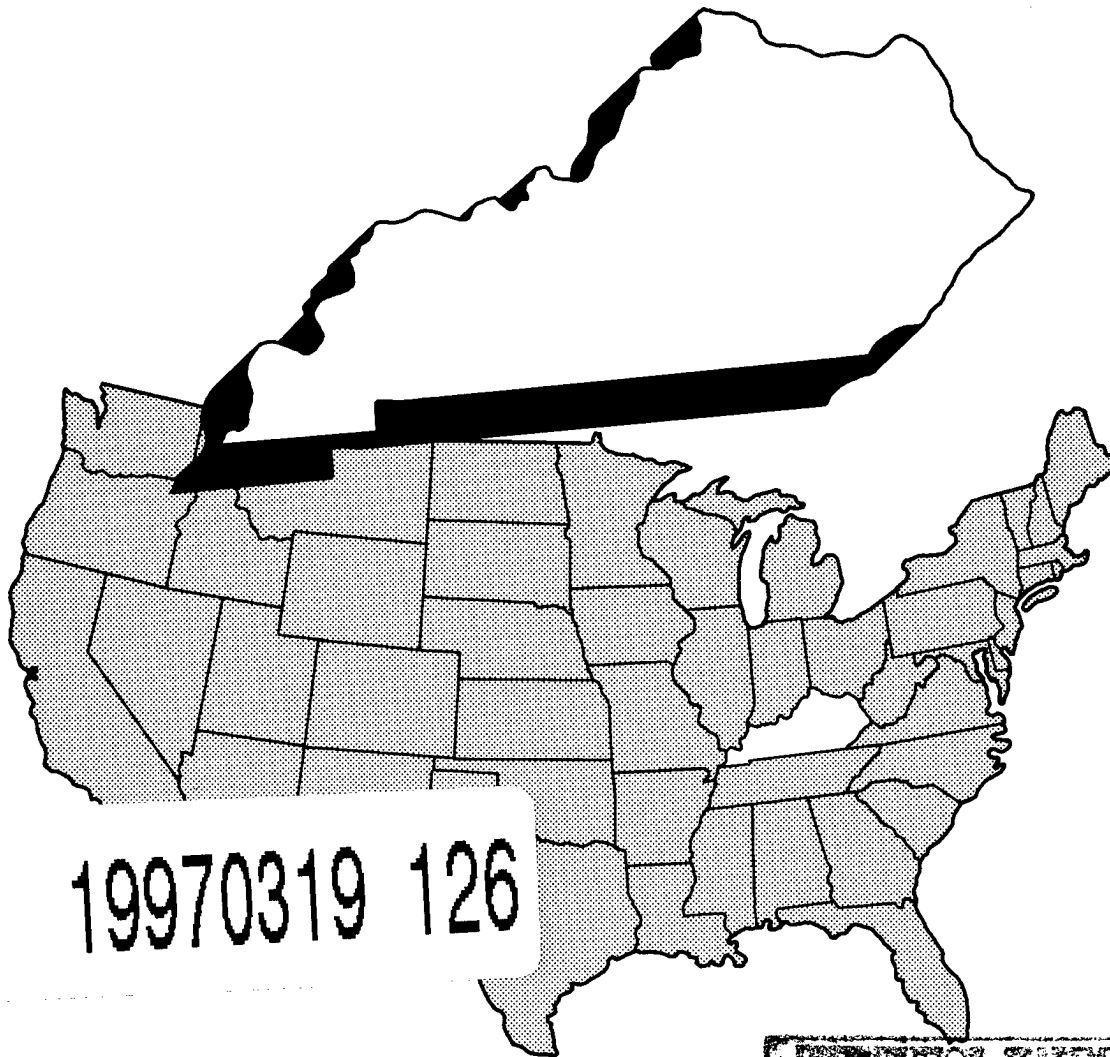


# OPPORTUNITIES TO PROTECT INSTREAM FLOWS AND WETLAND USES OF WATER IN KENTUCKY



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Biological Report 89(9)  
March 1989

OPPORTUNITIES TO PROTECT INSTREAM FLOWS AND  
WETLAND USES OF WATER IN KENTUCKY

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This report should be cited as:

Coughlan, B.A.K., and J.A. Singleton. 1989. Opportunities to protect instream flows and wetland uses of water in Kentucky. U.S. Fish Wildl. Serv. Biol. Rep. 89(9). 39 pp.

## PREFACE

This document is one in a series of publications on opportunities to protect instream flows by the National Ecology Research Center. Information is now available for 34 Western, Midwestern, and Southern States. In some reports, opportunities in each State are presented in a single document, but in several publications, reports on States from the same geographical region are combined. The complete list of reports in this series is displayed inside the cover. The combinations of State reports present an opportunity for easy comparison of specific programs. This is particularly useful because of the wide variety of instream flow protection programs or possibilities.

The primary purpose of this series is to point out the opportunities in instream flow management that currently exist under State law, so that planners and managers can anticipate development, plan appropriate programs, and evaluate the costs and benefits of certain courses of action. In addition, the reports are brief histories of the level of success of various State programs. The use of this information can result in a significant cost saving for planners and managers.

Each report has an Introduction that discusses its purpose, uses, and limitations, and each has a separate information table that summarizes the contents for each State. It is hoped that the research represented in these reports will provide the kind of overview and preliminary evaluation that will ease the burden of State, local, and Federal planners and managers as they seek to meet their increasingly complex responsibilities.

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## ACKNOWLEDGMENTS

The authors would like to thank James Miller for his assistance to J. Allen Singleton in the preliminary research for this report, and Nina Burkardt for her efforts in reviewing, revising, and bringing this work to publication.

## INTRODUCTION

"Opportunities to Protect Instream Flows and Wetland Uses of Water in Kentucky" provides the reader with a basic survey of State prerogatives and programs that may be used to protect the flowing water of this State. Because of the interest and responsibilities of State fish and game agencies and other conservation organizations, most of the opportunities identified in this monograph are related to fish and wildlife habitat. Many other instream uses are considered including, but not limited to, hydroelectric power production, recreation, navigation, maintaining water quality, downstream delivery, and waste-load assimilation. The purpose of this document is to illustrate methods to protect these instream and wetland values within the context of existing rules and regulations. Instream flows and wetlands are considered together because of their close interconnection in this State.

Even though the authors paid close attention to statutes, this document is not intended as a legal reference. It is designed as a planning tool to survey current State programs, to compare approaches to instream and wetland use protection, and to index a preliminary evaluation of the costs and benefits of a wide range of programs. A summary table is provided to serve as an index to available opportunities (Table 1). We anticipate that this table will be the reader's most valuable guide to this report.

In using this report, the reader should be aware of its purpose and limitations. While the authors have attempted to include all major programs and opportunities to protect instream flows and wetlands, this document may not include every available opportunity for a particular situation. Initiative, judgment, and creativity should be exercised in dealing with any specific situation using this report as a starting point. Since it is the intent of this research to outline State programs, Federal programs are included only to the extent that State coordination efforts are involved. In any situation related to the acquisition of water rights, legal advice should be sought. This report should in no way be construed as a substitute for the opinion of a private attorney, attorney general, or agency counsel. This report is neither a policy nor a decision document; it is simply a collection of opportunities that appear to have general utility in protecting instream flow and wetland uses of water.

One purpose of this document is to encourage cooperative and innovative thinking by all persons interested in protecting instream flows and wetlands for fish and wildlife, as well as watershed managers at Federal, State, or local levels of government. Many talented people want to protect these resources; their cooperation will be necessary to solve the problem.

Table 1. Summary of opportunities to protect instream flows and wetland uses of water in Kentucky.

Title	General description	Applicable situations
Riparian rights (see page 6)	The owner of riparian land has certain rights to use water. An owner may preserve instream uses by demanding water delivery.	Reduction in flow that harms riparian water rights holder.
Outstanding Resource Waters (see page 11)	Highest-quality waters are given special protection from degradation.	Proposed projects that would lower water quality in Outstanding Resource Waters may be denied permits or licenses.
Wild rivers system (see page 12)	State is empowered to designate a special category of streams.	Streams in the wild rivers system are given a special level of protection.
Kentucky Trails System (see page 14)	Agreement between individual owner and State to preserve the natural state of certain lands.	Obligates the land owner to preserve the natural state of lands.
Water withdrawal permitting program (see page 15)	The State regulates withdrawals of water from public waters.	Division of Water issues permits in most situations.
Water shortage response program (see page 16)	State assists local governments in responding to shortage conditions.	Drought vulnerability is determined through examination of availability and use data, and monitoring of surface water and groundwater.

(Continued)

Table 1. (Continued)

Title	General description	Applicable situations
Endangered species (see page 17)	State legislation designed to conserve and preserve fish and other wildlife resources.	Fish and Wildlife Service responsible for identifying and protecting resources. May contract with other government agencies or individuals.
Surface mining permits (see page 18)	The surface mining code of Kentucky mandates that the disturbance of both surface and groundwater be minimized by mining activities.	Protection of instream flow quality and quantity is considered when issuing permits.
Lands unsuitable for mining (see page 19)	Lands containing fragile or nonrenewable historical, cultural, or natural resources may be considered for mining.	Citizens may petition to have certain lands designated as unsuitable for mining.
State certification of hydroelectric projects for FERC licenses (see page 20)	The level of instream flows to be maintained by a hydropower dam is determined in the Federal permitting process. Coordination with State agencies is involved.	The Kentucky Division of Water reviews all applications for hydroelectric projects on navigable waterways in the State.
Floodplain construction permitting (see page 21)	Any proposed dam, levee, or other construction that affects stream flow or impounds water must receive a State permit.	Division of Water issues permit for construction or alterations of instream floodways and floodplains.
Waterways and milldams (see page 22)	Structures that inhibit navigation below 10 miles of the head of the stream may be illegal.	Only nonhydropower dams are subject to to this restriction.

(Continued)

Table 1. (Continued)

Title	General description	Applicable situations
Kentucky Pollution Discharge Elimination System (KPDES) (see page 23)	Point source discharges into all waters of the State, including ground-water, are regulated.	Permits are issued for discharges. These discharges are not to lower the quality of the receiving waters as defined by the stream use classification system.
Nonpoint source pollution control program (see page 24)	Control of nonpoint source pollution from agriculture, construction activities, and all other sources.	Coordinated by Division of Water with appropriate agency, e.g., Division of Conservation, Division of Forestry, Division of Abandoned Lands, or Department of Surface Mining.
Kentucky Pollution Abatement Authority (see page 25)	The Authority assists with the funding and construction of public water treatment facilities.	Small communities that are not in a position to issue bonds may receive loans from the Authority.
Kentucky Water Watch Program (see page 25)	The Water Watch Program encourages individuals or groups to "adopt" and monitor stream segments, lakes, and wetland areas.	Informal arrangement between individual parties and Division of Water regarding a specific water resource.
Nature Preserves Commission (see page 26)	The Commission registers natural areas and establishes a nature preserve system. Property may be dedicated to the system, purchased, or registered.	Protect endangered species and unique natural communities.

(Continued)

Table 1. (Continued)

Title	General description	Applicable situations
U.S. Army Corps of Engineers permitting process (see page 30)	State coordinates provisions of the Federal Clean Water Act.	Dischargers apply to Division of Water for permits to discharge.
Kentucky Pollution Discharge Elimination Permits for wetlands (see page 32)	Discharges into wetlands must be permitted by the Division of Water.	Permits are issued for dischargers under KPDES. The standards are identical to those for flowing streams.
Acquisition by Kentucky Department of Fish and Wildlife (see page 32)	The Kentucky Department of Fish and Wildlife may acquire wetland areas that contain vital wildlife habitat.	The Department is able to apply license fees and donations to the purchase of wetland areas available from willing sellers.
Interstate compacts (see page 33)	Agreements between States pursuant to mutual interests.	In cooperation with other States, the State can enter into additional agreements or modify existing ones.
Soil and Water conservation districts (see page 34)	Empowered to conserve and develop all renewable natural resources within a district.	Established by local action.
Regional planning agencies (see page 34)	Each Area Development District (ADD) is responsible for assisting in water quality management of that district.	ADD's may consider both quality and quantity in their planning.
Drainage and Reclamation Act of 1912 (see page 35)	Any county judge or executive can authorize the construction or alteration of non-navigable ditches, drains, or creeks.	Any non-navigable ditch, drain, or creek within the jurisdiction of a county may be kept unobstructed.

(Continued)

Table 1. (Concluded)

Title	General description	Applicable situations
Drainage and Reclamation Act of 1918 (see page 35)	A county may set up a special district to maintain non-navigable ditches, drains, or creeks.	Special districts have taxing authority and can generate funds for maintenance or construction.

## OPPORTUNITIES TO PROTECT INSTREAM FLOWS AND WETLAND USES OF WATER IN KENTUCKY

### INTRODUCTION

Historically, Kentucky has been viewed as a State with adequate water supplies and with an extensive network of streams and rivers. In fact, the Mississippi/Ohio River complex constitutes the total boundary of the State from its southwest corner to its northeast corner, from Hickman on the Mississippi to Ashland on the Ohio, a distance of 664 miles. Approximately 97% of Kentucky's water drains into the Ohio River. The rest, in far-western Kentucky, drains directly into the Mississippi River.

The average rainfall for the State is 45 inches. Also, in spite of seasonal variations, rainfall is generally adequate throughout the year in all of the State's geographic areas. Despite this apparently bright picture, there has been increasing conflict within the State over water resources. A milestone in responding to these conflicts is reflected in the passage by the 1986 General Assembly of HB 406, which mandates comprehensive planning for management of Kentucky's water resources.

Pursuant to HB 406, the Natural Resources and Environmental Protection Cabinet, Division of Water, has developed a systematic planning process to establish goals and objectives for the management of Kentucky's water resources. In 1982, the General Assembly created the Kentucky Water Management Task Force (House Joint Resolution 62). This Task Force, with the assistance of the Natural Resources and Environmental Protection Cabinet, developed a plan for managing the water resources of the State. The Task Force also recommended that this type of planning become an ongoing endeavor (L.R.C. Research Report No. 211). During 1984, Governor Martha Layne Collins called for the development of a systematic planning process resulting in the 1984 Kentucky Water Management Plan, which was developed by the Division of Water. This plan called for the creation of a Groundwater Advisory Council to advise the State in developing a comprehensive groundwater protection strategy. The 1987 Kentucky Water Management Plan was prepared by the Division of Water pursuant to KRS 151.112. "The 1987 Plan, like the 1984 Plan, is organized around issues selected because of public concern, federal mandate, and the Division's judgment of needs" (Kentucky Water Management Plan 1987). The following are the topics addressed by the Plan:

- Groundwater Protection
- Drinking Water Management
- Surface Water Management
- Water Quality Management
- Point Sources of Water Pollution
- Non-Point Sources of Water Pollution

Infrastructure Financing and Construction Review  
Floodplain Management  
Dam Safety  
Public Participation  
Planning  
Cooperation and Coordination Needs  
Environmental Emergency Response

The Groundwater Advisory Council and its staff, the Groundwater Section of the Kentucky Division of Water, produced a draft copy of "Kentucky Groundwater Protection Strategy." "Groundwater (i.e., water from underground sources) is critical in Kentucky in that it makes up over 95% of the available fresh water resources in the State and is the major supplier of water to surface streams during low flow conditions" (Kentucky Water Management Plan, Division of Water, 1987).

Economic development and increased water usage coupled with drought and near drought conditions have placed an increased burden on Kentucky's water resources. As a result, additional stress has been placed on river flows in the State. Consequently, there has been a higher level of activity focused on water-related issues.

#### RIPARIAN RIGHTS

Under the doctrine of riparian rights, one who owns land bordering a natural watercourse has rights to the use of that water. In most eastern States, the reasonable use rule is applied, meaning that each riparian owner may apply the water to beneficial use, providing that this does not prevent other riparians from using the water. "Beneficial use" is defined by State law, and generally designates domestic and household purposes as the highest priority uses of water. Other uses, such as irrigation, power generation, or manufacturing, may be defined as beneficial uses, but they are usually lower in priority than domestic uses. Should a riparian user violate the reasonable use rule and other landowners along the waterbody are deprived of their beneficial use of the water, the matter is settled by negotiation among the competing users, or by a court of law. A noteworthy point is that a use that was "reasonable" in 1928 may not be reasonable today, when the sum total of the demand for water from the stream is likely to be greater. Therefore, the reasonable use rule does not provide a landowner with assurance about his or her future water use.

Kentucky's water law is a mixture of common law and statutory provisions. Statutory changes, particularly over the past 40 years, have altered Kentucky's riparian system for allocating water resources (see Gregory 1955; Ausness 1977). Under the Kentucky system, which is a combination of riparian rights and a permit system, the riparian owner has priority rights for domestic purposes over other uses, particularly in times of "drought, emergency, or other similar situations" (KRS 151.200 and 151.210). The exemption from the permitting system of water for domestic use indicates the priority extended to riparian rights. Legislation enacted in 1966 (KRS 151.40-210) created a system in which the Department for Natural Resources and Environmental Protection administers a permit system regulating diversions and consumptive

uses of public water. This permit system is described in a later section of this report.

The use of surface water can be limited to riparian lands. For example, in Bank of Hopkinsville v. Western Kentucky Asylum for the Insane [56 S.W. 525 Ky. (1900)], the Court prevented the defendant from diverting water from his tract of land on a stream for use on nonriparian land about one mile away. The plaintiff in the case contended that the diversion interfered with the operation of a grist mill on the creek.

The application of riparian rights to underground water is illustrated in Nourse v. Andrews [255 S.W. 84 Ky. (1923)], in which the owner was able to prove the existence of an underground stream. If the course of an underground stream is "known and defined," the doctrine of riparian rights applies to the use of its water. Commonwealth v. Sebastian [345 S.W. 2nd 46 Ky. (1961)] established that a line of green grass that flourished despite dry weather indicated the existence of such a stream, and therefore the riparian rights applied. However, the landowner holds absolute rights of ownership to percolating waters or groundwater from unknown, undefined streams.

The reasonable use rule regarding groundwater was legislatively adopted by the Kentucky General Assembly in 1954. Although it was repealed in 1966, Ausness (1977) contends that "the reasonable use rule appears to be securely established in this state (Kentucky)."

#### STATE AGENCIES WITH JURISDICTION OVER SURFACE WATER AND GROUNDWATER

A variety of State-level agencies are involved in water related program activities. Several of these are agencies with responsibilities for direct protection of instream flow and wetland uses. In addition to the Natural Resources and Environmental Protection Cabinet, and a number of non-Cabinet agencies, such as the Water Resources Authority, the Kentucky Department of Fish and Wildlife Resources, the Kentucky Geological Society, and the Department of Mines and Minerals are involved. An extensive list of these and other agencies involved with all aspects of water resource management in the State is contained in the Kentucky Water Management Plan (1987).

Some limited opportunities for protecting stream flow may exist through agencies at the local/regional level in the State. Examples of some of these opportunities are indicated in a later section of this chapter.

#### Kentucky Water Resources Authority

The Kentucky Water Resources Authority is mandated by KRS 151.330 through 151.370. The Authority is composed of the following:

- (1) the Governor;
- (2) the Secretary for Natural Resources and Environmental Protection;
- (3) the Secretary of the Finance and Administration Cabinet;

- (4) the Secretary for Human Resources, or designee;
- (5) the Commissioner of the Department for Economic Development, Commerce Cabinet;
- (6) the Commissioner of the Department of Agriculture;
- (7) the Secretary of Commerce Cabinet;
- (8) the Attorney General;
- (9) the Secretary of the Transportation Cabinet;
- (10) the Commissioner of the Department of Fish and Wildlife Resources;
- (11) the Commissioner of the Department of Parks; and
- (12) two members of the Flood Control Advisory Commission.

The Executive Director of the Water Resources Authority is appointed by the Authority. The executive board meets quarterly, and the Authority meets semiannually or more often if necessary.

The Authority has a broad range of powers. It is "authorized and empowered to coordinate the programs of all state agencies in the conservation, development, and wise use of public waters" of the State (KRS 151.360 (2)), and "to promote the beneficial and proper distribution of water throughout the Commonwealth" (KRS 151.360 (3)). In order to provide for the construction of projects to ensure adequate water supplies for the municipal, recreational, and agricultural growth of the commonwealth, the WRA is empowered to:

- (1) contract with the Federal Government for the inclusion of water storage in proposed flood control and other projects, conduct water resource studies, and construct and operate flood control, navigation, and water related recreation projects;
- (2) construct and operate water supply projects and cooperate with other State and Federal agencies in such activities, and to lease water supply projects to State agencies;
- (3) provide loans and other financial assistance for water supply development;
- (4) construct and operate projects for flood damage abatement and non-point source pollution control;
- (5) coordinate all State programs in conservation, development, and the wise use of public water; and
- (6) promote the beneficial and proper distribution of water throughout the state (KRS 151.330).

The WRA also can exercise rights of eminent domain and use other means to obtain lands necessary for water resource projects, issue revenue bonds, and expend funds for scientific research and planning the development of water resources. The WRA is not empowered to allocate to downstream users the costs of water storage in a water resources project unless those recipients request the purchasing of such water storage facilities or voluntarily agree to reimburse the Authority for the costs of such storage (OAG 73-528). Any State agency can apply to the WRA for financial assistance in planning, developing, constructing, and operating a water resource project.

#### Natural Resources and Environmental Protection Cabinet

There are three departments in this cabinet, all of which are involved with activities involving questions of instream flow or wetlands management:

- (1) Department for Environmental Protection - Division of Water,
- (2) Department of Natural Resources - Division of Conservation and Division of Abandoned Lands, and
- (3) Department for Surface Mining Reclamation and Enforcement.

Department of Environmental Protection - Division of Water. This agency is the most directly involved with surface water and groundwater management in Kentucky. The Division is responsible for planning, monitoring activities, and enforcing standards related to both surface and subsurface water quality and quantity as authorized by KRS 146, 149, 151, 224, 262, 350.029, and 433.750 to 433.757.

The Division of Water is involved with a variety of activities other than planning. For example, the Division is responsible for the Kentucky Public and Semipublic Water Supply Program, mandated by KRS 224, and the Federal Safe Drinking Water Act provisions. The details regarding implementation of this program are contained in Chapter 6 of Title 401--Kentucky Administrative Regulations (KAR). Research and data management are significant components of this activity as well as of many other program areas and activities of the Division. For example, the Water Quality and Quantity Branch conducts biological studies of the Outstanding Resources Waters of the State. Another critical responsibility is nonpoint source pollution control. The Division of Water also is responsible for issuing Kentucky Pollutant Discharge Elimination System permits, administering the Water Withdrawal Permitting Program, and issuing permits for construction of dams, levees, and other water-related structures. The Division also works closely with other State agencies, such as the Department of Fish and Wildlife Resources and the Nature Preserves Commission.

Department for Natural Resources - Division of Conservation. The primary task of the Division of Conservation is to provide technical assistance to conservation districts to develop and implement conservation programs. The Division of Conservation and the Division of Water have a Memorandum of Understanding (MOU) and Memorandum of Agreement (MOA) designating the Kentucky Soil and Water Conservation Commission as the lead implementation agency for control of nonpoint source pollution from agricultural and construction

activities. The statutory authority for the Division comes from KRS 146 and 262.

Department of Natural Resources - Division of Abandoned Lands. The Division of Abandoned Lands administers the Federal Abandoned Mined Land Program as it relates to groundwater supplies. "Abatement of adverse impacts on groundwater resources resulting from past mining is an eligible activity of the Abandoned Mine Land Reclamation Program." Present emphasis has been on adversely impacted groundwater resources being used for household water supply (Kentucky Groundwater Protection Strategy 1987).

Department for Surface Mining Reclamation and Enforcement (DSMRE). DSMRE is responsible for implementing KRS 350, which sets requirements for the issuance of mining permits. The authority that DSMRE possesses includes responsibility for determining the surface effects of surface and underground mining in the issuance of mining permits.

The Kentucky Water Management Plan (1987) indicates that "Pathways of cooperation and coordination between the Department and the Division of Water are being identified and delineated by the Groundwater Advisory Council and are discussed in the Kentucky Groundwater Protection Strategy . . ." Also, "the Division will cooperate with the Department for developing uniform procedures for inspecting coal mine related operations by inspectors of both agencies."

#### The Department of Fish and Wildlife Resources

The Department of Fish and Wildlife Resources, which is in the Tourism Cabinet, receives its authority from KRS Chapter 150. Its mandate is to "Protect and conserve the Wildlife of this Commonwealth so as to insure a permanent and continuing supply of the wildlife resources of this state for the purpose of furnishing sport and recreation for the present and future residents of the state." The Department provides for inspection of Wild River corridors, and it also advises on the presence of endangered and threatened aquatic species in waters of the Commonwealth.

The Department consists of a Commissioner, a Fish and Wildlife Committee, and the other agents, officers, and employees provided for by KRS Chapter 150. The Department "shall enforce the laws and regulations adopted under this chapter relating to wildlife and shall exercise all powers necessarily incident thereto" (KRS 150.021). This authority over conservation of fish and wildlife resources has not been delegated to local governments or other agencies of State government. The Kentucky Office of the Attorney General has ruled that any perceived inadequacies or incompleteness of statutes must be remedied only by the General Assembly (Opinion of the Attorney General (OAG) 83-46).

With approval by the Secretary of the Finance and Administrative Cabinet, and the consent of the Governor, the Department has full authority to enter into any contract with the U.S. Government or any individual "in regard to the preservation, protection, and propagation of wildlife which it may deem to the advantage of the State to enter into" (KRS 150.250). The full authority in Endangered Species Cooperative Agreements with the U.S. Fish and Wildlife Service falls under this KRS section (OAG 84-214).

## Kentucky Geological Survey (KGS)

KGS prepares plans and programs for cooperative water resource investigations. KGS also historically and currently collects data on groundwater and surface water in conjunction with the U.S. Geological Survey. It is the charge of the Water Resources Section of KGS to collect data and to conduct research in hydrology in order to provide for the optimum development and management of the Commonwealth's water resources. KGS has no regulatory responsibilities (KRS 151.010 to 151.040).

## Department of Mines and Minerals: Division of Oil and Gas

The Division of Oil and Gas is responsible for administering portions of KRS Chapter 353 with respect to oil, gas, and salt water wells, including the protection from contamination of underground fresh or mineral water supplies. The regulatory function includes review of construction requests for drilling, casing, cementing, and utilizing of wells. There is an overlap of responsibilities between the Department of Mines and Minerals and the Natural Resources and Environmental Protection Cabinet involving KRS 224 and KRS 353.

## STATEWIDE REGULATION AND PLANNING

### Outstanding Resource Waters

Opportunity. The Division of Water is responsible for administering the Outstanding Resource Waters program. "Outstanding Resource Waters" is a classification category within the Kentucky water quality standards. These standards are pursuant to KRS 224.020-224.060, which declare the general policy of conservation and pollution control of the Commonwealth's water resources, and are detailed in 401 KAR 5.031 Section 8.

Background. Certain waters of the Commonwealth are automatically included under the Outstanding Resource Waters provisions, including:

- (1) waters designated under the Kentucky Wild Rivers Act (KRS 146.200-360);
- (2) waters designated under the Federal Wild and Scenic Rivers Act (16 USC 1271 et seq.);
- (3) waters identified under the Kentucky Nature Preserves Act (KRS 146.415) that are contained within a formally dedicated nature preserve or are published in the registry of natural areas and are concurred on by the Cabinet; and
- (4) waters that support Federally recognized endangered or threatened species under the Endangered Species Act of 1973, as amended.

Other surface water may be included, provided:

- (1) the surface waters flow through or are bounded by State or Federal forest land; or are of exceptional aesthetic or ecological value; or

are within the boundaries of National, State, or local government parks; or are a part of a unique geological or historical area recognized by State or Federal designation; or

- (2) they are a component part of an undisturbed or relatively undisturbed watershed that can provide basic scientific data and that possesses outstanding water quality characteristics; or two of the following criteria:
  - (a) supports a diverse or unique native aquatic flora or fauna,
  - (b) possesses physical or chemical characteristics that provide an unusual and uncommon aquatic habitat, and
  - (c) provides an aquatic environment that is unique within a given physiographic region.

Water quality criteria for these waters are determined on a case-by-case basis by the Division of Water in order to protect the aspects of the resource for which it was included as an Outstanding Resource Water.

Any person may present a proposal to classify certain waters as Outstanding Resource Waters. The Department for Natural Resources and Environmental Protection, Division of Water, evaluates each proposal as to: existing water quality; current use; aesthetic, biological, morphological, and habitat characteristics; diversity and abundance of species of any unique biota; and economic and social consequences of the proposed classification.

Example. A proposed hydropower project included a dam on the Rockcastle River that would have inundated two streams classified as Kentucky Outstanding Resource Waters. The Kentucky Division of Water therefore denied a Section 401 (401 KAR 5:005 et seq.) water quality certification for that project.

In another example, a barge terminal project was proposed for operation on the Tennessee River. The section of the Tennessee River in question is a mussel refuge and a habitat for endangered species, and, as such, is automatically included in the Outstanding Resource Waters classification. The request for water quality certification for the project was denied by the Division of Water since the project would degrade an Outstanding Resource Water and displace habitat of an endangered species.

Evaluation. This legislation seems to be a strong vehicle, with the potential to protect instream flows of streams designated as Outstanding Resource Waters.

#### Wild Rivers System

Opportunity. The Kentucky Wild Rivers System was created by the Kentucky General Assembly in 1972. The legislatively mandated purpose of the Wild Rivers System is to preserve the unique primitive character and environmental quality of some of Kentucky's most outstanding natural streams (KRS 146.220).

Background. The objective of the Wild Rivers System is to preserve certain streams, or portions thereof, in a free-flowing condition because of their scenic, ecological, scientific, and recreational values (KRS 146.200 to KRS 146.360). The streams, or segments of streams, included in the system designated by KRS 146.241 are: Cumberland River including portions of the Big South Fork, Martins Fork, Little South Fork, Bad Branch of Poor Fork, Red River, Rockcastle River, Green River, and Rock Creek. A total of 114 miles of stream, encompassing over 26,000 acres, is presently in the system. The Secretary for Natural Resources and Environmental Protection is given the authority to acquire stream areas and to recommend to the governor additional stream areas, subject to approval of the General Assembly (KRS 146.260). Other agencies and citizen groups are encouraged to prepare studies and proposals for additions to the Wild Rivers System.

The Secretary of the Natural Resources and Environmental Protection cabinet has the authority to adopt rules and regulations necessary for the preservation and enhancement of the designated stream areas, and to control recreational, educational, scientific, and other uses in these areas. A management plan, subject to public hearings, must be developed jointly with the Department of Fish and Wildlife Resources for each stream area (KRS 146.270). Land uses permitted in the designated stream area include existing uses and travel by foot, horseback, canoe, or other nonmechanical modes. Other uses are allowed if approved and permitted by the Division of Water. New roads, buildings, and other structures are only allowed where necessary to support such permitted activities. Select cutting of timber or other resource removal and agricultural uses are also subject to permitting. Installation of utility lines or pipelines must be approved in writing by the Secretary of the Natural Resources and Environmental Protection Cabinet, and the area must be restored as nearly as possible to the original state. Strip mining, dredging, and other stream disturbances are prohibited. The act does not only protect uses on lands adjacent to those designated, but can, for example, prevent the establishment of an upstream dam if such a facility would have detrimental effects on the Wild Rivers area.

Example. Two significant cases have challenged the authority of the Commonwealth to regulate the use of private property under the Wild Rivers Act. In the first, Commonwealth ex rel. Department for Natural Resources and Environmental Protection v. Stephens [539 SW 2d 303 (Ky 1976)], Morris Stephens owned an amusement town bordering on the Cumberland River, which is included in the Wild Rivers System. When Stephens attempted to clear land close to the river, the Commonwealth issued an injunction. In a similar case, Commonwealth v. Stearns Coal and Lumber Co. [678 SW 2nd 378 (Ky 1984)], Stearns owned a company involved in the mining, leasing, and selling of coal and timber land. Stearns challenged the law by indicating plans to engage in all the land uses prohibited by the Wild Rivers Act. The issue in both cases was whether the exercise of police power by the Department for Natural Resources and Environmental Protection to restrict the uses of private property including instream areas designated by the Wild Rivers Act was so restrictive that it amounted to a "taking" of the lands, requiring just compensation to the owners. This doctrine of regulatory taking is based on the decision of a U.S. Supreme Court Case, Pennsylvania Coal Co. v. Mahon [206 U.S. 393 (1922)], which states that a law or regulation may be so excessive that it amounts to a taking. However, "excessive" was not defined, nor was the recourse available to the

injured party. In recent cases, the U.S. Supreme Court has declined to invoke the Mahon doctrine and has upheld the authority of States to regulate owners' use of private property [Loretto v. Teleprompter Manhattan CATV Corp., 458 U.S. 419 (1982)].

In the Stephens case, the Kentucky Supreme Court held that no taking occurred as a matter of law because the Wild Rivers Act was enabling and not self-executing legislation, and has yet to be implemented. While the Stephens case was in litigation, the General Assembly made major revisions of the Act, easing private land-use regulation. The State Supreme Court in the Stearns case did uphold as reasonable the use restrictions that were the result of the modifications to the Wild Rivers statute. The State court position has been affirmed by the U.S. Supreme Court in its refusal to hear an appeal of the State court's decision.

In addition to the decision in Commonwealth v. Stearns Coal and Lumber Co., which solidified the position of the Wild Rivers System, the General Assembly added one more stream to the System in 1986: Bad Branch of Poor Fork, Cumberland River. The wording of KRS 146.241(9), which incorporates Bad Branch, is noteworthy in that it applies to the entire watershed:

. . . from the headwaters on Pine Mountain to the Ky. 932 bridge, including the entire watershed drained by all stream segments, except for that portion above a point 0.1 mile below the existing lake on the easternmost fork.

Evaluation. The Wild Rivers System offers the greatest degree of protection to instream flows available under Kentucky law. Although some issues raised by the Stephens case have yet to be resolved, the 1976 revisions in the statutes and the inclusion of Bad Branch in the Wild Rivers Systems are positive indications of the continued support of the System by the General Assembly.

### Kentucky Trails System

Opportunity. Although a "trail," by itself, is not related to water uses, utilization of the "scenic easement" provisions of the legislation establishing the Trails System could provide opportunities for cooperation among a variety of interests.

Background. The Kentucky Trails System, established under KRS 148.610, is administered by the Department of Parks in the Tourism Cabinet. Provision is made for perpetual "scenic easement." Such trails are to be "located . . . to provide maximum potential for the appreciation of natural areas and for the conservation and enjoyment of the significant scenic, historic, natural, ecological, geological, and cultural qualities of the areas through which such trails pass." In addition to scenic trails, provision is also made for recreational trails and for connecting or side trails.

Provision is made for perpetual "scenic easement." Scenic easement is defined at KRS 148.620(4) as "a perpetual easement in land which is held for the benefit of the people of Kentucky, is specifically enforceable by its holder of beneficiary, and limits or obligates the holder of the servient

estate, his heirs, and assigns with respect to their use and management of land and activities conducted thereon, the objective of such limitations and obligations being the maintenance or enhancement of the natural beauty of the land in question or areas affected by it."

Example. Many of the State's trails are located along streams or reservoirs. The Sheltoewe Trace, in the Daniel Boone National Forest, runs along the Cumberland River and its tributaries. A special visual corridor of protection is provided to this trail. To protect the existing wilderness character of the area, timber harvesting and other activities are diminished within sight of the trail. This level of visual preservation is also provided to sections of streams that are near the trail.

Evaluation. The trails system and scenic easements have not typically been considered as a means to protect instream flows, although they do provide a degree of protection to trail areas and associated streams.

#### Water Withdrawal Permitting Program

Opportunity. Kentucky's modification of an entirely common law riparian doctrine of water appropriation is contained in the Water Withdrawal Permitting Program. Certain major diversions of water are subject to permitting by the Division of Water.

Background. Kentucky's present water resources allocation law is found in Chapter 151 KRS, specifically at 151.140-210. A key authority of the Division, which may be used to protect instream flows, is that of issuing permits for withdrawals of water from public waters (KRS 151.140):

No person, business, industry, city, county, water district or other political subdivision shall have the right to withdraw, divert, or transfer public water from a stream, lake, ground water source, or other body of water, unless such person . . . has been granted a permit by the department for such withdrawal, diversion, or transfer of water.

There are four general exemptions to this permit process (KRS 151.140):

- (1) agricultural and domestic purposes;
- (2) use by steam generating plants whose retail sales are regulated by the Kentucky Energy Cabinet;
- (3) water injected underground in conjunction with oil and gas activities; and
- (4) amounts less than those established by regulation (401 KAR 4:010), currently 10,000 gallons per day or less.

As a result of these exceptions, only about 6% of actual diversions are included in the program. Supervision and implementation of the Water Withdrawal permitting activities are the responsibility of the Water Resources Branch in the Division of Water. Permit holders are required to keep accurate

records and report all water withdrawals to the Division of Water (KRS 151.160). There is a statutory requirement that the natural lowest stream flow must be maintained, which is defined as the 7-day, 10-year low flow standard. However, in many cases this protected low flow amounts to a no flow condition.

Example. The Permit to Withdraw Public Water indicates the location of the surface water intake and designates the amount of water that can be withdrawn. The maximum withdrawal rate (gallons per day) allowed for each month of the year is indicated, as is the low flow level (cubic feet per second) at the intake when all withdrawals must cease.

Evaluation. Water quantity has only recently become an issue in Kentucky, and no public comment is required in the permitting process. Although the types of withdrawals that are included in the permitting process are limited, the process does provide the opportunity to maintain some level of instream flow.

### Water Shortage Response Program

Opportunity. The Water Shortage Response Program, coordinated by the Division of Water, encourages and assists communities in the development of plans for the use and conservation of water in times of shortage.

Background. The Water Shortage Response Program is coordinated by the Division of Water, which developed the Water Shortage Response Plan in May 1986 and issued a revised edition in August 1987. The Plan encourages local communities to form task groups to develop specific water shortage response programs and local education programs. In order to develop a response program, it is suggested that communities monitor the available water supply (which is also done at the State level), determine the "margin of supply" by comparing current water demands with the available supply, and then develop an appropriate water shortage response program.

Suggested aspects of a response program are: detection and repair of leaks in water supply lines, investigation of alternate sources, phased conservation in times of shortage, and enacting local ordinances to implement water user fees or mandatory conservation measures.

The 1987 plan recommended that local governments adopt a four-stage process of response to water shortages. At stage one, the "advisory" phase, the public is informed of the problem, and planning is undertaken to prepare for decreasing supply. Water conservation at this stage is voluntary.

Stage two, the "alert" phase, bans all Class III (nonessential) uses, increases water conservation goals, and requests voluntary conservation for all nonbanned uses.

The "emergency" phase begins with declaration of a water shortage emergency situation. Class III bans are initiated, meaning that those uses defined as "socially or economically important" are prohibited. This includes nonessential domestic use, nondomestic water hauling, most outdoor watering, commercial and civic uses, recreational uses (swimming pools), and air

conditioning. Conservation pricing may be instituted at this time, and a variety of techniques for this pricing are suggested, depending on the situation and the type of system in use (metered or nonmetered).

On metered systems, four alternatives are suggested: a conservation discount for those whose use falls below the required conservation level, excess use charges for those who use more than a fixed amount, penalty charges for those who overuse in times of rationing, or disconnect/reconnect charges to be levied when rationing levels are exceeded and service is halted.

Pricing mechanisms that can be used with metered or nonmetered systems include: charging seasonal rates, with higher rates charged during peak months; a fixed "drought surcharge," regardless of use; and an increasing block method, whereby rates increase per unit as total use increases.

The State coordinator for the Water Shortage Response Program issues water watches or warnings based on National Weather Bureau information for affected areas of the State when the potential for water shortages exists.

Example. Under the threat of experiencing water shortages, 12 communities developed response programs in 1986, and 15 communities did so in 1987.

Evaluation. The Water Shortage Program provides communities with the opportunity to develop individualized conservation and water use programs in water short times. Participating communities can increase their awareness of the local water resources and plan for their protection. Also, if local response to a water shortage is inadequate, the State is authorized to allocate the available water supply among users (KRS 150.200). This would seem to encourage the development of effective water shortage response programs at the local level.

The thrust of the water shortage program is preventive rather than reactive. The promotion of conservation practices is a central part of the program, and public education as to methods of conservation is strongly advocated. While the plan is designed to address severe water shortages, it is structured in such a way as to encourage long-term conservation of water resources through increased public awareness. The inclusion of certain water-pricing mechanisms may act to further increase incentives to conservation.

## FISH AND WILDLIFE RESOURCES

### Endangered Species

Opportunity. The Kentucky Department of Fish and Wildlife Resources reviews all permits to ensure that endangered species in the Commonwealth are not threatened.

Background. Under an agreement with the Federal Government, the Kentucky Department of Fish and Wildlife Resources administers Section 6 of the Federal Endangered Species Act of 1973 (16 USC 1531 et seq.). The purpose of this Section is to foster Federal-State coordination in the implementation of the Act through the establishment of cooperative agreements. In accordance with

this, the Department maintains an inventory of Federal endangered species and their habitat in Kentucky in a computer data bank, and it is developing a similar State list of endangered and threatened species. The Department is responsible for reviewing many types of permits, including those issued by the U.S. Army Corps of Engineers and the Department of Surface Mining Reclamation and Enforcement, to ensure that endangered species and their habitat are protected.

Example. Negotiations are currently proceeding on permitting for a navigation dam proposed by the Corps of Engineers. The proposed dam would be located on the Ohio River in Ballard County, where a wintering population and nesting pair of bald eagles reside. The Department of Fish and Wildlife and the Corps are investigating measures to protect the eagles, which would be included in the requirements of the permit.

Evaluation. Where endangered species exist and are dependent on instream flows, that level of flow needed to support their habitat is protected.

The Department of Fish and Wildlife Resources is also involved in the acquisition of wetland areas (see Wetlands section).

## MINING REGULATION

### Department of Surface Mining Reclamation and Enforcement Permit System

Opportunity. Protection of affected instream flow quantity and quality is considered when issuing surface mining permits.

Background. Kentucky's surface mining code is contained in KRS Chapter 350 and is administered by the Natural Resources and Environmental Protection Cabinet, Department of Surface Mining Reclamation and Enforcement (DSMRE). A great deal of hydrologic data is required to complete a permit application. To satisfy groundwater data requirements alone, an applicant is asked to identify and describe:

- (1) all aquifers above and below the coal seam to be mined,
- (2) all groundwater users in the vicinity of the proposed permit area,
- (3) the anticipated effects of mining on identified aquifers,
- (4) six months of data on the quality of water in each water aquifer (premining),
- (5) mitigation plans for preventing or minimizing adverse impacts (short-term and long-term) to the hydrologic balance of the permit areas and adjacent areas, and
- (6) a monitoring plan for all identified aquifers after mining.

Grounds for rejection or limitation of a mining permit request are defined in KRS 350.085. If similar operations indicate that a substantial deposition

of sediment in stream beds, landslides, or acid water pollution cannot feasibly be prevented, the cabinet may delete the portions of land expected to cause such detrimental effects. Wild rivers are protected from the adverse effects of mining. Surface coal mining is prohibited on privately held lands within national parks, national wildlife refuges, the national system of trails, the national wilderness preservation system, and the wild and scenic rivers system (including any designated study rivers). Other lands can also be designated as unsuitable for mining (see next opportunity).

Mining activities are further required to minimize their disturbance of both surface and ground water in both quantity and quality. They are instructed to use the best available technology to avoid additions of suspended solids, acid, and other toxic substances in surface runoff, and to treat drainage released into watercourses to reduce the adverse affects on downstream users (KRS 350.420).

Surface mining permit holders are also required to minimize adverse affects to fish, wildlife, and their habitats whenever possible, using the best technology currently available. Permittees are required to report the presence of any critical habitat of threatened or endangered species. Aquatic communities are to be protected by avoiding or restoring stream channels, and wetlands are to be preserved or created rather than drained or destroyed (405 KAR 18.180E).

Any citizen of the Commonwealth aware of violations of the mining law may file a written demand that the law be enforced. If no action is taken within 60 days, the citizen may bring an action of mandamus in the circuit court of the county of the alleged violation (KRS 350.250). The owner of a surface coal mining operation must replace the water supply of a property owner whose supply has been contaminated, diminished, or interrupted by mining operations (KRS 350.421).

Example. The Standard Conditions for Issuance of Surface Mining Permits (August 1986) indicates that all point discharges must meet the requirements of the Kentucky Pollutants Discharge Elimination System. The quarterly surface water monitoring must include discharge, pH, acidity, alkalinity, sulfate, iron, manganese, and suspended and dissolved solids concentrations, at a minimum. Streams that are diverted during the mining operation must be reconstructed.

Evaluation. The existing mining laws give a degree of protection to instream flows from the adverse affects of mining, especially regarding water quality. Certain lands are protected from mining operations. Any citizen aware of violations has the authority to pursue enforcement of the applicable laws.

#### Lands Unsuitable for Mining

Opportunity. Citizens may petition to have certain lands designated as unsuitable for mining. Such a designation could protect instream flows and wetland areas from the degradation caused by mining.

Background. The authority to designate lands as unsuitable for mining is found in KRS 350.610 and implemented in 405 KAR Chapter 24. Upon petition and hearing, the Secretary of the Natural Resources and Environmental Protection Cabinet can designate lands unsuitable for certain types of surface mining if these operations will:

- (1) be incompatible with State and local land use plans;
- (2) affect fragile or historic lands, which would result in significant damage to historic, cultural, scientific, and aesthetic values, and natural systems; or
- (3) affect renewable resource lands in which such operations could result in loss or reduction of the long range productivity of water supply or food or fiber products . . . including aquifers and aquifer recharge areas (KRS 350.610).

Both the statute and implementing regulations use general language and are subject to interpretation. A wide degree of protection could be afforded to wetlands and other water resources under items (2) and (3) listed above. Unfortunately, this clause and others included in the surface mining regulation directly protecting wetlands have not been enforced, and wetland areas have not been considered as lands unsuitable for mining.

Example. Only three petitions to designate lands as unsuitable for mining have been filed. A watershed conservancy district filed a petition to protect an erosion control reservoir. The petition was dropped when the mining permit was denied. The other petitions were filed by citizen groups and are currently awaiting decisions, none included wetlands.

Evaluation. The potential to protect both instream flows and wetland areas from surface mining certainly exists in the State statutes and regulations. A controversy currently exists between surface mining and wetlands interests as to how these laws should be applied. These laws have not yet been tested to determine what degree of protection can be provided under their provisions to the State's water resources.

## HYDROPOWER DEVELOPMENT

### State Certification of Hydroelectric Projects for FERC Licenses

Opportunity. The level of instream flows to be maintained by a hydropower dam is determined in the Federal permitting process. Some coordination with State agencies is involved.

Background. The Kentucky Public Service Commission, as the regulatory authority for Kentucky, implements the Federal Energy Regulatory Commission (FERC) rules, which encourage cogeneration and small power production by requiring electric utilities to sell electricity to qualifying cogenerators and small power producing facilities, and to purchase electricity from such facilities. Regulations regarding the implementation of these standards are found in KAR Title 807, Chapter 5:054, pursuant to KRS 276.040(3).

The Division of Water reviews all applications for hydroelectric projects on navigable waterways in the State. A water quality certification pursuant to Section 401 of the Clean Water Act must be issued by the Division of Water and submitted to FERC by the applicant.

The Kentucky Department of Fish and Wildlife Resources also reviews hydropower license applications. Since most hydropower projects in Kentucky have been installed in existing dams, the Department usually requests that the existing instream flow regime determined by the Corps of Engineers when the dam was built be maintained.

Example. As of 1982, there were 27 thermal-electric power plants, 21 of which were operational, and 10 hydroelectric facilities in Kentucky. The Kentucky Water Management Task Force identified at least 51 potential hydroelectric power sites in the State (Legislative Research Commission, Research Report No. 211, p. 38).

No licenses for cogeneration have been issued. Almost all applications have been add-ons to existing dams. For example, the application for generation modifications to the Cave Run Lake dam was initially approved, but the final application for the facility included conditions substantially different from the 401 certification application; therefore, certification approval was withdrawn.

Evaluation. Engineering feasibility studies are conducted for each projected site. Economic feasibility and 401 water quality standards have been the basis for rejection for most of the proposals considered to date. Although some State agencies are involved in licensing, the most significant opportunities to protect instream flows are included in the Federal process.

## DAMS FOR PURPOSES OTHER THAN HYDROPOWER

### Flood Plain Construction Permitting

Opportunity. Construction of any structure in the floodplain or stream bed must be approved by the Division of Water.

Background. The Division of Water, in cooperation with the mayor or chief executive of any city, and the county judge/executive (the title of the chief executive officer of a county in Kentucky) of a county have the duty of enforcing the provisions of KRS 151.310:

No person, city, county, or other political subdivision of the state shall deposit or cause to be deposited any matter that will in any way restrict or disturb the flow of water in the channel or in the floodway of any stream except where a permit has been issued for construction under KRS 151.250, or to encroach on the reservoir area of any dam authorized by the Congress of the United States, or under the jurisdiction of the Commonwealth, or any of its subdivisions.

The local official, whenever such a violation is brought to his attention, is obliged to notify the Division of Water of the location and details of the

violation. Criteria related to these types of construction were merely internal guidelines until October 1987. At that time, the applicable portions of the National Flood Insurance Program criteria were established as the applicable regulations (401 KAR 4:060).

The State Transportation Department is exempt from the permit application process for any floodplain constructions that it deems necessary in the execution of its obligations. The administration of KRS 151 for structures related to surface mining is handled by the Department of Surface Mining Reclamation and Enforcement rather than the Division of Water.

In the event that the Division determines that a dam, levee, or other construction constitutes a danger to life or property, or if the facility has failed to comply with permit requirements or has been abandoned, the Division is empowered to take necessary and appropriate action with respect to that construction, including the authority to remove the facility (KRS 151.297).

Example. The Division of Water, Department for Environmental Protection, issues permits for the construction of dams, levees, fills, or other obstructions across, along, or in the floodway of any stream as authorized in KRS 151.250. Plans for proposed construction must be submitted to the NREP cabinet for approval and issuance of a permit before construction can proceed. The criteria of the Division of Water for approval of floodplain construction is based on the elevation of a flood magnitude with a 100-year recurrence interval. Constructions will generally be approved if they increase the water surface elevation of the 100-year flood by less than one foot.

Evaluation. All stream obstructions and construction in floodplains must be permitted by the Division of Water. Maintenance of an instream flow level is not generally an issue, since plenty of water is usually available to meet all demands.

#### Waterways and Milldams

Opportunity. Structures that inhibit navigation below 10 miles of the head of the stream may be illegal.

Background. Section 1 of KRS 182.010 states:

No person shall place a dam or obstruction below 10 miles from the head of a stream which is navigable for running of push boats, or floating of sawlogs, staves, or ties.

This statute cannot be applied to hydropower dams.

Example. Any early case citing this law declared that a boom erected in a stream is a violation of this section, and the owners could not recover damages from persons who negligently cut down trees that fell into the stream and destroyed the boom [147 Ky 354, 144 SW 39 (1912)].

Evaluation. Although this law appears to have been enacted to protect the ability of timber operations to transport logs, it may have broader

applications for protecting instream flows by prohibiting obstructions in applicable stream sections.

## WATER QUALITY

### Kentucky Pollutant Discharge Elimination System

Opportunity. The Kentucky Pollutant Discharge Elimination System (KPDES) program requires permits for the discharge of pollutants from any point source into waters of the State, including groundwater [401 KAR 5:055(6)].

Background. Kentucky's waste discharge and water quality regulations are contained in 401 KAR Chapter 5. KPDES permits are required for any point source discharge of pollutants into the waters of the Commonwealth, including animal feed lots, aquaculture projects, storm sewers, silviculture point sources, and discharges from municipal and industrial treatment works. Permits are issued for a fixed period of time not to exceed 5 years. Permit holders have a duty to minimize or correct any adverse impact to the environment resulting from violations of their permit [401 KAR 5:065(4)]. Specific effluent levels allowed are defined in each permit and are based on use of the best available technology for pollution control that is both technically and economically feasible.

Issuance of a discharge permit is also dependent on the capability of the receiving water to assimilate the waste. Specific streams of the Commonwealth have been assigned stream use classifications in the following categories:

- WAH - Warmwater Aquatic Habitat
- CAH - Coldwater Aquatic Habitat
- PCR - Primary Contact Recreation
- SCR - Secondary Contact Recreation
- DWS - Domestic Water Supply, applicable at existing points of public water supply withdrawal
- ORW - Outstanding Resource Water.

More than one type of use may be designated for a given stream segment. The purpose of stream use classification is to ensure that water quality standards and planning processes are used to protect or upgrade the existing quality of all waters within the Commonwealth. The NREP cabinet oversees the reclassification of waters. Details of the procedures and required documentation for a reclassification application are defined in 401 KAR 5:026 sections 2 through 6.

Example. The State brought action against the City of Murray [City of Murray v. Com., Ky. App., 584 S.W. 2d 403 (1979)] for damages resulting from the malfunction of a sewer lift, which caused raw sewage to be dumped into the Clark's River. A certain species of fish was killed, and the city was held liable for restocking the river under KRS 150.460 and KRS 150.990(4).

Evaluation. Kentucky's water quality regulations are designed with the intent to protect the State's water resources from degradation. Opportunities to protect the quality of instream flows include applying for upgraded use

classifications, ensuring that dischargers are not in violation of their permits, and holding dischargers liable for damages to the environment if violations do occur.

### Nonpoint Source Pollution Control Programs

Opportunity. The Nonpoint Source Pollution Control Program offers opportunities to control erosion, agricultural wastes, runoff, and other non-point source pollutants.

Background. The Nonpoint Source Pollution Control Program is coordinated by the Department for Environmental Protection, Division of Water, but involves the activities of many State agencies, including the Division of Conservation, Department of Surface Mining Reclamation and Enforcement, Department of Agriculture, and the Department of Forestry. Initial studies and plans determining the extent and causes of nonpoint source pollution were prepared in the early 1980's with Federal funds provided by the 1972 Clean Water Act. Funds for major implementation efforts have not yet been available. Kentucky has no regulations on nonpoint source pollution, so all control efforts are voluntary. Landowners, conservation districts, and other groups are encouraged to use "best management practices" to control erosion and pollution.

The Division of Water is currently preparing an assessment report and a management plan for submission to the EPA in order to be eligible for implementation funds as they become available. When Congress appropriates funds approved under the 1987 amendments to the Clean Water Act, Federal matching funds for implementation of nonpoint source pollution control strategies will be available to State agencies. The Division of Water hopes to use these funds to construct a demonstration project in the Little River watershed in western Kentucky, increase activities in groundwater protection, support a nonpoint source pollution control field team, and implement education programs.

Example. The Division of Water has developed manuals describing methods to control nonpoint source pollution by use of "best management practices" in agriculture, construction, forestry, and surface mining. General education programs are also promoted, since the public is often unaware of nonpoint source pollution problems. A comprehensive education and publicity campaign was developed for the Division of Water by the University of Kentucky, but implementation of this program awaits further funding. The Division of Water currently provides speakers for school programs, conservation district meetings, or other groups interested in nonpoint source pollution control.

An ordinance in Richmond, Kentucky, that requires approval of a plan to control erosion on a proposed site before a building permit is approved is a notable example of local efforts to control nonpoint source pollution.

Evaluation. Efforts to control nonpoint source pollution are limited at this time by lack of funds. Since regulation in this area at the State level is unlikely in Kentucky, local ordinances, public education, and encouragement of the use of "best management practices" are the present means available to protect water resources affected by nonpoint source pollution.

## Kentucky Pollution Abatement Authority

Opportunity. The Kentucky Pollution Abatement Authority is the State agency responsible for assisting with the acquisition and construction of public water treatment facilities.

Background. The Kentucky Pollution Abatement Authority is a 7-member board appointed by the governor. The major powers of the Authority include the ability to levy a tax on all water services in the Commonwealth of Kentucky, approve and reject applications for State grants from these proceeds, hold property, and exercise powers of eminent domain. The Authority may also receive service charges from other government agencies, enforce agreements, issue revenue bonds, and use other available means to finance pollution control facilities. The Authority and its powers are defined in KRS 224A.

Example. In the community long-term financing program of the Authority, Calbert City in Marshall County recently received a loan of \$300,000 to complete a discharge line. This loan is typical of the majority of the Authority's assistance, which is to small communities that are not in a position to issue bonds on their own.

The Authority also administers Farmer's Home Administration loans on an interest-free basis during construction of wastewater treatment facilities offered through the FHA. The FHA offers loans to communities with populations of less than 10,000 for the construction of water supply and wastewater systems, soil conservation measures, flood prevention, and watershed protection projects. Beginning in July 1988, the Authority will also administer funds received from the EPA Construction Loans Program. The Water Infrastructure Program, scheduled to begin in 1989 to encourage economic development, will also be administered by the Authority.

Evaluation. In situations where the quality of a stream or wetland area is threatened by pollution due to inadequate treatment facilities, assistance and funds may be solicited from the Authority to improve existing facilities or construct additional treatment works.

## PUBLIC AND PRIVATE CONSERVATION ORGANIZATIONS

### Kentucky Water Watch Program

Opportunity. The Kentucky Water Watch Program, administered by the Division of Water, promotes individual responsibilities for water resources and educates people about their use and protection.

Background. The program, which began in 1985, is available to any existing group, club, organization, or specially formed group that chooses to become a Water Watch group. The group "adopts" a specific stream segment, lake, or wetland area to monitor and describe, and otherwise works to protect that specific water resource. The Division of Water provides training and educational materials to the group, and it may provide staff or other resources. Presently, over 100 groups have been established across the State.

The list of protected water bodies includes 87 streams or stream segments, 13 lakes, 5 wetlands, and 4 underground systems.

Each Water Watch group files an "adoption" request form with the Division of Water (see "You Otter Care About Water," Water Watch Program, Division of Water, Frankfort, 1985, and the quarterly publication of the Division of Water, "Water Watch").

Example. The Water Watch group in Harrison County is currently involved in a struggle with the city of Cynthiana, Kentucky. The city has obtained rights to a 4- to 5-acre wetland area that it intends to drain as part of a city "beautification effort." The usual U.S. Corps of Engineers permitting process may be avoided by the city due to the small size of the area.

Evaluation. Community Water Watch groups can be strong supporters of local actions to protect wetlands and instream flows. The close familiarity that a Water Watch group develops with local streams and wetlands makes that group more aware than any other agency or organization of potential impacts to these water resources. These community groups may be the first to become aware of plans or activities that threaten local waters, and thus they are in a good position to initiate protection efforts.

#### Nature Preserves Commission

Opportunity. The Nature Preserves System, established by KRS 146.415, is under the jurisdiction of the Kentucky Nature Preserves Commission (KNPC). The Commission has developed an extensive data base on Kentucky's aquatic systems and is given the authority to register natural areas and establish a Nature Preserve System (400 KAR Chapter 2).

Background. The Kentucky Nature Preserves Commission consists of five members appointed by the governor on the advice of the following organizations, if chartered in Kentucky:

- (1) Kentucky Audubon Society,
- (2) Sierra Club,
- (3) The Izaak Walton League of America,
- (4) The Nature Conservancy,
- (5) Kentucky Ornithological Society, and
- (6) Kentucky Academy of Science.

"Of the five (5) Commission members, one (1) shall be a representative from the Farm Bureau Association, one (1) shall be a representative from the National Farmers Organization, and one (1) shall be a representative from the State Association of Soil Conservation Districts. Each member shall be a resident of Kentucky, and not an employee or officer of the Commonwealth" (KRS 146.425).

The Commission may hire a full-time director to administer the activities of the Commission. It is empowered by KRS 146.440 to manage and otherwise acquire and to hold in trust "an adequate system" of nature preserves for a variety of uses and purposes:

- (1) for scientific research in such fields as, but not limited to, ecology, taxonomy, genetics, forestry, pharmacology, agriculture, soil science, geology, paleontology, ornithology, herpetology, geology, paleontology, ornithology, herpetology, mammalogy, biology, entomology, agronomy, conservation, and all other natural sciences;
- (2) for the teaching of biology, natural history, ecology, geology, conservation, and other related subjects;
- (3) as habitats for plant and animal species and other natural objects;
- (4) as reservoirs of natural materials;
- (5) as places of natural interest and beauty;
- (6) as living illustrations of our natural heritage wherein one may observe and experience natural biotic and ecological systems of the earth and their processes;
- (7) to promote understanding and appreciation of the aesthetic, cultural, scientific, and spiritual values of our unpolluted and unspoiled environment;
- (8) for the preservation and protection of nature preserves against modification or encroachment resulting from occupation, development, or other use which would destroy their natural or aesthetic conditions;
- (9) as places where people may observe nature's web of life and our natural heritage, and as reminders of the vital human dependence upon unspoiled natural areas. (KRS 146.440)

The Commission may also acquire buffer areas for nature preserve areas (KRS 146.465). Funds for these activities come primarily from private donations. Among the powers designated by KRS 146.485, the Commission has the authority to:

- (1) seek and approve the dedication of nature preserves as part of the system;
- (2) make and publish policies, rules, and regulations for the selection, acquisition, management, protection, and use of natural areas and nature preserves;
- (3) cooperate with and to contract with any public body of this State, any public body of any other State, any private organization, any individual, and the Federal Government and its agencies;
- (4) purchase land from a willing seller without the use of the powers of condemnation or eminent domain, which said powers are expressly denied to the commission;

- (5) maintain a State registry of natural areas, an inventory of natural types, flora, and fauna, and other records of natural areas and nature preserves within the Commonwealth;
- (6) study the operation of all laws, rules, regulations, orders, and governmental policies affecting conservation of natural resources pertaining to natural areas, and to recommend to the governor, and to the general assembly, new legislation, rules, regulations, orders and policies in the interest of correcting natural resource conservation problems pertaining to natural areas and nature preserves;
- (7) provide a central clearing house of information for environmental and conservation matters and to promote educational programs pertaining to natural areas and nature preserves;
- (8) supervise the protection, management, and use of nature preserves and to enforce and administer rules and regulations pertaining thereto; and
- (9) promote, study, investigate, recommend, encourage, advise, and assist in the preservation, protection, and management of natural areas.

The Commission provides three types of protection:

- (1) outright purchase of land, with subsequent management of that land in terms of the feature that is being protected (e.g., rare or endangered species, or a unique natural community);
- (2) dedicated land, whereby property ownership is retained, but a conservation easement on the land is given to the Nature Preserve System. There is interactive management of the land, with any type of development limited by the management plan. The property owner receives tax benefits; and
- (3) registration of the land in the Natural Areas Registration Program.

This process identifies sites with unique resources, and written or verbal agreements are entered into between the landowner and the Commission. Each site is visited at least once each year and, when necessary, the Commission offers advice on conservation management. The Office of the Attorney General is relied on to bring any legal action required by the mandates of the commission (KRS 146.525).

The Kentucky Nature Preserves Commission is also involved in protecting wetland areas. One of the particularly difficult aspects of these efforts is the lack of a specific legal definition of the term "wetland" in the Kentucky Revised Statutes (see Wetland Protection Strategies for Kentucky, Kentucky Nature Preserves Commission 1986).

Example. There are presently 16 sites, encompassing 5,600 acres, that are dedicated lands or are State owned as a part of the System. Funds for

outright purchase are quite limited. There are also 65 registered sites (34 with written agreements and 31 with verbal agreements) totaling about 6,000 acres. In some instances, registration of a site is the end point. In other instances, purchase, dedication, and registration may all be involved with a particular site.

Evaluation. The Nature Preserves System provides a powerful means of protecting wilderness areas. Since the commission relies on acquisition of lands as its primary means of protection, the number of areas that can be included is directly limited by the funds available.

## WETLANDS

Pursuant to a Memorandum of Agreement with the Natural Resources and Environmental Protection Cabinet's Division of Water, the Nature Preserves Commission prepared a technical report concerning Kentucky's wetlands. This 1986 report, "Wetland Protection Strategies for Kentucky," has four major sections: (1) wetlands definition, (2) extent of wetlands, (3) priority wetlands, and (4) wetlands protection. The first section discusses various Federal and State definitions of wetlands (then proposes specific definitions for Kentucky) and a hierarchical classification of wetlands.

The second section represents an inventory of existing wetlands, which is stored in a data base management program entitled "Kentucky Wetlands Information System." A total of 1,517 sites was identified. The report notes the need for closer examination of the identified and potential wetlands.

The third section developed a priority list of wetlands based on three criteria: (1) presence of threatened and endangered species, (2) presence of critical habitat or Outstanding Resource Waters, and (3) imminence of threat of destruction or alteration.

The fourth section discusses ways that wetlands are protected in Kentucky.

Although Kentucky currently has no program specifically designated to regulate activities within wetlands, some wetland protection is provided through the Natural Resources and Environmental Protection Cabinet, the Kentucky Nature Preserves Commission, and the Kentucky Department of Fish and Wildlife Resources. . . . Wetlands may also be protected by designating them as fragile lands through 405 KAR 24:020 Section 3(7)(b) of the Permanent Program Regulations for Surface Coal Mining and Reclamation Operations, under the Lands Unsuitable for Mining Program, as required by Section 522 of Public Law 95-87, or the Surface Mining Control and Reclamation Act. In addition, the Section 401 Water Quality Certification program administered by the Kentucky Division of Water regulates discharges into waters of the Commonwealth including marshes and wetlands. (Kentucky Nature Preserves Commission: "Wetlands Protection Strategies for Kentucky," June 1986, p. 55).

The section also recommends a Kentucky Wetland Program "that will facilitate wetland protection, function evaluation, permit processing and regulation

enforcement." An extensive list of Federal and Kentucky agencies exercising jurisdiction or involvement with wetlands and wetland issues and a summary table of State inland wetland protection programs is also included. The publication also contains an extensive bibliography and other reference data.

Subsequent to the Kentucky Nature Preserves Commission Report, the Kentucky Environmental Quality Commission (EQC) prepared and adopted "A Wetlands Protection Strategy for Kentucky." The EQC is a seven-member board established to advise the governor and the Natural Resources and Environmental Protection Cabinet on environmental matters. The Cabinet requested the EQC to develop recommendations on the type of wetland protection to be pursued in Kentucky. The Commission held a series of four public meetings focusing on the above cited Nature Preserves Commission report. Subsequently, the EQC formed a nine-member Wetlands Advisory Committee. It was the recommendations of this Committee that were adopted by the EQC and submitted to the Cabinet as "A Wetlands Protection Strategy for Kentucky." The report concluded by recommending the acquisition of wetland areas by the State to ensure their protection. A recent bill to provide funding for such purchases was voted down in the Kentucky Legislature.

The following opportunities are directly related to protecting wetlands and marsh areas. Other opportunities that may apply to wetlands are included in previous sections on mining regulation and public and private conservation organizations.

#### U.S. Army Corps of Engineers Permitting Processes

Opportunity. State agencies have an opportunity to comment during the permitting process of activities administered by the U.S. Army Corps of Engineers that affect wetlands.

Background. The Corps of Engineers manages many activities relating to water resources development in rivers and harbors, including construction of channels, canals, and other navigation improvements; dikes, levees, reservoirs, and dams for water supply and flood control; and hydropower and recreational facilities. The Corps issues permits under Section 404 of the Clean Water Act for discharges of dredged or fill materials into waters of the United States, and under Section 10 of the Rivers and Harbors Act for activities or the construction of structures affecting navigable waters. Section 10 and Section 404 permits are often processed simultaneously. Prior to issuing a permit, the Division of Water must approve a KPDES (Section 401) water quality certification permit. Denial of the Water Quality Certification permit means that the Corps of Engineers must deny a Section 404 permit.

The Division of Water is the coordinating agency for State comment in Corps of Engineer permitting processes. The Division of Water issues public notices of permit applications to the following State agencies, who may then submit comments to the Division of Water:

Natural Resources and Environmental Protection Cabinet  
Division of Air Pollution  
Division of Conservation  
Department for Surface Mining Reclamation and Enforcement

Division of Waste Management  
Division of Water  
    Biological Analysis Section  
    Floodplain Management Section  
    Permits Branch

Department of Agriculture

Kentucky Department of Fish and Wildlife Resources

Department of Housing, Buildings, and Construction  
    Division of Building Codes and Enforcement  
    Division of Plumbing

Department of Parks

Kentucky Heritage Council

Kentucky Nature Preserves Commission

Office of the State Archeologist

Transportation Cabinet

After receiving comments from these agencies, the Division of Water submits a Coordinated State Response to the Corps of Engineers. There are four Corps districts and two divisions in Kentucky: the Louisville, Huntington, and Nashville Districts of the Ohio River Division, and the Memphis District of the Lower Mississippi River Division. Most wetland permitting decisions are made by a Corps of Engineers District Engineer's Office; however, the EPA and the U.S. Fish and Wildlife Service can request a higher level review of any decision with which they disagree.

Example. The approval of the Section 401 water quality certification by the Division of Water for surface mining activities in wetland areas requiring Corps of Engineers permits is generally contingent upon the ability to restore the wetland. The Division of Water often requests mitigation measures be included when permitting other activities that destroy wetlands. The Department of Transportation creates additional acres of wetlands when a portion of a wetland area is lost in the construction of a road. The construction of a shopping center in Ashland, which required draining 8 acres of wetlands, was approved, but the permit required the creation of 17 acres of new wetlands. In this case, the wetlands that were created were considered to be more valuable than those that were drained.

Evaluation. The Corps of Engineers permitting process allows for a significant degree of input by State agencies. Public opposition to projects that threaten instream flows and wetlands can have an impact on the decision to approve or deny a permit. Upgrading or maintaining a high water use classification may also ensure denial of a water quality certification permit, although wetlands usually do not qualify for the more protected categories in their natural state. The Corps is currently working with the Division of

Water to develop strategies to deal with environmental issues concerning wetlands loss and protection.

### Kentucky Pollutant Elimination Discharge Permits

Opportunity. Discharges into wetlands must be permitted by the Division of Water under the Kentucky Pollutant Discharge Elimination System (KPDES--401 KAS 5:050-5:090).

Background. Wetlands, as surface waters of the Commonwealth, are included in the KPDES. As such they must receive a use classification or at least be afforded the minimum protection to maintain warmwater aquatic habitat. Since the use classifications are designed to designate stream use quality, they are not generally appropriate for protecting marshes and wetlands. The naturally occurring dissolved oxygen and pH levels in wetlands and marshes often do not meet the minimum standards. The status of protection for seasonal wetlands is also unclear.

Example. The treatment facilities of the cities of Fulton and Clinton in eastern Kentucky discharge into wetland areas. The discharge requirements are based on an "all use" designation for the associated streams; however, more stringent effluent standards are applied than the assimilation capacity that is indicated by the volumetric flow of the stream.

Evaluation. Wetland areas are subject to the same protection from point source discharges as flowing streams. However, since the KPDES was designed for flowing streams, the actual degree of protection afforded to wetlands and marshes is not clearly defined.

### Acquisition by Kentucky Department of Fish and Wildlife

Opportunity. The Kentucky Department of Fish and Wildlife has a policy of acquiring wetland areas to preserve wildlife habitat.

Background. To preserve wetlands as wildlife habitat areas the Department of Fish and Wildlife purchases wetland areas from willing sellers. Funds to support these acquisitions are provided by license fees and donations. The Department is also having Kentucky's wetland areas mapped by the National Wetland Inventory Group of the U.S. Fish and Wildlife Service as funds are available. Mapping of about one-third of the State is completed.

Example. Several years ago the Department purchased a 3,000- to 4,000-acre area of wetlands known as Swan Lake, located at the confluence of the Ohio and Mississippi Rivers in Ballard County, Kentucky.

Evaluation. Wetlands purchased by the Department of Fish and Wildlife Resources are usually managed as waterfowl hunting areas. The number of areas that can be protected, however, is dependent on the funds available and the existence of a willing seller.

## INTERSTATE COMPACTS

Opportunity. Kentucky has long been an active participant in interstate compacts. The following compacts in which Kentucky participates may have aspects that are relevant to the protection of instream flows.

Background: Breaks Interstate Park. The very first interstate compact approved by Congress was one between the States of Kentucky and Virginia. It established the Breaks Interstate Park. The compact was created to settle the boundary dispute between the two States by creating a park. The provisions of the compact govern the water and land resources of the park, which is located on the Levisa Fork of the Big Sandy River.

Ohio River Valley Sanitation Compact. Member States in this compact include Illinois, Indiana, Kentucky, New York, Ohio, Pennsylvania, Tennessee, and West Virginia. The compact calls for these States to cooperate in the control of future pollution, enact legislation necessary to maintain the waters of the Ohio River in a satisfactory sanitary condition for public and industrial water supplies, recreational use, and the maintenance of fish and other aquatic life (Article 1). The Ohio River Valley Sanitation District, encompassing the watershed of the Ohio River and its tributaries, is established. The guiding principle of the compact is that pollution originating in a signatory State shall not injuriously affect use of the interstate waters (Article 7).

Tennessee River Basin Water Pollution Control Compact. States located in the Tennessee and Cumberland River basins are members of this compact. The purpose of this compact, similar to the Ohio River compact, is to coordinate pollution control efforts in the Tennessee River. An interstate commission is established that may determine physical, chemical, and bacterial standards for the various use classifications. Classifications of the river are to reflect present and proposed highest uses, and these classifications of interstate waters are subject to approval by the Commission. The Commission works with the Tennessee Valley Authority, collects and maintains water quality data, and is involved in long-range planning.

Interstate Water Sanitation Board. The Interstate Water Sanitation Board, established in 1940, was statutorily legislated as Kentucky's delegation to the Interstate Sanitation Compact regulating the Ohio River Valley. In 1958, the Board's duties were statutorily expanded to make it Kentucky's delegation to the Tennessee River Basin Water Pollution Control Compact, and to any future such compact into which the State may enter.

Tennessee-Tombigbee Waterway Development Compact. Kentucky is a participant in the Tennessee-Tombigbee Waterway Development Compact, along with Alabama, Mississippi, Tennessee, and Florida. The compact was formed to promote the development of a navigable waterway connecting the Tennessee River and the Tombigbee-Warrior River systems in Alabama. The northern terminus of the waterway is Paducah, Kentucky. The compact does express a possible potential for protective opportunities in the Tennessee River watershed.

Falls of the Ohio Interstate Park. Kentucky is a participant in the compact establishing the Falls of the Ohio Interstate Park.

Example. In Johnson v. Louisville [261 S.W. 2d 429 (1953)] the authority of the City of Louisville to issue general obligation bonds to finance construction of a sewage treatment plant serving the city as well as other incorporated and unincorporated areas of Jefferson County was challenged. The city's authority was upheld in the initial judgment and upon appeal. Since the city sewers discharged in the Ohio River, the need for such treatment facilities was defined in part by the need to meet a demand and order of the State Water Pollution Control Commission requiring compliance with the Ohio River Valley Sanitation Compact.

Evaluation. The use of the existing interstate compacts does not seem to represent extensive protection opportunities, but does offer a degree of protection to the waters that are included in such agreements. The Interstate Water Sanitation Board may represent the most useful of existing agreements by providing opportunities for coordination of pollution control activities with the other States.

## LOCAL AND REGIONAL OPPORTUNITIES

### Soil and Water Conservation Districts

KRS 262 governs the establishment and powers of a conservation district. The chapter defines the purpose of a soil and water conservation district rather broadly, as being an agency "to conserve and develop all renewable natural resources within the district" (KRS 262.020). Included in the list of projects of proper concern to such a district are "avoidance and abatement of sedimentation and pollution in streams, protection of open space, and scenery preservation." It may be possible to apply these provisions to the protection of instream flows and wetlands.

Local Conservation Districts are encouraged to develop long range and annual programs of work oriented toward long-term objectives. The Division of Conservation of the Department for Natural Resources has provided assistance to conservation districts to develop "model" plans. The Division also issues a bimonthly "Kentucky Conservation News."

Subdistricts of soil conservations districts, Watershed Conservancy Districts, can be formed in a watershed area (KRS 262.700 to 262.795). Their function is that of "developing and executing plans and programs relating to any phase of conservation of water, water usage, flood prevention, flood control, erosion prevention and control of erosion, flood waters and sediment damages."

### Regional Planning Agencies (Area Development Districts)

The Area Development Districts (ADD's) were formally created in 1972 (KRS 147A.050) as substate regional planning agencies. The State is divided into 15 such districts. Each of these 15 ADD's has a multiplicity of planning and other functions. These functions are mandated by the State or agreed upon by the ADD's Board of Directors, which is composed of representatives of local governmental bodies within the particular district. Each of the ADD's is charged with assisting in the water quality management activities of local

governments within that particular district. Although there is no indication that any of the ADD's have included stream flow protection on their respective agendas, the potential for doing so seems to exist. Local planning and zoning commissions may cooperate with ADD's in questions of water quality and quantity.

#### Drainage and Reclamation Act of 1912

The Drainage and Reclamation Act of 1912 is codified at KRS 267. This legislation empowers any county judge/executive to order the construction of a "levee, ditch, drain, or canal and have constructed, straightened, widened, or deepened any ditch, drain, creek or non-navigable watercourse . . . ." (KRS 267.020). Jurisdiction of such facilities, natural or man-made, ends at the county boundary (KRS 267.460). A County Board is further empowered to remove any obstruction "in any natural drain, creek, or non-navigable stream that constitutes an outlet for any public ditch." Additionally, this section has been applied "to any or all persons whose acts or negligence cause injury to a drainage ditch, even though the ditch does not run along or through his property (Taylor Coal Co. v. Board of Drainage Commissioners [189 KY 793, 225 S.W. 386 (1919)]).

#### Drainage and Reclamation Act of 1918

The Drainage and Reclamation Act of 1918 is incorporated as Chapter 268 KRS. It empowers the creation by any county or district to "provide for the operation and maintenance of drainage, levee, and reclamation districts." This Act did not repeal the somewhat similar 1912 Act (KRS Chapter 267), but provides a separate and alternative method for the reclamation of wet lands . . ." (Board of Drainage Commissioners v. Long [187 KY 123, 218 S.W. 736 (1920)]; Handley v. Graham [187 KY 316, 219 S.W. 417 (1920)]; Board of Drainage Commissioners v. McGill [251 Ky 400, 65 S.W. 2d 91 (1933)]). This chapter provides for a district incorporating properties in more than one county. Such a district can be started by at least 25% of the landowners or owners of at least 25% of the land in the proposed district. "If the property is located in more than one county, the petition shall be filed in any county in which some part of the property is situated" (KRS 268.030).

The Drainage and Reclamation Act of 1918 did not repeal the 1912 Act; rather, it provides a separate operational alternate for the reclamation of wetlands by drainage. Subject to the constraints noted elsewhere, these two Acts seem to provide the greatest amount of direct authority to local governments. Neither of these Acts, however, seems to have been used in the protection of instream flows or wetlands.

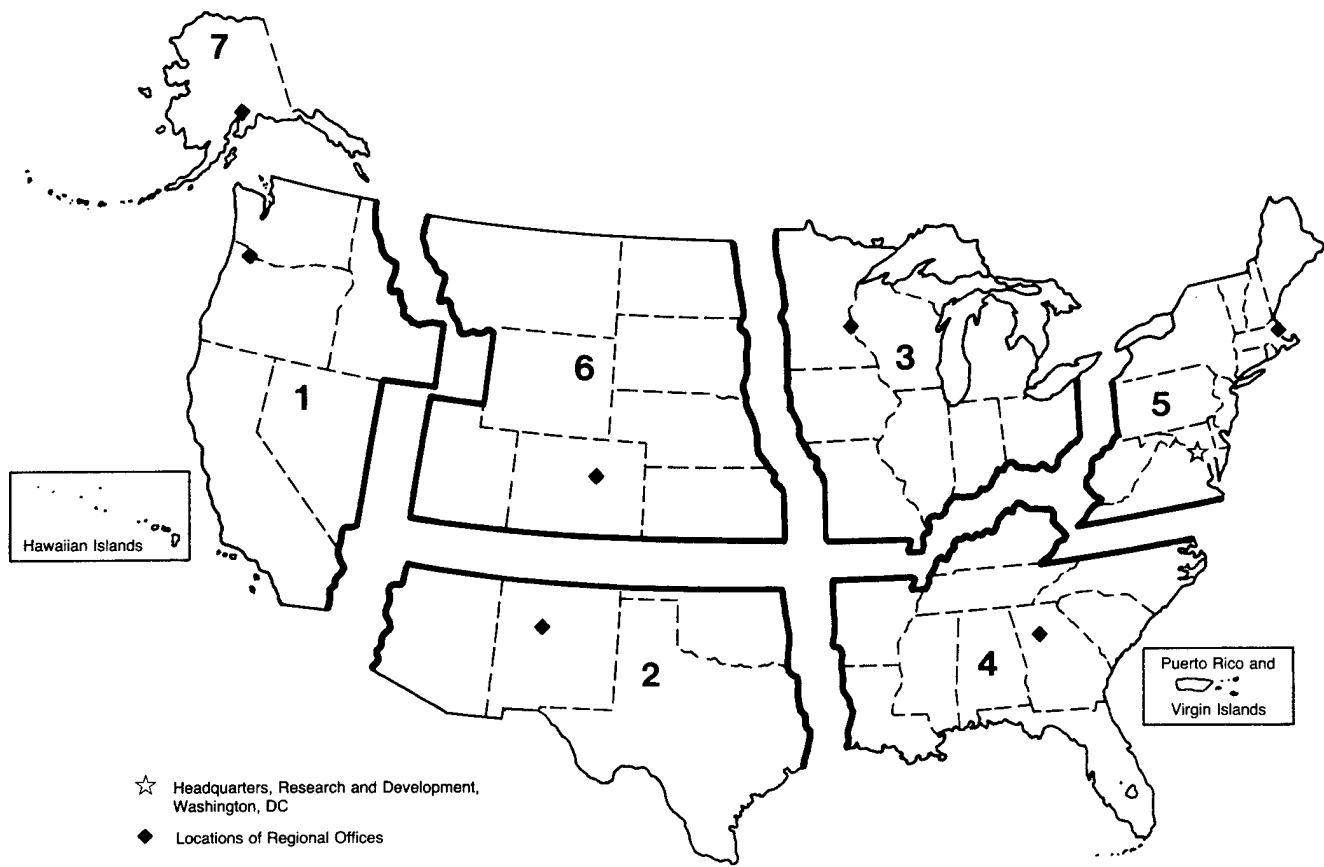
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<b>REPORT DOCUMENTATION PAGE</b>	<b>1. REPORT NO.</b> Biological Report 89(9)	<b>2.</b>	<b>3. Recipient's Accession No.</b>
<b>4. Title and Subtitle</b> Opportunities to protect instream flows and wetland uses of water in Kentucky		<b>5. Report Date</b> March 1989	
<b>7. Author(s)</b> B.A.K. Coughlan <sup>1</sup> and J.A. Singleton <sup>2</sup>		<b>6.</b>	
<b>9. Performing Organization Name and Address</b> <sup>1</sup> TGS Technology, Inc. P.O. Box 9076 Fort Collins, CO 80526		<b>8. Performing Organization Rept. No.</b>	
<b>12. Sponsoring Organization Name and Address</b> U.S. Department of the Interior Fish and Wildlife Service Research and Development Washington, DC 20240		<b>10. Project/Task/Work Unit No.</b>	
		<b>11. Contract(C) or Grant(G) No.</b> (C) (G)	
		<b>13. Type of Report &amp; Period Covered</b>	
<b>15. Supplementary Notes</b>		<b>14.</b>	
<b>16. Abstract (Limit: 200 words)</b>  This publication is one of a series of similar documents that provides a survey of State prerogatives and programs that may be used to protect the instream uses of water. Most of the opportunities for protecting instream flows are related to fish and wildlife habitat, although many other instream uses are considered, including hydroelectric power production, recreation, navigation, downstream delivery, and waste load assimilation. These documents illustrate methods to protect instream uses within the context of existing laws and regulations.			
<b>17. Document Analysis a. Descriptors</b>  Water conservation, water flow, water law, water resources, water rights, watersheds, water supply, habitability, hydroelectric power generation.  <b>b. Identifiers/Open-Ended Terms</b> Kentucky, instream flows  <b>c. COSATI Field/Group</b>			
<b>18. Availability Statement</b>  Release unlimited		<b>19. Security Class (This Report)</b> Unclassified	<b>21. No. of Pages</b> 39
		<b>20. Security Class (This Page)</b> Unclassified	<b>22. Price</b>



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