experience noise levels of 65 dBA to 69 dBA (L_{dn}).

In addition to aircraft noise, the City of Gosnell experiences noise from vehicular traffic along Arkansas State Highway 151. Noise levels at sensitive receptors (residential areas) within 200 feet of the highway range from 57 dBA to 62 dBA (L_{dn}). The residential areas within 200 feet of U.S. 61 experience noise levels that range from 60 dBA to 65 dBA (L_{dn}).

Table 3.1.3-3

**Summary of Environmental Protection Agency Noise Levels
Identified as Requisite to Protect Public Health and
Welfare With an Adequate Margin of Safety**

Effect	Level	Area
Hearing Loss	$L_{eq}(24) \leq 70$ dB	All areas.
Outdoor Activity	L_{dn} 55 dB	Outdoors in residential areas and farms, other outdoor areas where people spend widely varying amounts of time, and other places in which quiet is a basis for use.
Interference and Annoyance	$L_{eq}(24)$ 55 dB	Outdoor areas where people spend limited amounts of time, such as school yards, playgrounds, etc.
Indoor Activity	L_{eq} 45 dB	Indoor residential areas.
Interference and Annoyance	$L_{eq}(24)$ 45 dB	Other indoor areas with human activities such as schools, etc.

Source: Environmental Protection Agency 1974.

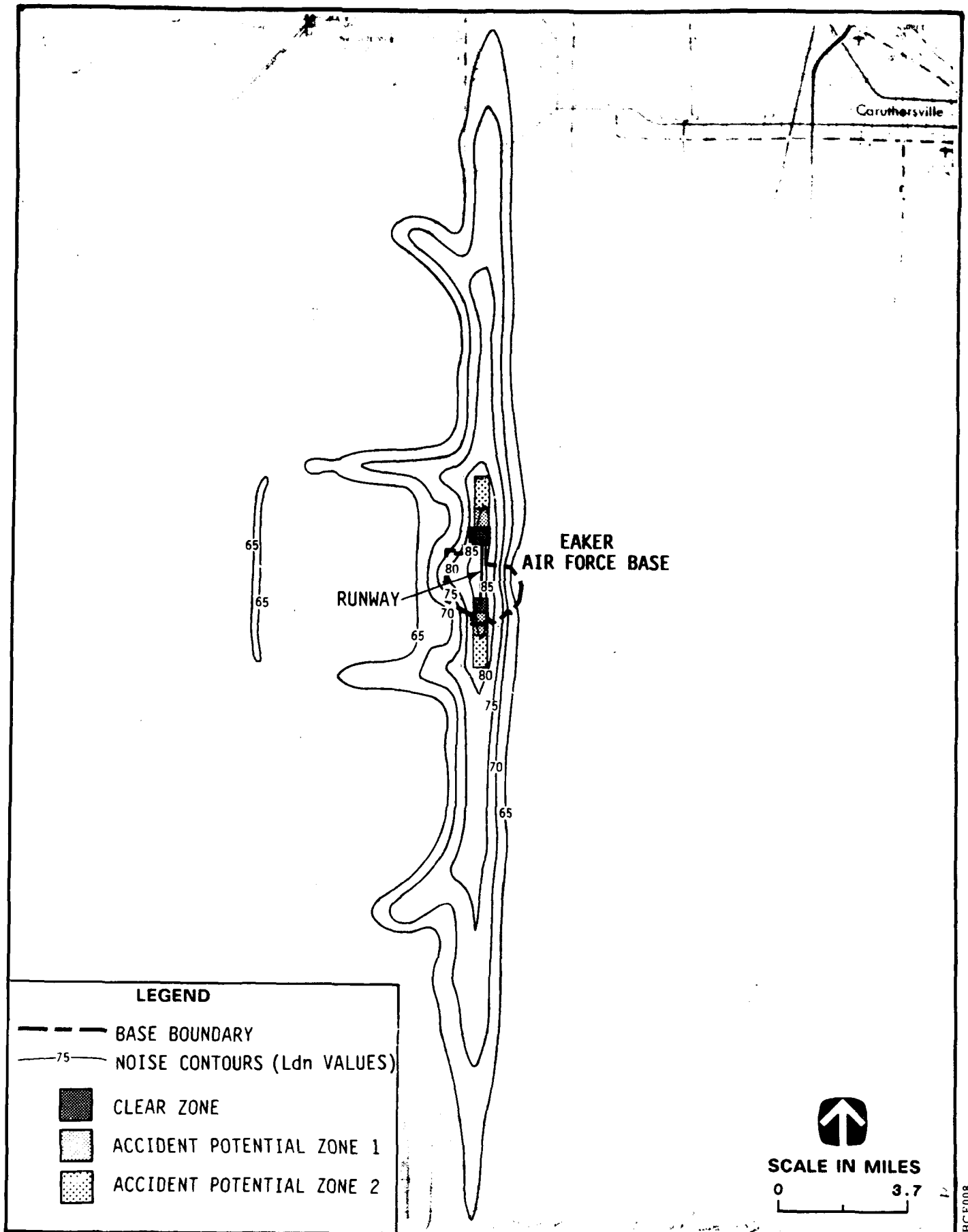


FIGURE 3.1.3-4 NOISE CONTOURS AND ACCIDENT POTENTIAL ZONES,
EAKER AFB, ARKANSAS, 1990

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3.1.3.5 Biological Resources

Vegetation Resources. Eaker AFB has been extensively developed and much of the base has been seeded with bermuda grass and rye. An extensive landscaping plan has been developed for the base, and trees such as oak, cypress, magnolia, dogwood, maple, sycamore, and willow have been planted throughout the base. Approximately 1,980 acres onbase are used as cropland. The majority of the area surrounding the base out to approximately 1 mile is also used for growing cotton, soybeans, wheat, and alfalfa. Grasslands and woodlands also occur in this area (Figure 3.1.3-5).

Wetlands. The U.S. Fish and Wildlife Services National Wetland Inventory (NWI) map indicates three types of wetlands on Eaker AFB, all of which are classified as Palustrine Systems. By definition, Palustrine Systems include "all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity, due to ocean-derived salts, is below 0.5 parts per hundred (pph). This system also includes areas lacking such vegetation, but with all of the following characteristics: (1) areas less than 20 acres; (2) areas lacking wave-formed or bedrock shoreline features; (3) water depth in the deepest part of basin is less than 2 meters at low water; and (4) salinity due to ocean-derived salts is less than 0.5 pph." Emergent, forested, and open water palustrine wetlands occur on or adjacent to the base. Although species surveys of the palustrine wetlands, have not been conducted, emergent wetlands are typically dominated by herbaceous vegetation, including certain grasses, cattails, rushes, and sedges. In the Southeast, palustrine forested wetlands, which are flooded only briefly during the growing season, are characterized by sweet gum, loblolly pine, tulip poplar (Liriodendron tilpiifera), beech (Fagus sp.), sycamore (Platanus occidentalis), hickory (Carva sp.), and various oaks. These areas contain pine, oak, and some bald cypress (Taxodium distichum).

The small pond northwest of the WSA is mapped as a palustrine, semipermanent water body. Although not mapped by NWI, two nearby wet areas could be classified as palustrine, nonpersistent emergent. One is an ephemeral pond west of the WSA, and the other is a cutoff channel of Pemiscot Bayou northwest of the runway (Figure 3.1.3-5). A small area of palustrine semipermanent forested wetland occurs adjacent to Pemiscot Bayou just north of the base boundary.

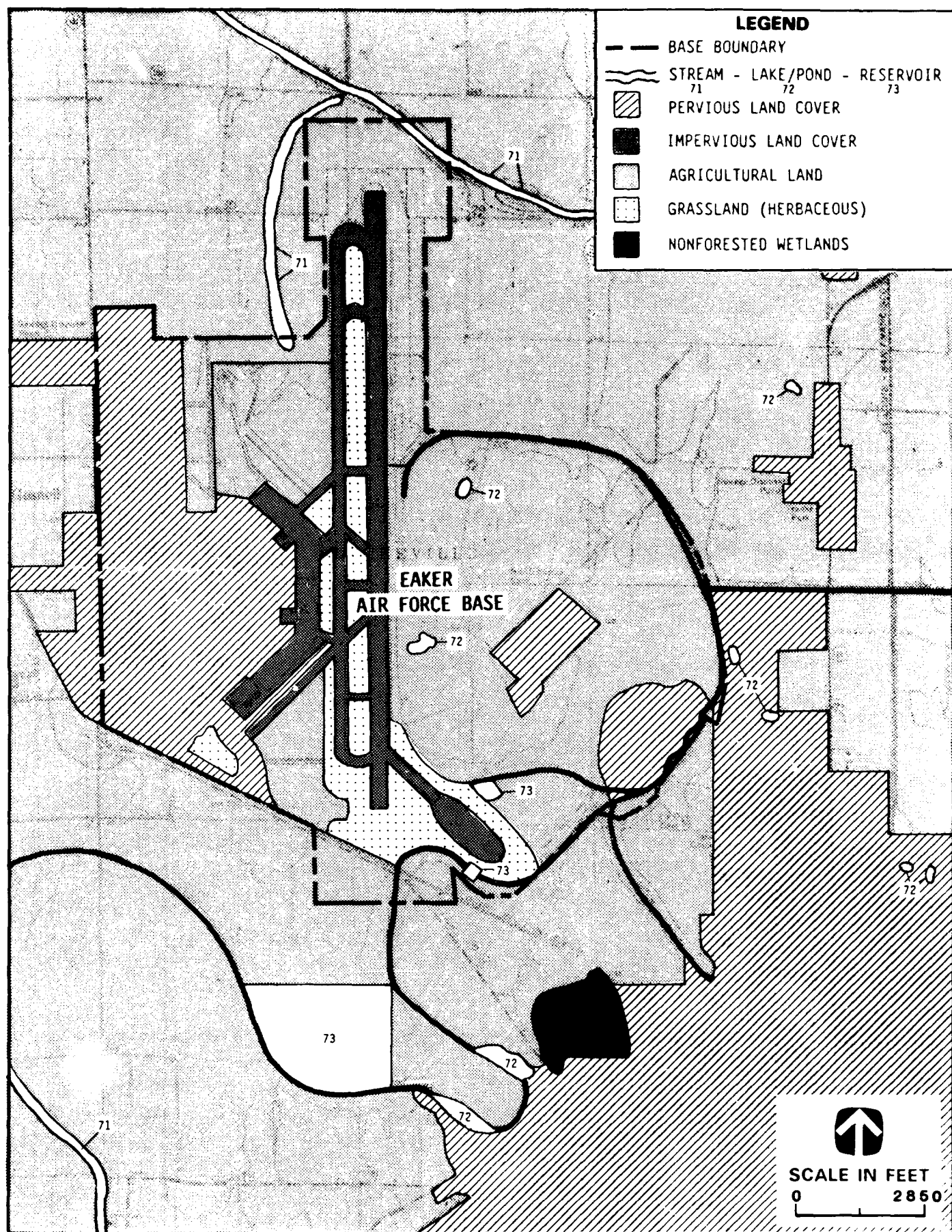


FIGURE 3.1.3-5 HABITAT AND LAND COVER TYPES ON EAKER AFB, ARKANSAS
AND VICINITY 3-34

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Pemiscot Bayou is mapped by the NWI as a lower perennial, semipermanent open water riverine wetland. The portion of the bayou skirting the alert apron is within a man-made channel. The original channel, cutoff for construction of the alert apron, is now occupied by Razorback Lake, a 4-acre open water pond. The NWI map was prepared primarily by stereoscopic interpretation of high altitude aerial photographs. In most cases there is no ground-truthing of mapped wetlands.

Wildlife Resources. The poor quality habitats onbase and in the surrounding area do not support diverse wildlife species; however, a few species such as the eastern cottontail rabbit, raccoon, Virginia opossum, and gray squirrel do occur onbase and in the surrounding region. Various species of birds, amphibians, and reptiles also utilize these habitats. Lake Razorback contains crawfish and is stocked with catfish.

Threatened and Endangered Species. Three endangered species, including the American peregrine falcon (Falco peregrinus anatum), bald eagle (Haliaeetus leucocephalus), and fat pocketbook mussel (Patamilus capax) occur in the Blytheville region (Table 3.1.3-4). The bald eagle is the only endangered species expected to occur on the base, and then only in winter. The state-recognized Cooper's hawk may occasionally occur onbase. Several other federally listed threatened and endangered and state-recognized species occur in the region (Table 3.1.3-4), but suitable habitat for these species does not exist at the base.

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Table 3.1.3-4

**Federally Listed, Federal-Candidate, and State-Sensitive Species
Eaker AFB, Arkansas and Vicinity**

Common Name	Scientific Name	Federal Status	State Status	Distribution
American peregrine falcon	<u>Falco peregrinus anatum</u>	E	E	May occur in region as transient
Bald eagle	<u>Haliaeetus leucocephalus</u>	E	E	May occur onbase as transient
Cooper's hawk	<u>Accipiter cooperi</u>	N	SA	Occurs in region, may occur onbase occasionally
Fat pocketbook mussel	<u>Potamilus capax</u>	N	E	May occur in region
Glossy ibis	<u>Plegadis falcinellus</u>	N	SA	Occurs in region
Hooded merganser	<u>Lophodytes cucullatus</u>	N	SA	Occurs in region
Midwest worm snake	<u>Carphophis amoenus helenae</u>	N	SA	May occur in region
Red fox	<u>Vulpes vulpes</u>	N	SA	Occurs in region
Spotted dusky salamander	<u>Desmognathus fuscus conanti</u>	N	SA	May occur in region

Notes: E = Endangered SA = Special animal N = No federal status

Sources: U.S. Air Force 1977; U.S. Fish and Wildlife Service 1984; Base Comprehensive Plan 1988.

3.1.3.6 Cultural and Paleontological Resources

Prehistoric Resources. The central Mississippi River Valley region in general, and the immediate environs of Eaker AFB, are areas rich in archaeological resources. The time range represented by these resources extends from the Paleo-Indian period (10,000 B.C.) into the Late Mississippian period (A.D. 1500). The level of prehistoric complexity and intensity of occupation in this region reached a peak during the Late Mississippian. The Blytheville area is within a cluster of at least 34 sites dating to that period, of which the resources on the base are a prominent part.

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In 1988 an archaeological study was conducted on approximately 480 acres of base lands proposed for Peacekeeper Rail Garrison facilities siting. This survey area, encompassing slightly less than 40 percent of the undeveloped portions of the base, contained the remains of four prehistoric sites (Table 3.1.3-5). One site (3MS105) has been determined eligible for the National Register of Historic Places (NRHP), and a number of others are considered potentially eligible. Additional survey work is still underway to identify archaeological resources on the remaining undeveloped portions of the base. However, preliminary results include the identification of 15 additional archaeological sites, most of which are potentially eligible for the NRHP.

Only the Eaker site has been formally evaluated for its eligibility for the NRHP. In this region, much of the importance of a given site relates to the preservation of buried cultural deposits. The existence of such deposits can sometimes be documented by remote sensing, but most often test excavations are necessary. Such additional studies will be conducted in the context of reuse and development planning should a decision be made to close the base. If the base remains open, these studies will be done in the context of ongoing base planning.

In either case, formal evaluations of site significance and consultation with the State Historic Preservation Office (SHPO) will not be immediately forthcoming. Nevertheless, it is reasonable to suggest that 12 or more of the known sites will eventually be determined eligible for the NRHP. This number includes the Eaker site (3MS105), the Joy Mounds site, and at least two other prehistoric villages (Table 3.1.3-5).

The largest site identified on the base is the Eaker site (3MS105), a major multicomponent village dating to the Late Woodland and Late Mississippian periods. It covers approximately 75 acres, placing it among the 20 largest known sites of its type in the country. Magnetometer remote sensing and test excavations have verified the presence of buried fortification trenches, mounds, and numerous prehistoric house floors. Illegal looting of the site has been documented in the past, but the problem was eliminated by increased Air Force security efforts since 1980.

The Eaker site contains concentrations of human skeletal remains at several locations on the site surface, and many burials probably exist beneath plowzone. The Quapaw Tribe, generally recognized as the direct cultural descendants of Late Mississippian populations of the Blytheville region, have

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Table 3.1.3-5

Known Archaeological Sites on Eaker AFB, Arkansas

Site	Site Type	National Register Status*
3MS105	Prehistoric multicomponent village	Eligible
3MS524	Prehistoric/historic artifact scatter	Potentially eligible
3MS526	Buried multicomponent prehistoric artifact scatter; ceramic sherds; deer bones	Potentially eligible
3MS525	Projectile point and lithic scatter	Not eligible
Sawa Cemetery	Historic cemetery	Not eligible
BAFB-7	Historic artifact scatter	Not eligible
BAFB-8	Historic artifact scatter	Not eligible
3MS195	Historic agricultural field	Not eligible
BAFB-11	20th century farmstead	Not eligible
BAFB-12	Prehistoric ceramic scatter	Not eligible
BAFB-13	Prehistoric farmsteads	Potentially eligible
BAFB-14	Prehistoric farmsteads	Potentially eligible
BAFB-15	Prehistoric farmsteads	Potentially eligible
BAFB-16	Prehistoric ceramic scatter	Not eligible
BAFB-17	Prehistoric farmsteads	Potentially eligible
BAFB-18	Historic debris scatter	Not eligible
BAFB-19	Prehistoric village	Potentially eligible
BAFB-20	Prehistoric multicomponent scatter	Potentially eligible
BAFB-21	Prehistoric village, buried middens	Eligible
BAFB-22	Historic/prehistoric ceramic scatter	Potentially eligible
BAFB-23	Prehistoric ceramic scatter, possible buried component	Potentially eligible
BAFB-24	Prehistoric ceramic concentration	Potentially eligible
BAFB-25	Joy Mounds site; prehistoric multicomponent village	Eligible

Note: *Pending SHPO concurrence.

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expressed concern for the human remains from the site. Those skeletal materials already recovered are being reinterred at the site in accordance with tribal wishes and current Air Force policy.

Historic Resources. Archival research revealed the presence of two previously recorded sites on the northern part of the base. Site 3MS195 is a historic agricultural field identified on a General Land Office map dated 1847. No structural or archaeological remains were noted in the vicinity of the field. The Sawba Cemetery is located a short distance northwest of the WSA. Although the site dates to the early 20th century, cemeteries generally do not qualify for inclusion in the NRHP (Code of Federal Regulations 36 CFR § 60.4); this site is not an exception to the rule. None of the structures onbase are old enough to qualify for the NRHP.

Five additional historic sites were recorded during the recent field surveys, BAFB-7, -8, -11, -18, and -22. All are badly disturbed debris scatters representing former farmhouses that were demolished when the base was built, and none are believed to be historically important.

Paleontological Resources. Pleistocene megafauna have been discovered at a number of locations throughout the Central Mississippi Valley region. A variety of extinct species are represented, including mammoth, mastodon, bison, musk-ox, and ground sloth. However, the finds nearest Eaker AFB are along the St. Francis River to the west and across the Mississippi River to the southeast in Tennessee. No other rare or unusual fossils have been identified in the vicinity of Eaker AFB, a condition not unexpected in an area of alluvial valley fill.

3.2 WURTSMITH AIR FORCE BASE, MICHIGAN

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4.0 ENVIRONMENTAL CONSEQUENCES

This chapter discusses the environmental consequences associated with the closure of either Eaker Air Force Base (AFB), Arkansas, or Wurtsmith AFB, Michigan. The assessment of impacts focuses on those resources that constitute portions of the physical environment. This approach is in keeping with recent developments in the National Environmental Policy Act (NEPA) case law that have narrowed the interpretation of Council on Environmental Quality (CEQ) regulations regarding discussion of socioeconomic issues in environmental impact statements (EISs) (Metropolitan Edison Co. v. People Against Nuclear Energy, 460 U.S. 766, 18 E.R.C. 1985 [U.S. Supreme Court 1983], Olmstead Citizens for a Better Community v. U.S., 793 Fed. 201, 27 E.R.C. 2115 [8th Cir., 1986]).

Socioeconomic issues are considered to see if they cause significant biophysical impacts to the environment. Therefore, changes in socioeconomic and other contextual parameters of the local community are described in the first portion of each base discussion. Changes in the generation and treatment of hazardous materials are also considered. Impacts to the physical environment resulting from those changes are then summarized within the following resources: geology and soils, water resources, air quality, noise, biological resources, and cultural and paleontological resources. In addition, the relationship between short-term uses and long-term productivity of the environment and irreversible and irretrievable commitment of resources are discussed for each base. Mitigation measures for all significant environmental impacts are discussed, by base, in the final section.

4.1 EAKER AIR FORCE BASE, ARKANSAS

4.1.1 Local Community

During preparation of this EIS, the Air Force considered whether there might be any indirect biophysical effects that could be attributed to socioeconomic changes in the local support communities. Selected socioeconomic changes related directly or indirectly to biophysical factors are discussed in this section.

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The Air Force is sensitive to the community upheaval that may be caused by closing a major employer like Eaker AFB. Therefore, the Air Force is working with the Office of Economic Adjustment (OEA) to assist the communities expected to be hardest hit as a result of base closure. The OEA, located in the Office of the Assistant Secretary of Defense, is the chief staff arm for the President's Economic Adjustment Committee (EAC). The EAC consists of federal department and agency heads and was established under Executive Order 12049 on March 27, 1978, to provide resources of various federal agencies in assisting communities affected by base closures.

One of the OEA's activities is to assist support communities in the development and implementation of comprehensive economic recovery programs. The EAC then affords priority assistance to community requests for federal technical assistance, financial resources, excess or surplus property, or other requirements that are part of this program. OEA has already initiated planning actions at the local level to provide planning assistance to communities to be affected by the closure of Eaker AFB.

4.1.1.1 Community Setting

Population and Employment. The closure of Eaker AFB would reduce employment in the local area by nearly 4,500 jobs including 3,800 military and civilian jobs onbase and about 700 secondary jobs. This reduction in employment would result in a decrease in personal income of about \$84 million annually and a decrease in local spending (including personal consumption expenditures and base procurement) of about \$60 million annually.

All military employees would be relocated, and it is projected that approximately 75 percent of direct and secondary civilian employees would also relocate to other areas. It is also expected that up to 50 percent of local military retirees would relocate closer to other active installations. Total population outmigration is projected to be approximately 14,200 people when the base is completely closed in 1993. This represents about 50 percent of the current population in the cities of Blytheville and Gosnell.

Housing. The closure of Eaker AFB would discontinue the use of all military family and dormitory housing onbase. In addition, approximately 5,100 households living offbase are expected to relocate,

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leaving this number of housing units vacant. This would result in an increase in the vacancy rate for permanent housing from about 5 percent to 50 percent.

Education. As a result of the base closure, primary and secondary schools and the local community college would lose enrollment, full-time faculty, and staff. Funding from tuition and federal and state taxes would be reduced. The Gosnell School District would lose approximately 1,414 students or 63.8 percent of their total enrollment. The resulting loss in personnel would be 108 certified and 52 noncertified employees or 65 percent of the district staff and faculty. The loss in personnel reflects both funding decreases and the relocation of military spouses employed in the school system.

Community Services. According to the Mississippi County Hospital System president, base closure would result in a decrease in hospital revenue, a decrease in expenses, a reduction in staff, and loss of the ability to recruit qualified nurses.

Closing of Eaker AFB and the 97th Squadron Hospital would result in a direct financial impact to eligible recipients of military health care, particularly military retirees and their dependents. The hospital's closure would reduce the availability of military health services to the 5,094 retirees and their dependents living in the area. Patients who previously used Eaker AFB Hospital would be required to either travel longer distances for treatment at a military facility or receive services in community hospitals under the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) program. The nearest military hospitals are Scott AFB in St. Louis, Missouri, about 250 miles north, or Millington Naval Hospital in Memphis, Tennessee, 100 miles southeast.

For patients who choose to use CHAMPUS, the average patient would incur additional expenses for inpatient and outpatient services. Additionally, patients would incur additional costs for prescription drugs and some medical tests. There would be an associated increase in paperwork and inconvenience for patients and their families. Closure of Eaker AFB would result in an adverse impact on cost and convenience of health care for military retirees and dependents who now depend on this hospital.

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4.1.1.2 Land Use and Aesthetics

Land Use Patterns. Closure of Eaker AFB would have no effect on land ownership because the Air Force would retain the property until an appropriate reuse has been determined. The closure is expected to have potentially beneficial impacts to land use because of reductions in both noise and potential aircraft accidents in areas near the base. Areas of prime farmland are currently being used for agricultural purposes as part of the base's outlease program and it is assumed that the outleases would be continued following closure.

The Air Force has a 25-year lease for a 342-acre recreation area at Sardis Lake in Mississippi. This facility is exclusively for Department of Defense (DOD) personnel. Capital improvements and maintenance at the base recreational area are the responsibility of Eaker AFB. Development of numerous recreational facilities at Sardis Lake was proposed in the Base Comprehensive Plan. The closure of the base would terminate the recreation lease and proposed developments would not occur. However, the loss of the Air Force-leased recreational area would not affect public recreation.

Expected outmigration of 14,227 persons may include as many as 5,164 offbase households, causing a significant increase in housing vacancies. This change is likely to be most severe in Gosnell. The estimated reduction of total spending by \$61 million can be expected to cause the loss of a number of local business, especially in the immediate vicinity of the base. However, while these changes are clearly significant socioeconomic issues, they do not imply a significant change in local land use, because zoning ordinances would not change. Existing incompatibilities between land use and aircraft Accident Potential Zones (APZs) would be resolved by closure of the base.

Aesthetics and Visual Resources. After closure, the base would be maintained at a level sufficient to prevent deterioration of property. The grounds probably would not be maintained at the present level; however, because base maintenance would continue, no significant adverse effects to visual and aesthetic values are anticipated.

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05/21/90**4.1.1.3 Transportation**

Closure of Eaker AFB would require the transport of aircraft, material supplies, and personnel to Malmstrom AFB, Montana; Barksdale AFB, Louisiana; and Plattsburgh AFB, New York. Several transport methods, including truck, freight train, and airplane, could be used to transport personnel and equipment to the receiving bases.

Transportation Systems. Eaker AFB is close to the St. Louis Southwestern and the St. Louis-San Francisco rail lines. However, access to the rail lines is located in Blytheville. The base is also about 6 miles from a four-lane U.S. Interstate Highway (Interstate 55) located on the east side of Blytheville; however, access to Interstate 55 is by Highway 151 through Gosnell and Main Street (part of Highways 18, 151, and 239) through Blytheville.

Ground Traffic. Traffic volume would increase slightly on Highways 151 and 18 during closure activities; however, the proposed phased drawdown would mean that not all relocations and equipment transport would occur simultaneously. Even though the traffic volume would increase, in general, this affect would be offset by the decrease in traffic after the base is closed. According to the Base Comprehensive Plan, approximately 5,800 to 6,000 vehicles enter or exit the base daily. After closure, the number of vehicles would be reduced, resulting in a 45 percent decrease in daily traffic on Highway 151 in the vicinity of the base.

Air Traffic. Closure of Eaker AFB would have a slight beneficial impact on air traffic congestion in the area. The airspace and transit routes are not presently a source of conflict with commercial and commuter traffic entering and exiting Memphis International Airport. Closure of the base would benefit the smaller, general aviation aircraft that operate under visual flight rules at low altitudes in the area. Closure of Eaker AFB would reduce the mix of high-performance military aircraft with general aviation aircraft at these lower altitudes.

4.1.1.4 Utilities

Water Supply. Base closure and conversion to caretaker status would result in a 90 percent decrease in onbase water usage. This amounts to about 15 percent of the local demand on the aquifer. Even

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though demand would be reduced, there would be no effect on the local water supply because the Wilcox aquifer is a stable, abundant source.

Wastewater Treatment. Three wastewater systems would be affected by the closure of Eaker AFB: the base treatment plant, and both the Blytheville and Gosnell wastewater treatment systems. Base closure would result in the loss of approximately 90 to 95 percent of the average daily flow to the base treatment facility. The biochemical oxygen demand reduction would decrease the rate in which microorganisms use the oxygen in the wastewater to decompose organic matter under aerobic conditions. The lack of dissolved oxygen would decrease the reproduction of aerobic bacteria, which is needed for proper treatment of raw sewage. A decrease in flow to the plant would cause longer detention time in the primary settling tanks, causing septic conditions. Because the treatment plant uses an anaerobic digester, the reduced solids loading to the digester would result in less sludge being produced in the primary settling tank. This would cause an insufficient source of food for the anaerobic bacteria to survive. As a result of the decrease in wastewater at the base treatment facility, the above mentioned discrepancies would cause pollution discharge in nearby receiving streams (Pemiscot Bayou ditches) resulting in Environmental Protection Agency (EPA) violations and fines.

The base wastewater treatment plant is presently recirculating two-thirds of its flow to maintain adequate bacterial growth on the trickle filter. Engineers at the facility estimate that a 10 to 15 percent reduction in current demand would make the system unable to provide acceptable treatment for the remaining flow. Therefore, it is likely that septic conditions would develop during the first quarter of the personnel drawdown.

The City of Blytheville operates three extended aeration, activated sludge plants. According to the Blytheville Sewer Commission, the south plant is designed to accommodate 10 percent of the city flow. This plant is currently underloaded because of the loss of a major industrial customer, and it is estimated that a further reduction of 10 percent would require closing the facility and diverting the flow to the north and west plants. It is likely that such an effect would be realized within the first quarter of the drawdown schedule.

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The estimated 50 percent population outmigration would effect all three of the Blytheville treatment plants, probably requiring the consolidation of the south and west (larger) plants. This effect would be felt by the time personnel drawdown was completed.

Base closure would result in the loss of a substantial percentage of the average daily flow to the Gosnell wastewater treatment facility. The potential results are still under consideration by city officials.

Solid Waste. The closure of Eaker AFB would result in a beneficial impact to the Mississippi County landfill. The reduction in the amount of waste from the base may give the landfill a longer use life. The waste generated by the closure would increase in the short term but would be offset by the total base reduction after closure.

Energy. With the closure of Eaker AFB, peak demand for electricity would decrease 0.22 percent. Natural gas consumption would decrease almost 7 percent. Base closure would not have an effect on present energy delivery systems.

4.1.2 Hazardous Materials

4.1.2.1 Hazardous Waste Management

Upon base closure, the Defense Reutilization and Marketing Office (DRMO) facilities would be closed according to requirements in the Resource Conservation and Recovery Act (RCRA). All wastes stored in the DRMO facilities would be disposed of properly. All residual contamination in the yard, and at hazardous waste accumulation points throughout Eaker AFB, would be remediated.

4.1.2.2 Installation Restoration Program Sites

The closure of Eaker AFB would prevent new hazardous wastes from being generated by the military. The elimination of hazardous substances would have a positive impact on the biological and physical environment of the base. The Installation Restoration Program (IRP) sites under investigation would be restricted from future development until any necessary remedial actions are completed. The IRP

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would not be affected by implementation of closure. The IRP is independent of the base closure process and would continue, as needed, after the military mission has been terminated.

4.1.2.3 Hazardous Materials Storage and Handling

Although the hazardous waste generation would be substantially reduced with the partial closure of the base, current Air Force policies for storage and handling would remain in effect until base reuse is determined.

4.1.2.4 Storage Tanks

The abandonment of 119 underground and aboveground storage tanks is expected to have slight positive effects on the environment in that the potential of additional accidental spills would no longer exist. Abandonment and temporary closures of both underground and aboveground storage tanks would be closely coordinated with the State of Arkansas Department of Pollution Control and Ecology. All underground storage tanks would be tested for leaks and remedial action taken prior to tank removal or base reuse.

4.1.2.5 Asbestos

A survey of asbestos-containing materials on Eaker AFB would be completed prior to disposition of the facilities. Environmental control in base facilities would be maintained during caretaker status to prevent additional deterioration of asbestos materials, which could become friable and produce hazardous conditions.

4.1.2.6 Polychlorinated Biphenyls

All polychlorinated biphenyls (PCBs) would be removed from Eaker AFB prior to closure.

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05/21/90**4.1.2.7 Radon**

Upon completion of the Radon Assessment and Mitigation Program survey, the Air Force will release the results from the year-long monitoring program.

4.1.2.8 Radioactive Materials

Only one radioactive disposal site was identified at Eaker AFB and the contaminants were removed in the 1960s.

4.1.2.9 Ordnance

Buried Explosive Ordnance Disposal (EOD) residues at the Eaker AFB EOD range are considered inert substances and are no longer hazardous.

4.1.3 Physical Environment**4.1.3.1 Geology and Soils**

Geology. Closure of Eaker AFB would have no affect on the geology or the availability of mineral resources because the federal government would retain ownership and mineral rights.

Soils. Positive effects would occur for local topography and soils because training, maintenance, or new construction for military missions would no longer be a concern. The elimination of new construction would prevent associated grading or excavating, thereby reducing the amount of soil erosion. The risks of new soil contamination by spills or unintended releases of hazardous materials caused by military operations would be eliminated.

4.1.3.2 Water Resources

Groundwater. The base receives its water from two wells drilled into the Wilcox aquifer and one in Quaternary deposits. The closure would decrease the demand for groundwater onbase. Even though

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demand would be reduced by an average of 0.76 million gallons per day (MGD), there would be no effect on the local water supply because the Wilcox aquifer is a stable, abundant source.

Contamination of groundwater has been identified at eight IRP sites (see Section 3.1.2.2). Existing contamination will be remediated under the IRP independent of the proposed closure action. However, base closure would eliminate any additional risk of inadvertent spills or releases of hazardous materials resulting from military activities.

Surface Water. If the base closes, Pemiscot Bayou would receive about 0.5 MGD less effluent discharge from the base wastewater facility. The effluent at the point of discharge is within standards, so the reduction may not have a significant effect on overall water quality. However, none of the Pemiscot Bayou monitoring stations are downstream of the wastewater discharge point, so the contribution of the facility to the chemical content of water in the bayou is unknown. If there is any effect due to closure, it could be expected to be in the form of a reduction in chemicals.

Surface runoff from the base would probably not decline appreciably, but the concentrations of contaminants would be reduced by at least 50 percent (representing the percentage of personnel drawdown, the remaining caretaker force and the maintenance of agricultural outleases). Effects of closure on surface water are expected to be beneficial but minor because most contamination has been attributed to agricultural activities.

4.1.3.3 Air Quality

When the base is fully inactivated and closure is complete, air emissions from the base would be drastically reduced. The base closure would reduce the number of motor vehicles in the Blytheville-Gosnell communities resulting in lower automobile emissions. The discontinuation of most commuter traffic would result in a reduction of about 65 percent of the traffic on Highway 151 during peak traffic hours, and 45 percent overall. The base incinerator would be shut down and all military aircraft pollutants be eliminated.

However, the reductions of air pollutant emissions are not expected to result in significant changes in local air quality. As shown in Table 3.1.3-1, the estimated emissions from the base are only a small

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portion of the total emissions for Mississippi County, Arkansas. The estimated base contribution for the various compounds measured range from 0.1 percent to 14 percent of the county total.

4.1.3.4 Noise

Closure of Eaker AFB would result in the cessation of all military flights; thus, aircraft noise from aircraft operations would be eliminated. The result would be a reduction in the level of noise in the environment and a noticeable improvement in the noise environment of Blytheville and Gosnell. In addition, noise generated from ground transportation associated with the base would be reduced significantly because of the reduction in military, supplier, contractor, and dependent traffic. During drawdown and closure, the movement of equipment, supplies, and personnel might cause the amount of traffic noise to increase slightly; however, this short-term effect would be offset by the overall reduction of aircraft noise after base closure.

4.1.3.5 Biological Resources

Vegetation. Most undeveloped areas of Eaker AFB are presently under cultivation through the base's outlease program.

Wetlands. Closure of the base could result in a beneficial impact to wetlands, especially Pemiscot Bayou, because the discharge of some surface water contaminants would be reduced. However, any benefits are expected to be minor because most surface water contamination is attributed to nonpoint source agricultural runoff (Section 3.1.3.5). Conditions at Razorback Lake are not likely to change because the high phosphorous concentrations appear to be due to seepage from the adjacent landfill. Therefore, base closure would have no effect.

It is assumed that current land use practices, namely agriculture outleases, would be continued on the undeveloped portions of the base following closure. If land use on the base were to change, such that any of the "wet" areas would be affected, jurisdictional wetlands would need to be identified, and their upper boundaries delineated. Such studies would be undertaken in accordance with U.S. Fish and Wildlife Service, EPA, Army Corps of Engineers (COE), and Soil Conservation Service delineation procedures, in the context of reuse planning and impact assessment.

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Wildlife. Land use patterns on the base would not change markedly as a result of base closure because the agricultural outleasings would be maintained. Therefore, no effects on wildlife are expected.

Threatened and Endangered Species. No threatened or endangered plant or animal species would be adversely affected by base closure. The vegetation and wildlife characteristics which attract the seasonal species would not be affected by closure.

4.1.3.6 Cultural and Paleontological Resources

Prehistoric Resources. Three prehistoric sites have been previously identified which are considered eligible for the National Register of Historic Places (NRHP) and as many as the known sites may eventually be determined eligible. Base closure could have a significant adverse impact on some of these sites because of a potential for increased vandalism and looting. There is a documented history of unauthorized excavation at site 3MS105 prior to the implementation of site-specific security patrols in 1980. Although there are no regularly scheduled security patrols of the site, it is checked periodically and mowed to facilitate observation from the Weapons Storage Area. It is reasonable to suggest that a reduction in the security force would increase the likelihood of vandalism and looting. This could result in a significant impact because vandalism and looting would destroy site integrity. These adverse impacts could be effectively mitigated by providing continued security presence as part of the caretaker force scope of work (see Section 4.1.6).

The potential for unauthorized disturbance at site 3MS105 would also be of concern to the Quapaw American Indian Tribe. Human remains have been recovered from the surface of the site and numerous burials are believed to remain intact. Burials are the most sensitive Native American sacred sites, and their disturbance is viewed as desecration.

Historic Resources. Eaker AFB was established in 1942 and present structures onbase are not of the appropriate antiquity or architectural style to be considered historically significant. Seven historic sites have been identified in previous work on the base. These sites are considered not eligible for the NRHP and would not be affected by base closure.

Paleontological Resources. No paleontological resources would be affected by base closure.

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05/21/90**4.1.4 Relationship Between Short-Term Uses and Long-Term Productivity of the Environment**

Closure of Eaker AFB was recommended by the Secretary of Defense's Commission on Base Realignment and Closure. Closure of the base will discontinue all current military uses of the base. After closure, the risk of military aircraft accidents will be greatly reduced, and the risk of accidental spills of hazardous materials by the military will no longer exist. Reuse or development of lands at Eaker AFB containing hazardous waste sites (IRP sites) will be precluded until those sites have been fully characterized and all remedial work is completed.

4.1.5 Irreversible and Irretrievable Commitment of Resources

Irreversible and irretrievable commitments of resources due to the closure of Eaker AFB will be minor. Energy usage in the form of fuels will temporarily increase while personnel and materials are transported to receiving bases.

4.1.6 Potential Mitigation Measures

Wastewater Facilities. Presently, the Eaker AFB sewage treatment facility is underloaded and to counteract this effect, two-thirds of the wastewater is being recycled to produce the proper volume. A further 10 to 15 percent reduction in the wastewater flow would result in septic conditions. There appears to be no acceptable mitigation measure for this plant for base closure activities.

Blytheville, Arkansas has three wastewater treatment facilities. Potential mitigation measures would include closing down the south plant and diverting wastewater flow to the west and north plants. The west and north plants would require refitting to handle the additional reduced flow.

Gosnell Arkansas Facility. TBS

Cultural Resources. Mitigation approaches for cultural resources consist of regulatory requirements, assumed mitigations, and potential mitigations. Although not specifically required by regulation, assumed mitigations have been defined as part of Air Force and/or COE policies regarding cultural

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resources. For example, historic cemeteries determined not eligible for the NRHP will be treated in accordance with established COE regulations and procedures for consultation and reburial. Potential mitigations for archaeological sites may involve a variety of treatments including data recovery, monitoring, or site stabilization.

The Eaker Site, 3MS105, has been determined to be NRHP eligible. This site may have increased vandalism due to a decrease in security forces. Under the caretaker contract, maintaining the same level of security patrols is the preferred mitigation to reduce vandalism. Because this site has national and regional significance, a potential long-term mitigation may be to donate the site to a conservation agency or group which will protect and manage the site including overseeing research activities by qualified professionals.

Thirteen other sites have been identified on the base and test excavations will be needed to formally evaluate these sites for eligibility to the NRHP. NRHP nominations will need to be prepared in conjunction with reuse studies. A Memorandum of Agreement between the base, State Historic Preservation Officer, and Advisory Council on Historic Preservation should be prepared along with a mitigation plan indicating how the Air Force and General Services Administration intend to take the NRHP-eligible sites into account during reuse planning and development. Specific site treatments are negotiable and depend largely on local and regional issues, guidelines, and precedents. However, they would likely be drawn from among the following treatments:

- Stabilize archaeological sites by planting ground cover and restricting access. In addition to simply avoiding sites, this measure helps preserve them by reducing erosion and vandalism.
- Implement data recovery measures (survey, excavation, analysis, and reporting). Appropriate data recovery procedures will be identified through consultation. If a resource is significant for its research potential, data recovery can result in a finding of no adverse effect. Data recovery is labor intensive and expensive, but is the most widely accepted treatment for affected archaeological sites that cannot be avoided.

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- Design a monitoring program to identify and evaluate resources encountered during construction. In areas where buried sites can reasonably be expected, monitoring is an extension of the identification process required by Section 106 of the National Historic Preservation Act.
- Consult with Native Americans during survey and monitoring activities, and provide for reburial of human remains. In the event that human burials are encountered during construction, tribal representatives would evaluate the finds. The procedure may entail some construction delays while appropriate reburial or other ceremonial activities are carried out. Delays will be minimized by having monitoring and evaluation arrangements planned in advance of construction.

4.2

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5.0 CONSULTATION AND COORDINATION

Listed below are the federal, state, and local agencies; private organizations; and individuals that were contacted during the course of preparing the Environmental Impact Statement (EIS). A number of other agencies and officials were notified of the scoping meetings and to provide comments on the EIS. These are listed in Appendix C, Draft Environmental Impact Statement Mailing List.

- U.S. Fish and Wildlife Service, Regional Director, Atlanta, Georgia (James W. Pulliam, Jr.)
- Advisory Council on Historic Preservation, Golden, Colorado (Alan Stanfill)
- Arkansas Game and Fish Commission, Little Rock, Arkansas (Frank Lyon, Jr.)
- Arkansas Historic Preservation Program, Little Rock, Arkansas (Ms. Kathy Buford, State Historic Preservation Officer, and George McClusky)
- Arkansas Archaeological Survey, Jonesboro, Arkansas (Dr. Dan Morse)
- Quapaw Tribe, Fayetteville, Arkansas (Carrie Wilson)
- Lower Mississippi Delta Development Commission, Memphis, Tennessee (Wilbur Hawkins)
- Blytheville Sewer Commission, Blytheville, Arkansas (David Gill)
- City of Gosnell, Arkansas, Office of the Mayor
- Eaker Air Force Base, Arkansas, personal communication with Neil Washburn, Sergeant Williams, Major Anderson, and Staff Sergeant Chandler

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APPENDIX A - GLOSSARY OF TERMS AND ACRONYMS

TERMS

Acre-Foot. The volume of the water that covers 1 acre to a depth of 1 foot; approximately 326,000 gallons.

Active Fault. A fault on which movement has occurred during the past 10,000 years and which may be subject to recurring movement usually indicated by small, periodic displacement or seismic activity.

Advisory Council on Historic Preservation. A 19-member body appointed, in part, by the President of the United States to advise the President and Congress and to coordinate the actions of federal agencies on matters relating to historic preservation, to comment on the effects of such actions on historic and archaeological cultural resources, and to perform other duties as required by law (Public Law 89-655; 16 USC § 470).

Air Installation Compatible Use Zone. A concept developed by the Air Force to promote land use development near its airfields in a manner that protects adjacent communities from noise and safety hazards associated with aircraft operations, and to preserve the operational integrity of the airfields.

Air Quality Control Region. An area designated by Section 107 of the Clean Air Act, which is based on jurisdictional boundaries, urban-industrial concentrations, and other factors including atmospheric areas, that is necessary to provide adequate implementation of air quality standards.

Ambient Air. That portion of the atmosphere, outside of buildings, to which the general public has access.

Ambient Air Quality Standards. Standards established on a state or federal level that define the limits for airborne concentrations of designated "criteria" pollutants (e.g., nitrogen dioxide, sulfur dioxide, carbon monoxide, total suspended particulates, ozone, lead, and hydrocarbons) to protect public health with an adequate margin of safety (primary standards) and to protect public welfare, including plant and animal life, visibility, and materials (secondary standards).

Aquifer. The water-bearing portion of subsurface earth material that yields or is capable of yielding useful quantities of water to wells.

Archaeology. A scientific approach to the study of human ecology, cultural history, and cultural process.

Arterial. Signalized streets with signal spacings of 2 miles or less and turning movements at intersections that usually do not exceed 20 percent of total traffic. Urban arterials primarily serve through-traffic, and, as a secondary function, provide access to abutting properties (urban); roadways that provide large traffic volume capacity between major traffic generators, designed to facilitate traffic movement and discourage land access when feasible. Includes primary state roads (functional).

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Attainment Area. An area that has been designated by the Environmental Protection Agency and the appropriate state air quality agency as having ambient air quality levels below the ceiling levels defined under the National Ambient Air Quality Standards.

Attenuation. A decrease in the amplitude or energy (intensity) of a seismic wave with distance from the epicenter.

Average Annual Daily Traffic. For a 1-year period, the total volume passing a point or segment of a highway facility in both directions, divided by the number of days in the year.

Capacity (Utilities). The maximum load a system is capable of carrying under existing service conditions.

Collector Streets. Surface streets that provide land access and traffic circulation service within residential, commercial, and industrial areas (urban); secondary roads that provide access to higher-type roads, connect small communities and nearby areas, and serve adjacent property (functional).

Culture. The system of behavior, beliefs, institutions, and objects human beings use to relate to each other and to the environment.

Curie. A unit of radioactivity equal to 3.7×10^{10} disintegrations per second.

Decibel. The unit of measurement of sound level calculated by taking ten times the common logarithm of the ratio of the magnitude of the particular sound pressure to the standard reference sound pressure of 20 micropascals and its derivatives.

Direct Effects. Effects that are immediate consequences of program activities. In economics, the initial increase in employment and income resulting for program employment and material purchases before the indirect effects of these changes are measured.

Direct Employment. Military and civilian personnel who are employed by the Department of Defense and its contractors, and who are working onsite on the program.

Direct Impact. Effects resulting solely from program implementation.

Effect. A change in an attribute. Effects can be caused by a variety of events, including those that result from program attributes acting on the resource attribute (direct effect); those that do not result directly from the action or from the attributes of other resources acting on the attribute being studied (indirect effect); those that result from attributes of other programs or other attributes that change because of other programs (cumulative effects); and those that result from natural causes (e.g., seasonal change).

Effluent. Wastewater discharge from a wastewater treatment facility.

Environmental Impact Analysis Process. The process of conducting environmental studies as outlined in Air Force Regulation 19-2.

Epicenter. The point on the earth's surface directly above the focus of an earthquake.

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Eutrophication. The enrichment of a body of water with nutrients, which, in the presence of sunlight, can stimulate the growth of algae and other aquatic plants to the point that undesirable effects may result, such as highly turbid water or a depletion of dissolved oxygen.

Federal-Candidate Species. Taxa placed in Federal Categories 1 and 2 by the U.S. Fish and Wildlife Service, which are candidates for possible addition to the List of Endangered and Threatened Species.

Fugitive Dust. Particulate matter composed of soil that is uncontaminated by pollutants from industrial activity. Fugitive dust may include emissions from haul roads, wind erosion of exposed soil surfaces, and other activities in which soil is either removed or redistributed.

Fugitive Emissions. Emissions released directly into the atmosphere that could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening.

Hazardous Materials. Both nonradioactive (e.g., missile propellants and diesel fuel) and radioactive materials.

Hazardous Waste. A waste, or combination of wastes, which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either cause, or significantly contribute to an increase in mortality or an increase in serious irreversible illness; or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Historic. A period of time after the advent of written history dating to the time first Euro-American contact in an area. Also refers to items primarily of Euro-American manufacture.

Holocene. The time since the end of the Pleistocene epoch, characterized by the absence of large continental or Cordilleran ice sheets and the extinction of large mammalian life-forms. Generally considered to be the last 10,000 years.

Impact. An assessment of the meaning of changes in all attributes being studied for a given resource; an aggregation of all the adverse effects, usually measured using a qualitative and nominally subjective technique.

Indirect Employment. Employment resulting from the purchases of workers who are directly working on a specified program. Also includes any subsequent employment arising from the increase in purchases in the area.

Indirect Impacts. Program-related impacts (usually population changes and resulting impacts) not directly attributable to the program itself. For example, direct program employees will spend some of their income locally. As a result, local industries will tend to hire more workers as they expand in response to the increased demand. This additional employment is termed an "indirect impact."

Inhabited Structure. Any building currently being used for the purposes of a dwelling or residence, workplace, place of business or industry, or an institutional function. Agricultural buildings such as barns do not generally meet the definition of an inhabited structure.

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K-factor. The soil erodibility factor (K) used in the Universal Soil Loss Equation. The index is a measure of the susceptibility of a soil to erode as related to physical and chemical properties of the soil.

Kilowatt. A unit of power equivalent to 1,000 watts.

Known Geothermal Resource Area. An area in which the geology, nearby discoveries, competitive interests, and other indicators would, in the opinion of the Department of the Interior, engender a belief in those who are experienced in the subject matter that the prospects for the extraction of geothermal resources are good enough to warrant expenditures of money for that purpose (43 CFR § 3200.0-5).

L_{24} Noise Level. The 24-hour average-energy sound level expressed in decibels, with a 10-decibel penalty added to sound levels between 10:00 P.M. and 7:00 A.M.

L_{eq} Noise Level. A constant amount of acoustic energy equivalent to the energy contained in the time-varying noise measured from a given source for a given time.

Level of Service. In transportation analyses, a qualitative measure describing operational conditions within a traffic stream and how they are perceived by motorists and/or passengers. In public services, a measure describing the amount of public services (e.g., fire protection and law enforcement services) available to community residents, generally expressed as the number of personnel providing the services per 1,000 population.

Liquefaction. The transformation during an earthquake of unconsolidated, water-saturated sediment into a liquid form.

Long Term. Impacts that would occur over an extended period of time, whether they start during the construction or operations phase. Most impacts from the operations phase are expected to be long term since program operations essentially represent a steady-state condition (i.e., impacts resulting from actions that occur repeatedly over a long period of time). However, long-term impacts could also be caused by construction activities if a resource is destroyed or irreparably damaged or if the recovery rate of the resource is very slow.

Megawatt. One thousand kilowatts or one million watts.

Microcurie. One-millionth of a curie.

Mitigation. A method or action to reduce or eliminate program impacts.

National Register of Historic Places. A register of districts, sites, buildings, structures, and objects important in American history, architecture, archaeology, and culture, maintained by the Secretary of the Interior under authority of Section 2(b) of the Historic Sites Act of 1935 and Section 101(a)(1) of the National Historic Preservation Act of 1966, as amended.

Native Americans. Used in a collective sense to refer to natives of North America.

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Nonattainment Area. An area that has been designated by the Environmental Protection Agency and the appropriate state air quality agency as exceeding one or more National Ambient Air Quality Standards.

Peak Demand. The highest instantaneous amount of electrical power (in kilowatts) that an electrical system is required to supply over a given time frame, usually 1 year.

Peak Hour. The hour of highest traffic volume on a given section of roadway between 7 A.M. and 9 A.M. or between 4 P.M. and 6 P.M.

Potentiometric Level. The level to which groundwater would rise under unconfined conditions; it may assume values higher than the local topography.

Prime Farmland. Land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oilseed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor, and without intolerable soil erosion, as determined by the Secretary of Agriculture (Farmland Protection Policy Act, 7 CFR § 658).

Quaternary. A geologic period representing the last 1.6 million years of earth's history which includes the Pleistocene and Holocene (Recent) epochs.

Recent. A geologic epoch of the Quaternary period representing the last 10,000 years of geologic time.

Richter Magnitude Scale. Measure of an earthquake size based on the amplitude of seismic waves that are recorded on a seismograph. The magnitude is based on a logarithmic scale (base 10) of the largest ground motion.

Secondary Employment. In economics, the additional employment and income generated by the economic activity required to produce the inputs to meet the initial material requirements. The term often is used to include induced effects.

Seismic. Pertains to the characteristics of an earthquake or earth vibrations including those that are artificially induced.

Short Term. Transitory effects of the proposed program that are of limited duration and are generally caused by construction activities or operations start-up.

Significance. The importance of a given impact on a specific resource as defined under the Council on Environmental Quality regulations.

State Historic Preservation Officer. The official within each state, authorized by the state at the request of the Secretary of the Interior, to act as liaison for purposes of implementing the National Historic Preservation Act.

State-Sensitive/State-Recognized Species. Plant and wildlife species in each state that are monitored and listed for purposes of protection.

Threatened Species. Taxa likely to become endangered in the foreseeable future.

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Total Dissolved Solids. The concentration of solid materials that are dissolved in a sample of water; determined as the weight of the residue of a water sample upon filtration and evaporation divided by the volume of the sample.

Volume (Transportation). The total number of vehicles that pass over a given point or section of a roadway during a given time interval. Volumes may be expressed in terms of annual, daily, hourly, or subhourly periods.

Watt. A unit of electrical power equal to 1/756th horsepower.

Wetlands. Areas that are inundated or saturated with surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil, including swamps, marshes, bogs, and margins of open water bodies.

Zoning. The division of a municipality (or county) into districts for the purpose of regulating land use, bulk of building, required yards, necessary off-street parking, and other prerequisites to development. Zones are generally shown on a map and the text of the zoning ordinance specifies requirements for each zoning category.

ACRONYMS

AADT	Average Annual Daily Traffic
ACHP	Advisory Council on Historic Preservation
AFB	Air Force Base
AFR	Air Force Regulation
AICUZ	Air Installation Compatible Use Zone
ANG	Associated Natural Gas Company
AP&L	Arkansas Power and Light Company
APZ	Accident Potential Zone
BCP	Base Comprehensive Plan
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CHAMPUS	Civilian Health and Medical Program of the Uniformed Services
DRMO	Defense Reutilization and Marketing Office
EAC	Economic Adjustment Committee
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EOD	Explosive Ordnance Disposal
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FPTA	Fire Protection Training Area
FY	Fiscal Year
HC	Hydrocarbons
IRP	Installation Restoration Program

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LOS	Level of Service
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
OEI	Office of Economic Adjustment
RAMP	Radon Assessment and Mitigation Program
RCRA	Resource Conservation and Recovery Act
SHPO	State Historic Preservation Officer
TDS	Total Dissolved Solids
USGS	U.S. Geological Survey
UST	Underground Storage Tank
WSA	Weapon Storage Area

UNITS OF MEASUREMENT

acre-ft	acre-foot
acre-ft/yr	acre-foot per year
dB	decibel
dBA	decibel on the A-weighted scale
kWh	kilowatt-hour
L_{dn}	day/night equivalent noise level
MG	million gallons
MGD	million gallons per day
MW	megawatt
PM_{10}	particulate matter (less than 10 micrometers in diameter)
ppm	parts per million
$\mu\text{g}/\text{m}^3$	microgram per cubic meter

CHEMICAL ABBREVIATIONS

CO	Carbon Monoxide
O_3	Ozone
NO_x	Nitrogen Oxides
NO_2	Nitrogen Dioxide
PAH	Polynuclear Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyls
SO_x	Sulfur Oxides
SO_2	Sulfur Dioxide
TCE	Trichlorethylene
TSP	Total Suspended Particulates
VOC	Volatile Organic Compounds

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APPENDIX B - RECORD OF PUBLIC NOTIFICATION

As part of the scoping process, the Air Force conducted a series of meetings to determine the issues and concerns that should be identified in the Environmental Impact Statement (EIS) for the proposed closure of Eaker Air Force Base, Arkansas. The Air Force notified the public of both the scoping meeting and the preparation of the EIS through a Notice of the Intent (NOI) published in the *Federal Register* on 9 February 1990. A copy of the NOI follows.

FOR OFFICIAL USE ONLY

NOTICE OF INTENT
TO PREPARE ENVIRONMENTAL IMPACT STATEMENTS
EAKER AFB, AR

The United States Air Force intends to study the closing of Eaker AFB, AR by the end of FY 93 as a result of force structure change. As part of that study process, the Air Force will prepare two Environmental Impact Statements (EISs) for use in decision-making regarding the proposed closure and final disposition/re-use of property at Eaker AFB.

The first environmental impact statement (EIS) will be prepared to assess the potential environmental impact of the possible closure of Eaker AFB. The EIS will discuss the potential environmental impacts of withdrawing B-52G bomber aircraft which will undergo force structure drawdown and KC-135 tanker aircraft which would be distributed to other locations. Active duty Air Force tenant units not inactivated would also be relocated. The EIS will also analyze the no action alternative to closing Eaker AFB, AR.

The other EIS will only be completed if there is a final decision to close the base. This EIS would cover the final disposition/re-use of excess property. All property would be disposed of in accordance with provisions of Public Law, federal property disposal regulations, and Executive Order 12512.

The Air Force is planning to conduct a series of scoping meetings to determine the issues and concerns that should be addressed in the two EISs. Notice of the time and place of the planned scoping meetings will be made available to public officials and announced in the news media in the areas where the meetings will be held.

To assure the Air Force will have sufficient time to consider public inputs on issues to be included in the development of the first EIS, comments should be forwarded to the addressee listed below by March 15, 1990. However, the Air Force will accept comments to the addressee below at any time during the environmental impact analysis process.

For further information concerning the study of Eaker AFB for possible closure and the EIS activities, contact

Director of Environmental Planning
AFRCE-BMS/DEV
Norton AFB, San Bernardino, CA 92409-6448

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05/21/90**APPENDIX C - DRAFT ENVIRONMENTAL IMPACT STATEMENT
MAILING LIST****Elected Officials***U.S. Senate*

Senator Dale Bumpers
Senator David Pryor
Senator Christopher S. Bond
Senator John Danforth

U.S. House of Representatives

Congressman Bill Alexander
Congressman Tommy Robinson
Representative Bill Emerson
Congressman Richard Gephardt

State Officials*Governor*

The Honorable Bill Clinton
Governor

Senate

Senator Mike Bearden

House of Representatives

Representative Nancy Crain Balton
Representative Walter M. Day
Representative Wayne Wagner

Local Officials

The Honorable Ralph D. Wells
Mayor of Leachville, Arkansas

The Honorable John Graves
Mayor of Luxoria, Arkansas

The Honorable Clifford Veach
Mayor of Manila, Arkansas

The Honorable Billy Pilgram
Mayor of Marie, Arkansas

The Honorable R.E. Prewitt
Mayor of Osceola, Arkansas

The Honorable Michael E. Wilson
Mayor of Wilson, Arkansas

The Honorable Mathlide Wesson
Mayor of Victoria, Arkansas

The Honorable Marke Cartee
Mayor of Hayti, Missouri

The Honorable Joe Lane
Mayor of Senath, Missouri

The Honorable Joe Saliba
Mayor of Steele, Missouri

The Honorable Diane Sayre
Mayor of Caruthersville, Missouri

The Honorable Bill Revell
Mayor of Dyersburg, Tennessee

The Honorable J. Warren Karsten, Jr.
Mayor of Kennett, Missouri

The Honorable W. M. Johnson
Mayor of Maldin, Missouri

The Honorable Ervin Johnson
City Hall, Dell, Arkansas

The Honorable Jim Johns
Mayor of Bassett, Arkansas

The Honorable Joe H. Gude
Mayor of Blytheville, Arkansas

The Honorable Evans Johnson, III
Mayor of Tyronza, Arkansas

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The Honorable James Sullivan
Mayor of Burdette, Arkansas

Department of Transportation
Grants Management Division

The Honorable Edward Wooten
Mayor of Dyess, Arkansas

Veterans Administration

The Honorable Carl B. Ledbetter
Mayor of Gosnell, Arkansas

Federal Aviation Administration

The Honorable Bill Welch
Mayor of Joiner, Arkansas

Department of Agriculture
Environmental Coordination Office
Forest Service

The Honorable Don Haile
Mayor of Keiser, Arkansas

Department of Commerce
Deputy Assistant Secretary for
Intergovernmental Affairs

Lynn H. Cox
Superintendent, Gosnell Public Schools
Gosnell, Arkansas

AFRCE-CR/ROV

Frank Ladd
Superintendent, Blytheville Public Schools
Blytheville, Arkansas

Federal Facilities Coordinator
Environmental Protection Agency
Region VI

Department of Fish and Wildlife

Public Agencies

General Services Administration
Chief, Planning Staff
Public and Real Property

Federal Agencies

U.S. Department of Defense
Office of Economic Adjustment

Ms. Katherine Barnes Soffer
Advisory Council on Historic Preservation

Environmental Protection Agency
Grants Policy & Procedures Branch

State Agencies

General Services Administration
Office of Program Initiatives

Mr. Joe Gillespie
State Clearinghouse

General Services Administration
Region 4

State Historic Preservation Offices

Department of Housing and Urban
Development
Office of Intergovernmental Relations

Ms. Kathy Buford, State Historic
Preservation Officer
Arkansas Historic Preservation Program

Department of the Interior
Division of Acquisition & Grants

Other Organizations

Natural Resources Defense Council, Inc.

Ron Klataske
National Audubon Society

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Don F. Hamilton
National Wildlife Federation
Region S

Chamber of Commerce
Osceola, Arkansas

Mr. Labruce Alexander
The Nature Conservancy
Southeast Regional Office

Chamber of Commerce
Piggott, Arkansas

Chamber of Commerce
Blytheville, Arkansas

Chamber of Commerce
West Memphis, Arkansas

Chamber of Commerce
Caruthersville, Missouri

Dr. John Sullins, President
Mississippi County Community College

Chamber of Commerce
Dyersburg, Tennessee

Robert Bridges
Wildlife Society, Arkansas Chapter

Chamber of Commerce
Gosnell, Arkansas

Sierra Club

Chamber of Commerce
Jonesboro, Arkansas

Chamber of Commerce
Kennett, Missouri

Manila Lions Club
Jerry Flagg, President
Manila, Arkansas

Chamber of Commerce
Millington, Tennessee

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Margaret Abbott
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Bernard Beecy
Rev. George Benson
John Bernier
Kenneth L. Berry, Jr.
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Hughie Bond
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Randall Hall
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Tonya Mays
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Baneete McWaters
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Willard Mosley
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Kristie Murphy
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Phil Price
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Elwyn Reutler
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Chris Reynolds
Lee and Mildred Richardson
Charles Rimbach
Dan Ritchey
Janet Robertson
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Milton Rubel
William & Imogene Rush
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G. Sacridier
Sam Scruggs
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