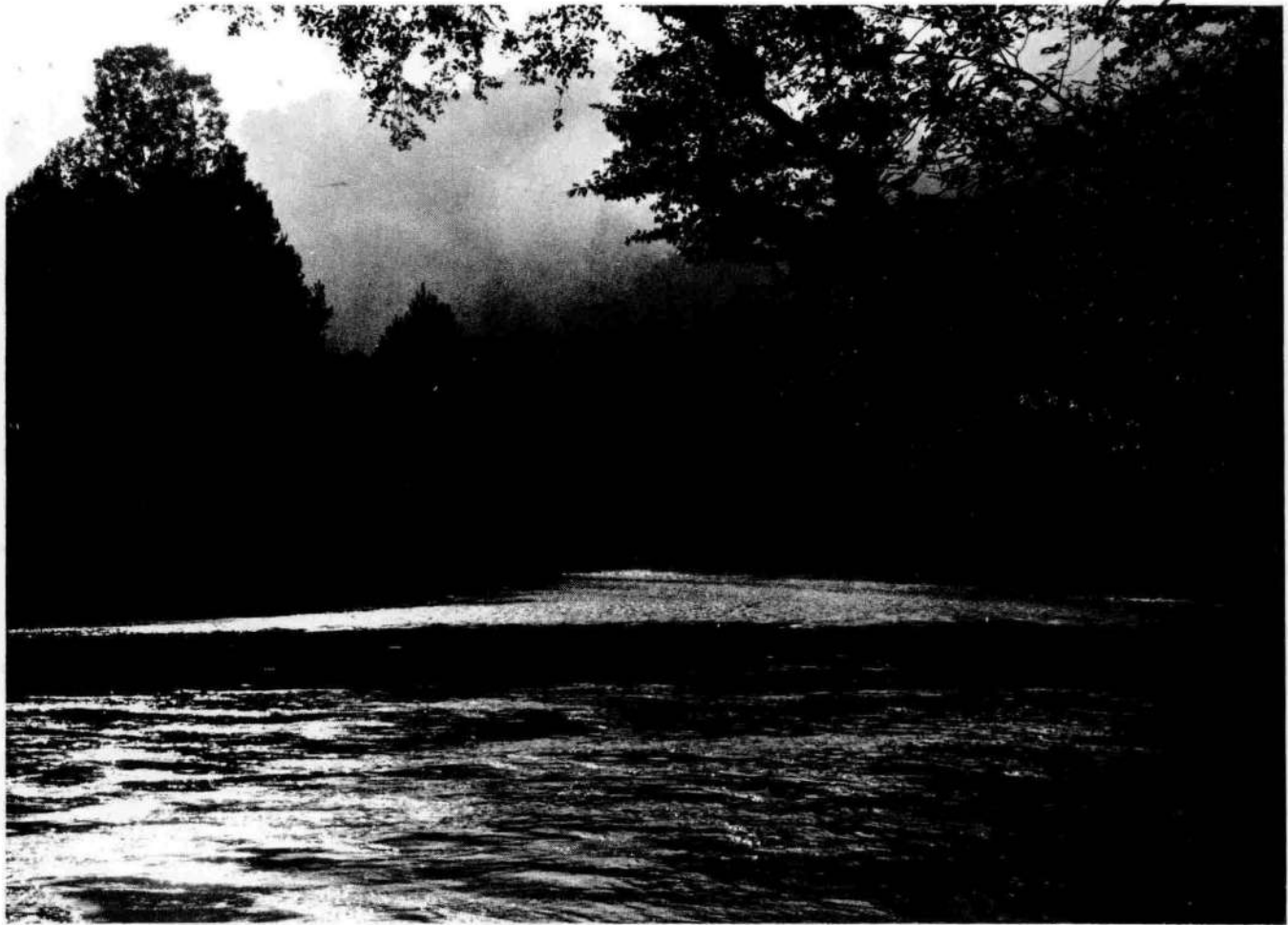


FINAL

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The Illinois Wild and Scenic River Study

U.S. DEPARTMENT OF INTERIOR

HERITAGE CONSERVATION & RECREATION SERVICE

**THE
ILLINOIS
WILD & SCENIC RIVER STUDY**

Final Report

**U.S. Department of Interior
Heritage Conservation & Recreation Service**

August, 1979

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interests of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. administration.

Department of the Interior
Cecil D. Andrus
Heritage Conservation and Recreation Service
Chris T. Delaporte

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SUMMARY OF FINDINGS, RECOMMENDATIONS, AND COSTS

IMPORTANT FINDINGS

1. The Illinois River in northeastern Oklahoma, from the Arkansas-Oklahoma State line downstream to the headwaters of Tenkiller Ferry Reservoir, qualified to be added to the National Wild and Scenic River System. Also qualifying are two tributaries, Flint Creek and Barren Fork Creek from the State line to their mouths. The three streams total 115 miles in Oklahoma (see map, page 3).
2. The Illinois River, Flint Creek and Barren Fork Creek (up to present alignment of U.S. Highway 59) are currently in the Oklahoma State Scenic River System (see map, page 6).
3. The Illinois River is among the top recreation/tourism attractions in its surrounding region.
4. The three streams support significant agricultural and horticultural practices, as well as numerous commercial canoe liveries.
5. The three streams are subject to various projects which, while not directly impacting on the streams, may have an impact on their aesthetic and environmental values.

RECOMMENDATIONS

1. Federal management of the streams is not recommended. Instead, it is recommended that an agency of the State of Oklahoma administer the qualified stream segments specified above. The most appropriate agency is the newly established Oklahoma Scenic River Commission (see page 17 for a discussion of the Commission's authorities).

2. At this time, it is not recommended that any of the qualified stream segments be added to the National Wild and Scenic River System. However, after implementation of an effective management plan, if such action is desired by members of the Scenic River Commission, their constituents, and the Governor of Oklahoma, the Secretary of the Interior may consider the addition of any or all of the streams to the National System as State administered components.
3. It is also recommended that the Secretary of the Interior evaluate the Scenic River Commission's management capabilities after the recreation season in 1979, to determine if the management program is functioning effectively (see page 18 for a discussion of the evaluation criteria). This follow-up action is considered necessary, to assist the Commission in accomplishing the goals for which it was created.

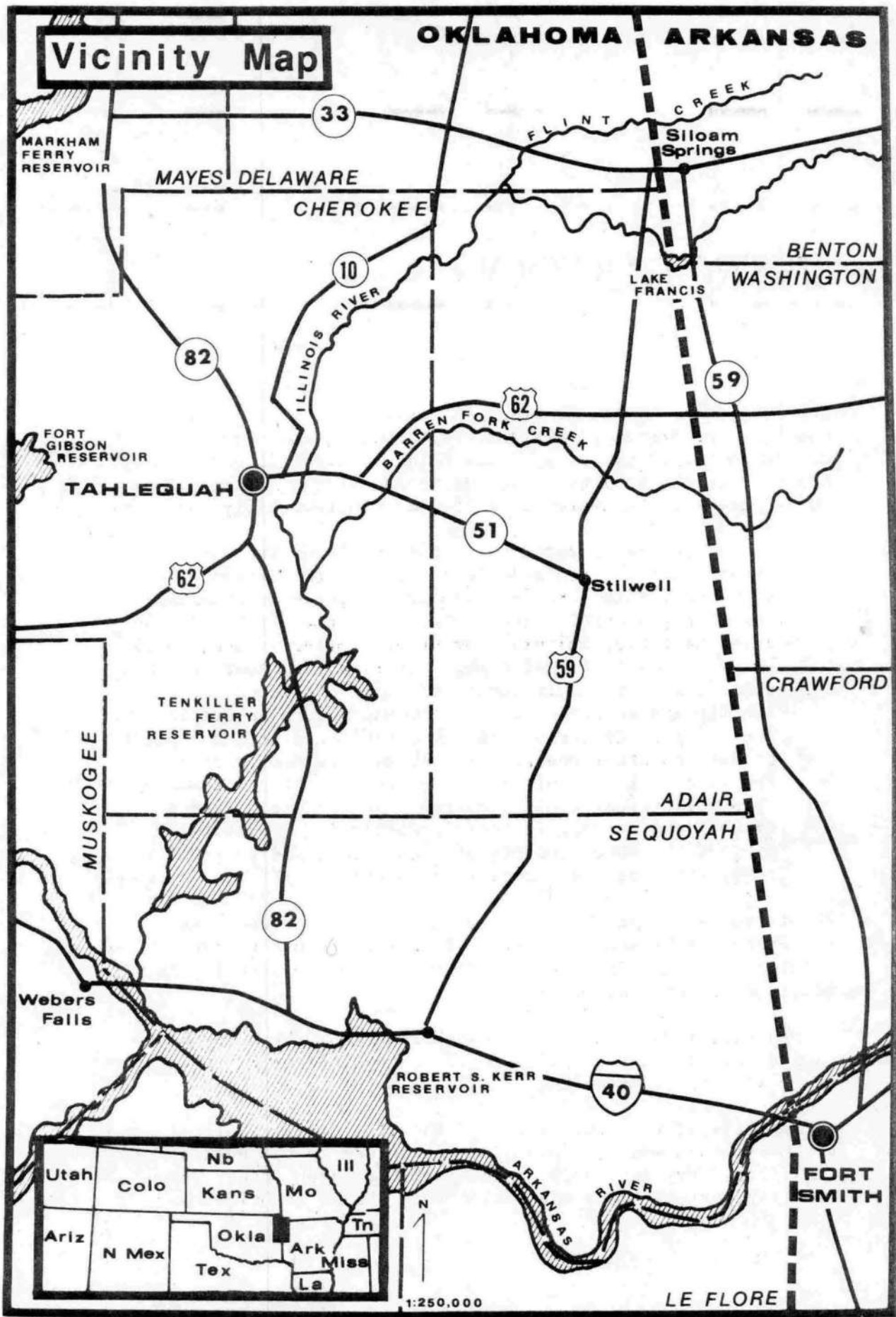
NON-FEDERAL COSTS*

Acquisition:	\$79,665
Development:	\$52,850
Operation and Maintenance:	\$32,150 (annual)

*Based on 1978 dollar value.



Governor David Boren signs the Scenic River Commission legislation as Speaker of the House Bill Willis, Senator Herb Rozell and Representative James Townsend watch.



INTRODUCTION

The Department of the Interior was authorized by Congress through the Wild and Scenic Rivers Act, P.L. 90-542, as amended, to determine the eligibility of the Illinois River in Oklahoma for addition to the National Wild and Scenic Rivers System. Public Law 90-542 created the System in 1968 when Congress affirmed:

"It is hereby declared to be the policy of the United States that certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations. The Congress declares that the established national policy of dam and other construction at appropriate sections of the rivers of the United States needs to be complemented by a policy that would preserve other selected rivers or sections thereof in their free-flowing condition to protect the water quality of such rivers and to fulfill other vital national conservation purposes."

As stated in the Act, 8 rivers were initially included in the System as "instant" rivers. Twenty-seven other rivers were originally marked for study to determine their potential for addition to the System.

In January, 1975, the Act was amended by Public Law 93-621 to include 29 additional rivers in the study category. The Illinois River was one of those 29.

As authorized, the study included the Illinois River from the Oklahoma-Arkansas State line downstream to the headwaters of Tenkiller Ferry Reservoir. Also included in the study were two tributaries, Flint and Barren Fork Creeks in Oklahoma.

Congressional authorization excluded from study the portion of the Illinois River within Arkansas, and the 13 mile Illinois segment in Oklahoma below Tenkiller Ferry Dam.

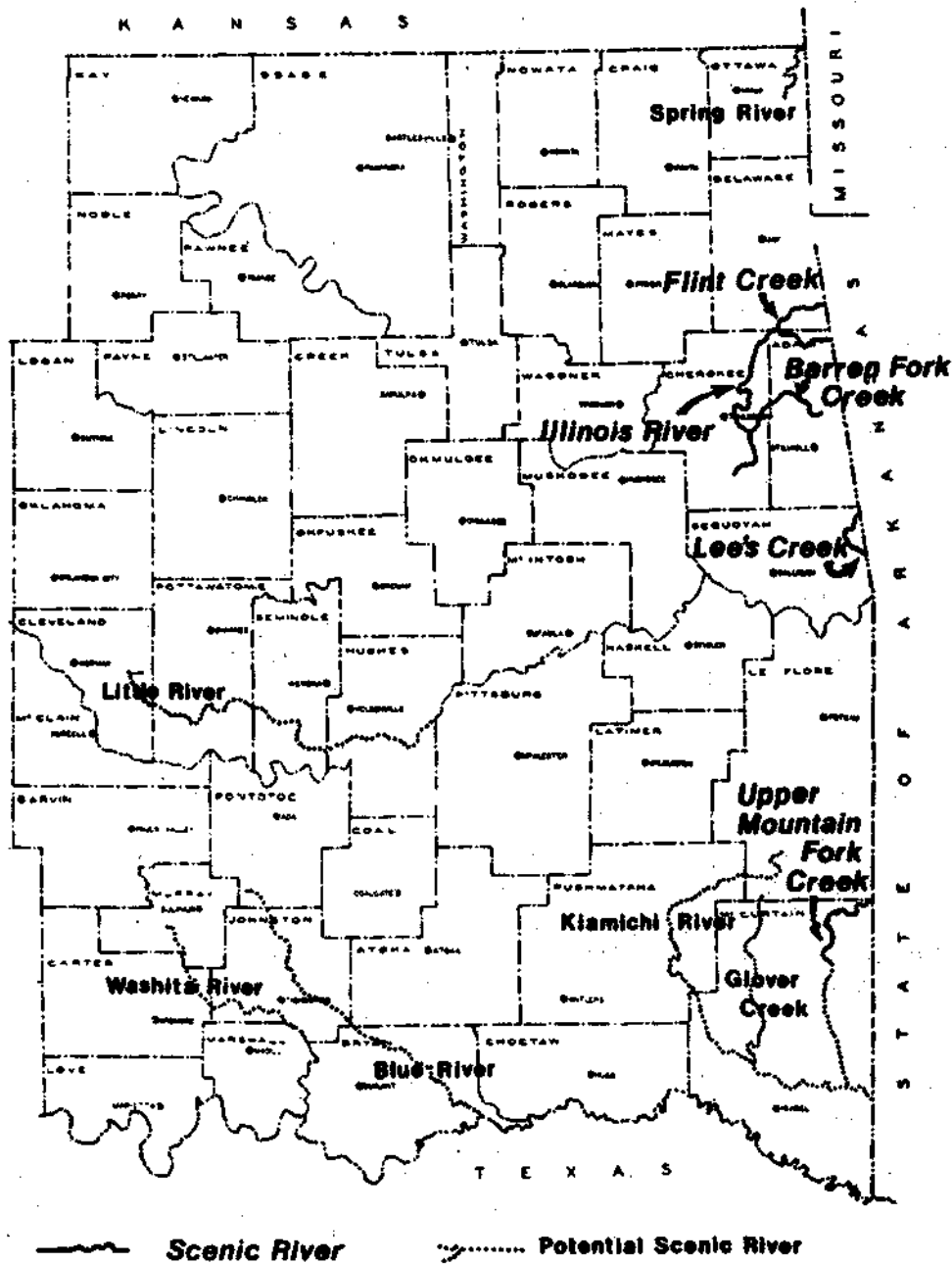
BACKGROUND

Public interest in the Illinois River has been mounting over the past 10 years. Between 1968 and 1970, various attempts were made to establish some protection for the river. These attempts were only partially successful, resulting in the 1970 legislative creation of an Oklahoma Scenic Rivers System, with the Illinois River, Flint Creek and Barren Fork Creek being designated as 3 of the initial components. (See Appendix A: "Oklahoma Scenic Rivers Act," which vaguely defines a scenic river area as "the stream or river and the public use and access areas located within the area designated." Designation as a scenic river is an expression of legislative intent that the stream remain free-flowing and not be impounded except with legislative authorization.)

The Act does not assign management responsibility to any State agency. Although the Act provides acquisition authority, it does not provide any funding for the purchase of scenic river areas. Criticized by State conservation organizations as being virtually ineffective, the Oklahoma Scenic Rivers System provides only general impoundment protection for the Illinois River, the Flint and Barren Fork creeks, and three other Oklahoma streams. The map on page 6 shows the streams currently in the State System, as well as those which, according to the 1974 Oklahoma Statewide Comprehensive Outdoor Recreation Plan, have potential for future addition.

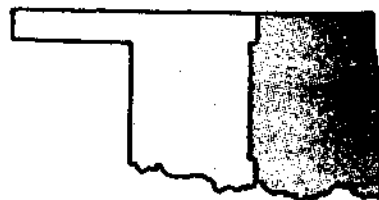
In 1973, a report by the Tulsa District, U.S. Army Corps of Engineers, recommended that a portion of the Illinois River in Oklahoma be included in a proposed Oklahoma National Recreation Area (ONRA). The final decision of the Army's Board of Engineers for Rivers and Harbors was that the ONRA as proposed would be inappropriate. Further action on the proposal was halted.

Environmental interests in the State continued to press for additional protection for the Illinois. Their efforts were rewarded in early 1975 when an amendment to the National Wild and Scenic Rivers Act slated the Illinois River, and Flint and Barren Fork Creeks for study as potential additions to the National Wild and Scenic Rivers System.



SCENIC RIVERS OF OKLAHOMA

1 in = 40 MI



CONDUCT OF STUDY

The Secretary of the Interior assigned the Heritage Conservation and Recreation Service (HCRS) as lead agency for the Illinois Wild and Scenic River Study. To assist in the Illinois study, the HCRS formed a study team of representatives from various Federal and State agencies. These agencies assisted in the field investigations and supplied data needed for the study. Along with the HCRS, agencies represented on the study team were: the National Park Service, the U.S. Forest Service (representing the Department of Agriculture), and the Oklahoma Department of Tourism and Recreation (representing the State of Oklahoma).

Other agencies supplied additional input to the study. These were the Bureau of Mines, the Advisory Council on Historic Preservation, the Geological Survey and the Soil Conservation Service at the Federal level. State agencies providing information were the Oklahoma Geological Survey, the Department of Pollution Control, the Department of Wildlife Conservation, the Oklahoma Water Resources Board, the Oklahoma Historical Society and the State Historic Preservation Office.

PUBLIC INVOLVEMENT

In October 1975, a public information meeting to announce initiation of the Illinois study was held in Tahlequah, Oklahoma. Local reactions to the meeting, to the study, and to potential river designation as part of the National System were totally negative. Of utmost local concern at that time was lack of local representation on the study team. This concern was soon voiced to U.S. Senator Henry Bellmon, who along with his colleague Senator Dewey Bartlett, had supported legislation to have the Illinois River added to the list of study rivers in the Wild and Scenic Rivers Act. Senator Bellmon requested that the Heritage Conservation and Recreation Service allow two additional members on the Illinois River study team. These persons were to be selected from the local area, and would provide for better representation of the local attitude during the study process.

Since the study team was composed of professionals who were to gather highly detailed and technical river data, the HCRS thought that local as well as Statewide interests would be better served

through the creation of a citizens' board to advise the study team. Therefore, the Service suggested that a citizens' advisory panel be established, and the Senators concurred. It was decided that each Senator would select one member, that Governor David Boren would select two members and that U.S. Congressman Theodore Risenhoover would select two members. It was left to the Service to determine the role of the panel.

Persons selected for the panel represented a wide range of river interests. Members included: 1) the Oklahoma State legislator who authored the existing Oklahoma Scenic Rivers Act, 2) the owner of a large nursery located adjacent to the river, 3) the then president of the Oklahoma Wildlife Federation, 4) the chairman of the local Resource Conservation and Development Project, which is a quasi-public arm of the U.S. Soil Conservation Service, 5) president of the Illinois River Valley Association landowner's organization, and 6) a Tahlequah lawyer and owner of a riverfront ranch and canoe livery operation.

In working with the study team, the task of the advisory panel was threefold: to better represent various river interests, to gather and review certain data, and to assist in the public involvement program. Panel members made a significant contribution to the study effort in bridging the communications gap between the team and the general public.



Members of the Illinois River study team and citizens' advisory panel discuss the study procedure.

Following is a summary of attitudes that were expressed early in the study by landowners and environmentalists regarding potential addition of the Illinois River to the National Wild and Scenic Rivers System:

Landowners

- Fear that addition of the river to the National System could mean loss of homes, farms and ranchland.
- Concern that removing land from private ownership could further reduce the county tax base.
- Anger at being told what could and could not be done on their lands.
- Mistrust of Federal and State governments.
- Belief that private enterprise could best maintain the existing river corridor.
- Belief that enforcement of existing laws and regulations could be sufficient to protect the river.
- Belief that National status could attract significantly more recreationists, and thereby create additional litter, trespass and vandalism problems.

Environmentalists

- Concern regarding the piecemeal degradation occurring on the river.
- Belief that the river could best be protected through Federal or State management.
- Concern over the various potential projects which threaten the integrity of the river (dams, upstream pollution and diversion, cross-State water transfer).
- Fear of large scale second home developments planned adjacent to the river.
- Concern that sharply increasing numbers of canoeists could deteriorate the resource.

Opinions Shared By Landowners and Environmentalists

- Awareness that the river was confronted by certain problems that needed correction: overdevelopment, litter, increased recreation use and trespass, and pollution.

- Belief that the water in the Illinois River should not be impounded or withdrawn for uses outside the immediate river area.
- Agreement that some form of river management was necessary, but condemnation of private lands should be prohibited.



Concerned citizens listen attentively during a public meeting in Tahlequah.

On August 5 and 6, 1976, public meetings were held in Tahlequah and Oklahoma City respectively, for the purpose of discussing study team findings to date. Subsequently, in order to keep the public abreast of events, the Heritage Conservation and Recreation Service:

- met informally on request with various interest groups such as landowners and environmental organizations.
- wrote a series of eight articles that were published in a local newspaper to answer questions that were frequently asked at public meetings.
- was interviewed by the Oklahoma Educational Television Authority for airing by cooperating Tulsa and Oklahoma City educational television stations.

- visited with landowners on their properties to better understand their concerns, and to explain the purposes of the study.

The most significant, productive public interaction to occur during the Illinois Study was a workshop held at a State park near the river in November, 1976. Conducted over a weekend to allow for maximum participation, the workshop was designed to give people with different interests in the river an opportunity to discuss their ideas concerning the river's future. Over 200 people were divided into ten multidisciplinary work groups, provided background maps and materials, and asked to produce one thing: a generally agreeable recommendation regarding the future of the Illinois River.

The success of the workshop was not measured so much in what plans or recommendations resulted, as in the cordial working relationship which developed between the participants. Most startling to these people was the realization that they were all working towards the same goal: the preservation of a river. The only true differences of opinions dealt with the most effective way to achieve that end: Federally, at the State level or by local and private initiative.

A final round of public meetings was held in Tahlequah and Oklahoma City on July 28 and 29, 1977, to present the study recommendation and alternatives considered.



Representatives of the HCRS, Statewide environmental groups, the Illinois River Valley Association, the State legislature, the Oklahoma Tourism and Recreation Department and the National Park Service discuss the future of the Illinois during a float trip.

FINDINGS AND RECOMMENDATIONS

MAJOR FINDINGS

Listed below are the important findings by the study team:

- Of the land bordering the three study streams, over 90 percent is privately owned.
- Though water in the three streams is not pure, it supports the smallmouth bass which is a pollution intolerant species.
- The three streams are receiving increasing levels of various pollutants which are being introduced primarily from sources near or upstream from the Oklahoma-Arkansas border.
- The Illinois River is a primary tourist attraction in water-rich eastern Oklahoma.
- Few places in this part of the Nation provide commercial canoe rental and put-in and take-out convenience as readily as on the Illinois River.
- 83 percent of public recreation use occurs along 26 percent of the study segments.
- 15 State and County bridge crossings, and 4 developed fisherman access sites provide public recreation access to the study streams.
- Additional projects which involve the study streams are being considered or are currently underway. These include a 3000 unit second home development, a coal-fired electricity generating station, a regional sewage treatment complex, a nuclear power plant, a cross-State water transfer and additional impoundments for water supply. The recommendations presented in this study would not preclude these projects, but environmental considerations may necessitate the alteration of the projects in order to be compatible with protection of the streams' integrity.

- The basic economic factor within the Illinois valley is agriculture, and to a lesser extent horticulture and recreation/tourism.
- 3 sand and gravel operations currently hold mining permits along the study streams.
- The study area is generally accessible by U.S. and State highways (see maps, pages 3 and 59).
- Recreation use occurs generally May through September with the highest use in July and August.
- Several endangered species may inhabit the river area, including the gray myotis bat, Indiana myotis bat and Townsend's big-eared bat.
- Cherokee, Adair and Delaware Counties, through which the study segments flow, rank among the most economically depressed counties in Oklahoma.

QUALIFICATION

Based on field investigations and on preliminary data, the study team determined in July, 1976 that the study segments of the Illinois River and Flint and Barren Fork Creeks met the qualification criteria for the National Wild and Scenic Rivers System. Qualification was based on five criteria that are listed in the Act and expanded upon in the "Guidelines for Evaluating Wild, Scenic and Recreational River Areas...." published jointly by the Secretaries of the Interior and Agriculture.

Extensive field work formed the basis of the qualification determination. Float trips and ground and aerial reconnaissance were necessary. Important qualification factors, adopted from the 5 "Guidelines" criteria, are listed below:

- The streams are of sufficient length to provide a meaningful recreation experience.

Illinois River	66 miles
Flint Creek	13 miles
Barren Fork Creek	36 miles

Total:	115 miles
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- The studied segments of the rivers are generally free flowing. Two major impoundments on the Illinois River are Tenkiller Ferry Reservoir and Lake Francis, both of which are outside the study segment (see map, page 16). Two other minor impoundments located on Flint Creek do not significantly diminish the free-flowing nature of the creek.

- The streams have sufficient water during appropriate times of the year to support varied recreation uses. Except in times of severe drought, the Illinois is floatable throughout the recreation season of May through September. The Flint and Barren Fork Creeks are floatable from early spring to early summer, and in the fall. During droughts or times of low flow, deeper pools remain on all three streams and support other recreation uses such as swimming, fishing and nature study.
- Although the natural and environmental values associated with the streams are not outstandingly remarkable in all cases, substantial and certain exceptional values are present. Among these are:
 - * outstanding fisheries, including the smallmouth bass
 - * seasonal sanctuary for wading birds and raptors
 - * extensive scenic resources within and visible from the stream corridors - notably high cliffs and bluffs, but also streamside ledges and overhangs
 - * significant recreation opportunities, including canoeing, swimming, fishing and nature study
 - * important geologic formations, displaying stratigraphic relationships
- The streams are relatively unpolluted. The Oklahoma Water Resources Board has listed the study streams as fit for public and private water supplies, fish and wildlife propagation, livestock watering, irrigation, primary body contact recreation and smallmouth bass fisheries. However, a recent survey by the Water Quality Laboratory of the Oklahoma State Department of Health (under a contract with the Oklahoma Department of Pollution Control) indicates that nutrient levels on all three streams are increasing due to sewage disposal methods and agricultural and urban runoff, and that development of forest lands for urban types of uses increases nutrient loading as much as 90%-95% for total nitrogen and phosphorus levels (see Water Quality, page 36).

CLASSIFICATION

Based on its preliminary field investigations, the study team assigned classifications of either "scenic" or "recreational" to stream segments according to the qualities observed on each of the three streams. The classification findings were published in an information brochure, and were the subject of two public meetings in August, 1976.

The classification of the streams was revised by the study team as a result of additional information gained during public meetings. Criteria for "scenic" and "recreational" rivers appear below, followed by classifications determined by the study team to be appropriate for the Illinois River, and Flint and Barren Fork Creeks.

Scenic river areas:

1. Free of impoundments
2. Accessible in places by road
3. Shorelines and watershed still largely primitive and shorelines largely undeveloped

Recreational river areas:

1. Readily accessible by road or railroad
2. May have undergone some development along shorelines
3. May have undergone some impoundment or diversion in the past

Illinois River (see map, page 16).

Segment 1

25.5 miles: Lake Francis spillway to Pine Bluff - Scenic

Segment 2

31 miles: Pine Bluff to Tahlequah Water Supply Plant - Recreational

Segment 3

9.5 miles: Tahlequah Water Supply Plant to Horseshoe Bend - Scenic

Flint Creek

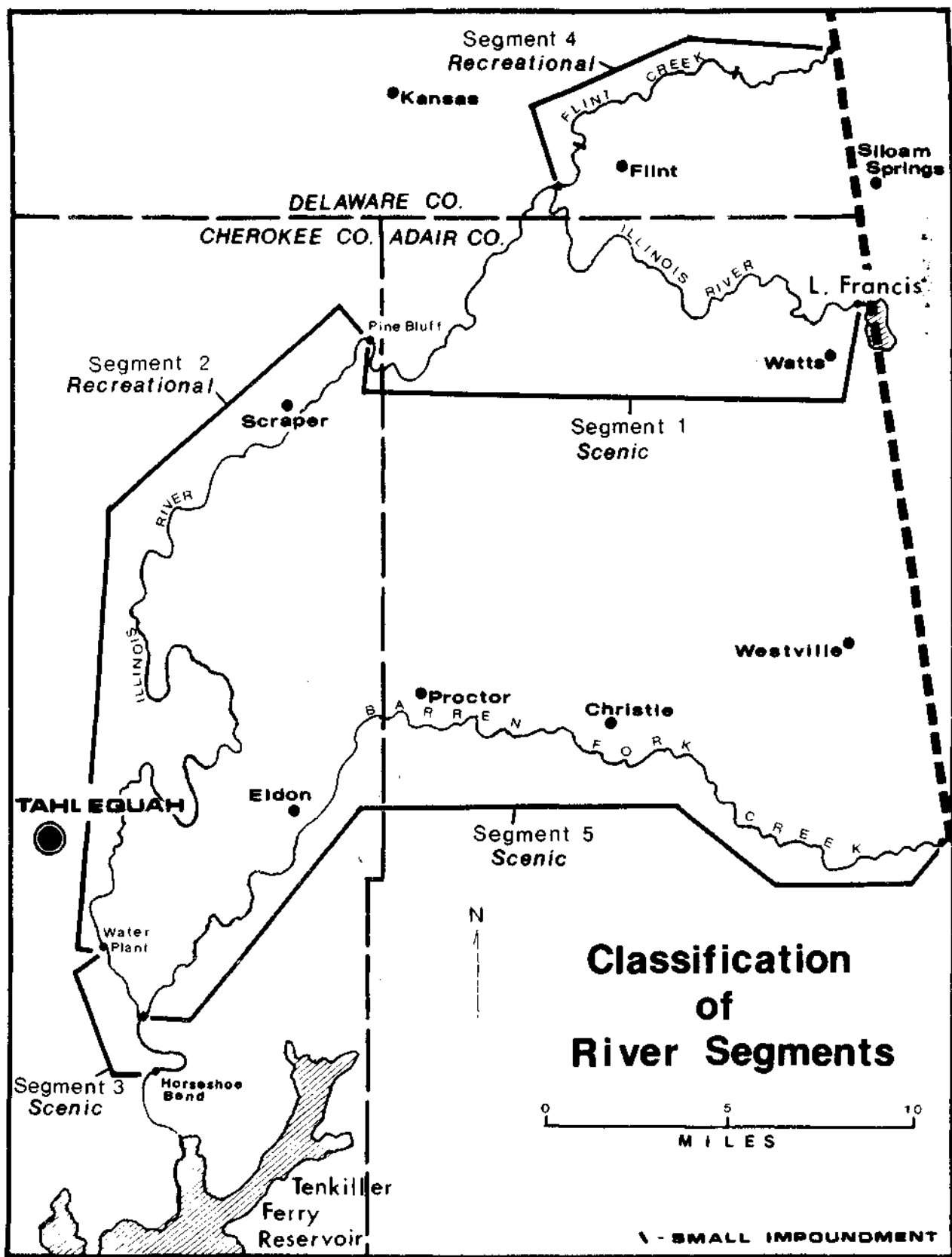
Segment 4

13 miles: State line to mouth - Recreational

Barren Fork Creek

Segment 5

36 miles: State line to mouth - Scenic



RECOMMENDATIONS

Background: Throughout the course of the Illinois study, local residents and river area businessmen, legislators and local government officials opposed management of the Illinois River and Flint and Barren Fork Creeks by any existing Federal or State agency.

Statements from environmental leaders who attended the Illinois public meetings generally supported administration by the State of Oklahoma as the best form of management.

Residents of the Illinois River area came to the Illinois River Alternatives Workshop with an alternative to management of the study streams by an existing Federal or State agency. Through the subsequent months, the citizens' advisory panel continued work on this alternative with a plan eventually being drafted in legislative form. The bill was introduced in the Oklahoma Senate by the Senator representing the Tahlequah area. It subsequently passed both the Senate and the House and was signed into law by Governor David Boren on May 3, 1977. (A copy of the bill appears in Appendix B.)

The Act enables the creation of independent agencies (Commissions) of the State to administer the State scenic rivers. In this case, it would apply to the Illinois, the Flint and the Barren Fork, but would also allow creation of similar management Commissions for other designated Oklahoma Scenic Rivers.

The Scenic River Commission for the Illinois River, and the Flint and Barren Fork Creeks has been established. There are 12 members who were either appointed or elected as follows:

- 2 appointed by the Governor of Oklahoma for 1 year terms
- 1 appointed by the Speaker of the Oklahoma House for a 4 year term
- 1 appointed by the President of the Oklahoma Senate for a 1 year term
- 1 appointed by the Adair County Commissioners for a 3 year term
- 1 appointed by the Cherokee County Commissioners for a 3 year term
- 1 appointed by the Delaware County Commissioners for a 3 year term
- 1 elected by registered voters* in Adair County for a 2 year term
- 1 elected by registered voters* in Cherokee County for a 2 year term
- 1 elected by registered voters* in Delaware County for a 2 year term
- 2 elected at large by registered voters in Adair, Cherokee and Delaware Counties for 4 year terms.

The Commission held its first meeting in November, 1977. Its first action was to adopt the boundaries of its territorial jurisdiction, which corresponds approximately to a corridor 1/8 mile on either side of the river and two creeks. In February, 1978, the Commission, at the request of the canoe livery operators along the Illinois River, inventoried existing rental canoes, and placed a prohibition on the purchase of further rental canoes by livery operators. During a meeting in April, 1978, a full time administrator was hired to carry out the decisions of the Commission in managing the resource.

*Registered voters are those who reside or own property within the territorial jurisdiction of the Commission.

The Oklahoma Legislature appropriated \$15,000 for use by the Commission during the first year of its operation (through June 30, 1978).

A \$50,000 line item appropriation will be available to the Commission from the legislature during fiscal year 1979 (beginning July 1, 1978). In addition, the Commission is taking steps to generate local sources of revenue to help sustain its work, with the goal of becoming self-sustaining.

Proposal: Study team members generally agreed that establishment of a State regulatory agency with local representation could best meet the needs and address the resource and use problems confronting the study streams.

Based on all information gathered, analysis of management options, and public input and opinion, it is recommended that an agency of the State of Oklahoma administer the Illinois River, and the Flint and Barren Fork Creeks in Oklahoma, and that the most appropriate State agency to administer the streams is the newly established Scenic River Commission for the Illinois River, and Flint and Barren Fork Creeks. It is not recommended that the streams be added to the National Wild and Scenic Rivers System at this time. Such action may be determined appropriate at a later date by the members of the Scenic River Commission, their constituents and the Governor of Oklahoma. After implementation of an effective management plan by the Commission, the State of Oklahoma may request that the Secretary of the Interior consider the addition of the Illinois River and the Flint and Barren Fork Creeks to the National Wild and Scenic Rivers System as State administered components. To assist the Commission in accomplishing its goals, the Secretary of the Interior will evaluate the Commission's management effectiveness after the recreation season in 1979, to determine if the management program is functioning effectively.

The criteria for making this evaluation consist of:

- A. The progress of the Commission toward river planning and management, and the outlook for the Commission's continued active role in the future.
- B. Development by the Commission of a management plan which helps assure protection of stream-related values.
- C. Establishment of a litter control program.
- D. Progress toward the establishment of fund sources to offset operation and maintenance costs.
- E. Development of a land acquisition program.

The following are conceptual management considerations for use by the administrative agency in its management of the river. They are not intended

to be absolute or complete; rather, they present ideas which should be considered and modified to fit the streams and the needs of the people who use and depend on those streams. These considerations are designed to assist the agency in creating and carrying out an effective management plan for the streams. Information is presented in six categories: area of jurisdiction, land protection techniques, management objectives, recreation development, cost and national designation.

Area of jurisdiction

1. Stream mileage. The entire study segments of the Illinois River and of the Flint and Barren Fork Creeks should be included under the purview of the administrative agency: Illinois River - 66 miles, Flint Creek - 13 miles, and Barren Fork Creek - 36 miles. It can be argued that properly protecting the Oklahoma portions of the streams is to no avail if detrimental upstream activities continue to occur in Arkansas (see Water Quality, page 36). Unfortunately, this would be outside the jurisdiction of the agency, and would necessarily have to be dealt with on a State to State basis, through vehicles such as the Interstate Compact existing between Oklahoma and Arkansas. Regardless of activities in Arkansas, it is imperative that the entire Oklahoma segments of the study streams be subject to a management plan.

2. Adjacent land area. A key to protecting the aesthetics of a stream is protecting those lands visible from the center of the stream, i.e. the visual corridor. Generally, this is a minimal amount of land due to visibility-restricting streamside vegetation, high banks and adjacent cliffs and bluffs. Zones should be established by the agency to allow different intensities of land use according to stream proximity. These zones do not indicate lands that should be acquired, but lands that should come under the jurisdiction of the agency. It is the professional judgment of the study team that the distances comprising zones A, B and C below would be sufficient to allow protection of the resource:

- Zone A should include lands within 100 feet of the stream banks. This area should receive the greatest degree of protection.
- Zone B should include lands beyond Zone A but within 660 feet of the stream banks. Current land use practices should continue unaffected. However, future significant land use changes should first be approved by the agency.
- Zone C should include the area from the stream banks out to the paralleling roads on either side of the streams (where paralleling roads exist within 1 mile of the stream channels). In Zone C all commercial activity, most of which is located along the Illinois River, should be subject to regulations set by the agency.

In November, 1977, The Scenic River Commission adopted a resolution defining the zones which comprised its territorial jurisdiction. These zones, as defined by the Commission, are:

A - Includes the stream and the land within 100 feet of either side of the edge of the stream at normal level. This area will receive the highest degree of protection in order to preserve the scenic beauty and environmental quality of the streams. Any future significant land use changes in this area must first be approved by the Scenic River Commission.

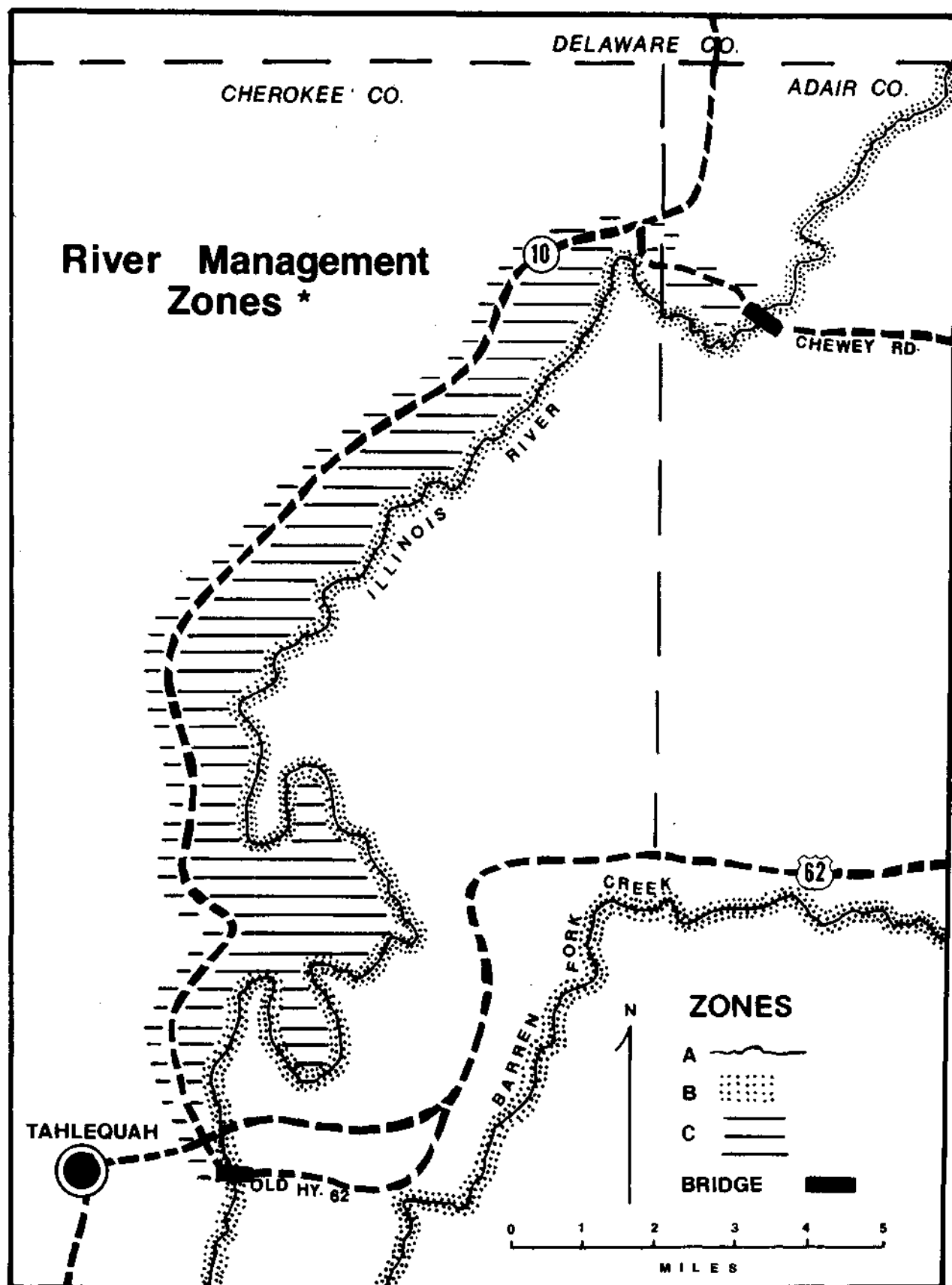
B - Includes land beyond Zone A but within 660 feet of the center of the streams. The primary concerns within this area are prevention of pollution problems and changes in the traditional use of the land which would detract from the scenic beauty of the streams.

C - Includes all of Zone A and Zone B on each of the streams plus the following area along the Illinois River and State Highway 10: all land outside of Zone B west of the Illinois River beginning at the Old Highway 62 Bridge near Tahlequah and continuing along old Highway 62 to its intersection with Highway 10; then along Highway 10 to the Chewey Road and along Chewey Road to the Chewey Bridge. Zone C also includes an area 50 yards west of the center of these highways or roads. The two primary concerns within Zone C are the regulation of commercial activity, and any public nuisances which detract from the river area. The Scenic River Commission would have jurisdiction over any business which uses any of the streams under the Commission's jurisdiction (see map, page 20a).

Protection techniques

The essence of administration should be to allow as much land as possible to remain in private ownership and thus on the tax rolls, while at the same time extending a degree of protection to the river and its adjacent lands. Rather than a costly large-scale acquisition program, management should come in the form of standards set by the administrative agency to regulate certain types of river and land uses. These standards should be enforced within the agency's area of jurisdiction, and variations from the standards should require approval by the agency. It is recommended that the standards include.

- a. Regulations governing removal of significant amounts of streamside vegetation.
- b. Setback requirements and height restrictions on future construction of buildings, residences or facilities.
- c. Procedures for identifying and correcting nuisances, in or visible from the streams, such as old car bodies or trash dumps.
- d. Size, style and placement restrictions on outdoor advertising within the visual corridor.
- e. Specification in writing of any non-allowable land uses.



*The river segments shown represent only a portion of the area of jurisdiction.

- f. Prohibition of pollutant discharge into the streams.
- g. Prohibition of streambed sand and gravel extraction operations beyond those which currently exist.

These standards should be the basis of the agency's protection techniques. However, in addition to these standards, some lands will need to be acquired for development of public recreation sites or for preservation of environmentally critical areas (endangered species habitat). Depending on the use to which the land is to be put, two types of acquisition procedures are available: fee and less than fee. The advantage of fee is that it would allow total agency control of the parcel. Fee acquisition would probably be necessary on most new public recreation sites. All acquisition would be on a willing seller-willing buyer basis; the agency does not have the power of eminent domain.

Buying less than fee interest in property is generally done through an easement, by which the landowner (who continues to hold title to the land) is paid for certain privileges on or uses of his property. The easement may be scenic, which allows no public use or trespass, or it may be a use easement, which would allow varying degrees of recreation use. The scenic easement basically is a legal agreement providing monetary compensation to the landowner for maintaining those visual characteristics which comprise scenic quality. In other words, the landowner would be paid to leave the land undisturbed. It is a binding agreement which would continue with sale or lease of the land, but which can be tailored to fit the specific needs of the landowner (for instance, to allow continued brush-hogging, fence mending, and livestock access to the stream). The use easement could be ideal for allowing public enjoyment of privately owned, aesthetically significant areas such as certain scenic cliffs and overhangs abutting the streams. A conservation easement could be used to protect environmentally fragile areas.

Advantages of easements include being less costly and allowing land to remain on county tax roles (at reduced valuation).

Management objectives

It is important to note that the Scenic River Commission has already initiated activity on several of the management objectives identified by the study team. The status of the Commission's activity with respect to each element is included in the following list of objectives.

1. That the agency develop a detailed master plan for management of the streams to protect environmental, aesthetic and recreational attributes.

Status: The Commission hired a full-time administrator in April, 1978. The administrator is charged with the specific responsibility to produce a master plan for the 3 streams.

2. That the agency work closely with canoe livery operators in limiting the number of rental canoes to that number mutually determined to be optimal rather than maximal.

Status: Acting upon request of the canoe livery operators, the Commission appointed a committee which inventoried rental canoes in February, 1978. The full Commission subsequently imposed an interim restriction on purchasing additional rental canoes above the approximately 2500 owned by the livery operators at the end of February, 1978.

3. That the agency work closely with canoe livery operators in determining an equitable technique for generating local funds through a recreationist user fee program. This should extend to renters of livery canoes as well as to those who use their own canoes or any of the existing or anticipated public recreation facilities along the streams.

Status: In April, 1978, the Commission held an open meeting for the purpose of receiving input from livery operators regarding the user fee issue. This input will be used as the basis for a proposal which the administrator will develop and present to the Commission.

4. That the agency be authorized to identify and deal with nuisances which infringe upon the resource.

Status: The Commission hired two full-time rangers in May, 1979. These rangers have authority similar to that of an Oklahoma State Park law enforcement officer, and are available daily to deal with violators, public nuisances and trespassers.

5. That the agency cooperate with the Cherokee Hills Resource Conservation and Development (RC&D) Project Coordinator to identify and stabilize critically eroding stream banks and adjacent pasture lands.

Status: A prototype labor-intensive stabilization project has been completed on a segment of Barren Fork Creek, as a cooperative effort between Adair County, the Cherokee Hills RC&D and the EDA Title X program. The Chairman of the RC&D presently serves as Secretary of the Scenic River Commission, and has indicated an interest in pursuing additional projects of a similar nature.

6. That various State and Federal agencies work closely with the administrative agency to insure protection of the streams.
 - a. That the Oklahoma Department of Tourism and Recreation work with the agency in an advisory capacity, and assist in the preparation of possible grant requests for Land and Water Conservation Fund monies for the acquisition and development of public recreation lands.

Status: The Executive Director of the Tourism and Recreation Department,

who also serves as State Outdoor Recreation Liaison Officer, is a member of the Commission. He has indicated his willingness to work with the other members in the development of grant requests.

- b. That the Oklahoma Department of Wildlife Conservation develop an operation and management agreement with the administrative agency regarding public use of the existing fisherman access sites on the Illinois River, to allow for better management and broader recreation use (see map, page 59, and discussion, page 60).

Status: The Commission, in conjunction with the Department of Tourism and Recreation and the Heritage Conservation and Recreation Service, is exploring options for the sites. This includes discussion with the Oklahoma Department of Wildlife Conservation, which administers the sites, regarding potential transfer of title and/or management responsibility to the Commission.

- c. That the administrator of the Scenic River Commission contact the Oklahoma State Historic Preservation Officer (SHPO) prior to development of any new public recreation sites to avoid disturbance of a site on or eligible for the National Register of Historic Places, or other recognized historic sites. It is also recommended that the administrator become familiar with each of these sites in order to assure that they receive consideration as the Commission sets forth management policy.

Status: HCRS is working with the Oklahoma SHPO to determine the location of historic sites, and this information will be given to the Commission's Administrator.

- d. That the Oklahoma Department of Wildlife Conservation and/or appropriate university biologists identify areas of critical wildlife habitat (such as heron rookeries and bat caves) and work with the administrative agency in protecting these areas.

Status: No activity at this time.

- e. That the U.S. Army Corps of Engineers, within the guidelines of P.L. 89-72, the Federal Water Project Recreation Act, participate with the administrative agency in the development of certain Corps lands on the lower reaches of the Illinois River and Barren Fork Creek for public recreation Areas.

Status: No activity at this time.

- f. That the administrative agency be notified, through the State Clearinghouse A-95 review process, of initiation of planning projects by the Economic Development Administration, Soil Conservation Service, Corps of Engineers, Environmental Protection Agency, Federal Energy Regulatory Commission or any other agencies which may have an impact on the Illinois River, Flint Creek or Barren Fork Creek.

Status: The mechanics of Commission notification are being explored by the Administrator.

Recreation development

Currently, 25 commercial canoe liveries and their associated services provide the basis for public recreation use on the Illinois River, and to a lesser extent on Flint and Barren Fork Creeks (see map, page 70). Present commercial facilities are generally for day use activities. Additional public recreation facilities and areas are needed to complement those available commercially. Each of the following issues should be addressed in the management plan for the three streams.

1. Access. Public access to the study streams is currently not a problem. Free access is provided at most of the 15 State and County highway bridges or low water crossings which span the streams (see map, page 59). In addition, access is available at four Oklahoma Department of Wildlife Conservation fisherman access sites on the Illinois River: Round Hollow, Peavine Hollow, No Head Hollow and Echota (see map, page 59). Access is also available at canoe liveries or across private lands on a free or fee basis.

The four Department of Wildlife Conservation fisherman access sites should receive a comprehensive rejuvenation and then be maintained continually. More modern sanitary facilities should be provided, garbage should be collected frequently, weeds and debris should be removed and grass mowed periodically, and definite user rules should be established, posted and enforced. The sites, by nature of the restrictions included in the Federal Dingell-Johnson funds used to acquire, develop and operate them, are technically provided exclusively for fisherman access. However, they currently receive extensive use as campgrounds and picnic areas, though no facilities are provided. They also serve as convenient canoe launch sites for some of the commercial livery operations. The Scenic River Commission is considering options for cooperative management of the sites, because they are regarded as vital to the success of public recreation use management of the Illinois River. Better facilities, better maintenance and clear user rules should be provided as part of the management program.

Access at bridge crossings should continue to be allowed, with possible legal agreements (easements) between landowners and the administrative agency. Sanitary facilities (currently non-existent) should be provided, and garbage should be removed periodically. Parking should also be provided. In its work toward development of a master plan, the Commission is considering legal agreements with cooperative landowners for low cost, long term leasing of the bridge access sites. Facilities and rules governing their use would be provided subsequently.

2. Camping. Several private campgrounds are available to the public in conjunction with canoe livery operations near the Illinois River. Facilities range from tent pads and picnic tables to showers and electric hookups.

A recognized recreation deficiency found along the three streams is the lack of primitive camping areas. Overnight or multi-day canoe trips are currently difficult to plan due to the unavailability of public primitive camping space, and the preponderance of private land.

Eventually, a minimum of three public camping areas should be acquired. These should be accessible to the user only by water, with road access to be used only for maintenance purposes. Each area should have stream frontage, a minimum of twenty acres and appropriate signing. The only facilities provided should be tent pads, fire grills, drinking water, sanitary accommodations, litter receptacles and a ready supply of firewood to limit abuse to surrounding vegetation. Facilities should be of rustic design using native building materials, should blend with the environment and should be vegetatively screened from the stream.

In order to fully complement the campgrounds provided at some of the livery operations, these primitive sites should be isolated from developed areas of the streams. Suggested areas for site acquisition are 1) near or upstream from Fiddler's Bend on the Illinois River, 2) near Sparrow Hawk Mountain on the Illinois River and 3) between the Eldon and Welling Bridges on Barren Fork Creek.

3. Rest areas. With over 90 percent of the riparian land in private ownership, trespass has been and continues to be an issue between recreationists and landowners. Associated problems are improper disposition of human waste, littering and sometimes vandalism.

The provision of several rest areas or "nodes" may partially resolve the situation. Approximately ten of these nodes, two acres each, should be acquired for the 115 miles of streams. As with the primitive camping areas, these nodes should be accessible to the user only by stream, and facilities should include drinking water, toilets and refuse containers. The nodes should be adjacent to the stream, designed to blend with the surrounding area, and signed so as to be readily recognizable.

4. Trails. A significant opportunity for trail development exists along Barren Fork Creek. Between the communities of Addielee and Christie in Adair County, the north bank of the creek is closely paralleled by an abandoned railroad grade for a distance of two miles (see map, page 59). Over most of the old track, trees form a canopy overhead, creating a pleasant atmosphere for a relaxing walk to break the routine of paddling.

The necessary easements should be acquired from the appropriate landowners, so that this strip of land could be made available for trail purposes. It lies in a particularly scenic portion of Barren Fork Creek,

A similar opportunity is further downstream on Barren Fork Creek (see map, page 59). Another abandoned railroad grade occupies the north bank for about 2½ miles, immediately upstream from the Eldon Bridge in Cherokee County. Similar rights should be acquired and another water-enhanced hiking opportunity developed.

Costs

Costs for recommended acquisition, development and operation and maintenance are listed below. Figures are based on 1978 dollar values;

Acquisition

Fee - 80 acres:	\$ 60,000
Easement - 43.7 acres:	<u>\$ 19,665</u>
Total	\$ 79,665

Development

Trails -	\$ 3,900
Campgrounds -	\$ 18,075
Rest Nodes -	<u>\$ 30,875</u>
Total	\$ 52,850

Operation and maintenance

\$ 32,150 (yearly)

National designation

In the future, the State may consider desirable the addition of the Illinois River, and Flint and Barren Fork Creeks to the National Wild and Scenic Rivers System. This action could be possible if, after the Commission has demonstrated its management capabilities, the Governor requested that the Secretary of the Interior add the three streams to the National System as State administered components (i.e. administered by the Commission). The Secretary could include the streams within the System if an effective management plan had been implemented.

ADMINISTRATIVE OPTIONS CONSIDERED

Other forms of river management in addition to the recommended Commission were analyzed during the study. These options are not being recommended, but are presented for comparison to the recommendation. A brief discussion of each appears below, followed by a chart comparing the effects of three administrative options.

Federal administration - The National Park Service, with approval of the Secretary of the Interior and authorization by Congress, could be assigned administrative jurisdiction for the Illinois River, and the Flint and Barren Fork Creeks. Land acquisition and development and stream corridor management would become the responsibility of the National Park Service. Those private lands needed to insure stream integrity would be purchased in fee (limited to an average of no more than 100 acres per stream mile on both sides of the river) or controlled through scenic easements. Stream segments would be managed to maintain existing stream values.

State administration - Several State agencies potentially could function as river administrators. These include the Oklahoma Tourism and Recreation Department, The Oklahoma Conservation Commission, and the Oklahoma Wildlife Conservation Department. They would provide basically the same resource protection as the recommended Commission. Emphasis under a State form of management would be given to enforcement of existing laws, cooperation with existing Federal, State and local agencies and landowners, and limited land acquisition. The primary goal would be to maintain the streams as high quality recreation resources, while at the same time permitting economic growth in the valleys to continue. Impoundment protection beyond the Oklahoma Scenic Rivers Act of 1970 would be available if the streams were added to the National Wild and Scenic Rivers System.

TABLE 1

ADMINISTRATIVE OPTIONS FOR RIVER MANAGEMENT

ELEMENTS	EFFECTS (1)		
	FEDERAL	STATE	
		In National System	Not in National System
1. Control over:			
a. Level of recreation use	most stringent	least stringent	
b. Adjacent land development	most stringent	least stringent	
c. Water pollution	most stringent	most stringent	
d. Water resources development	complete	complete partial	
e. Commercial recreation facilities	most stringent	least stringent	
2. Land acquisition (fee)	most required	least required	
3. Tax base loss	most (2)	least	
4. Direct funding:			
a. Federal funds	most	least	
b. State funds	least	most	
c. Local funds	none	some	
5. Time required for implementation of plan	most	more	less
6. Economic effect on adjacent land	less growth	more growth	
7. Support for plan	very limited (3)	broad (4)	

- (1). The effects displayed are based on the professional judgment of the members of the study teams, with input from the Citizen's Advisory Panel. Two assumptions were made:
- That Federal management would require more land acquisition (up to an average of 100 acres per mile on both sides of the river as authorized in the Wild and Scenic Rivers Act) than administration by a State or local agency or the recommended Commission. This, and physically locating a Federal management presence in the Illinois valley (where one does not currently exist) would be more costly than a State, local or the recommended agency serving as river manager.
 - That Federal recreation and land use controls would be more stringent than those of the State, local or the recommended agency in a similar situation.
- (2). Public Law 94-565: Local Government Units - To provide for certain payments to be made to local governments by the Secretary of the Interior based on the amounts of certain public lands within the boundaries of such locality. This would mitigate tax base losses to some extent.
- (3). Opposed by local public, county governments, Speaker of Oklahoma House, Area U.S. Congressman and State agricultural agencies.
- (4). Favored by local public, county governments, Speaker of Oklahoma House, some State agriculture agencies, and some environmental leaders.

OVERVIEW OF THE RESOURCE

Rising 1600 feet above sea level in the Boston Mountains of northwestern Arkansas, about 15 miles southwest of Fayetteville, the Illinois River begins its northerly and westerly flow through the Ozarks region. Crossing the Oklahoma-Arkansas State line near Siloam Springs, Arkansas, its course becomes southerly and eventually flows into the Arkansas River in northeastern Oklahoma. Two of its tributaries, Flint and Barren Fork Creeks, have similar origins in the Ozarks, and flow generally west and south to converge with the Illinois River in Oklahoma.



For most of its length, the Illinois is bordered by agricultural lands.

The study area, totalling roughly 36,000 acres, encompasses 115 miles of the Illinois and its two tributaries, along with a $\frac{1}{2}$ mile wide corridor ($\frac{1}{4}$ mile either side of the streams). The 115 miles of streams studied comprise a drainage area in Oklahoma of approximately 900 square miles.

Thirteen miles upstream from its confluence with the Arkansas River in northeastern Oklahoma, the Illinois River has been dammed to form Tenkiller Ferry Reservoir for the purposes of flood control, water supply, power generation and recreation. The 12,900 acre conservation pool backs up generally to Horseshoe Bend Public Recreation Area (see map, page 16) which is the lower end of the study segment, and at times, flood pool waters may extend upstream almost to Tahlequah.

Lake Francis is a 570 surface acre reservoir created by an impoundment on the Illinois, north of Watts, Oklahoma. The reservoir serves as a water supply source for the community of Siloam Springs, Arkansas. Since Lake Francis backs up across the Oklahoma-Arkansas State line, its dam is considered the upstream limit of the Illinois study segment (see map, page 16).

A small narrow reservoir serving the recreation needs of the New Hope Ranch Youth Camp has been created about 4 stream miles west of the Oklahoma-Arkansas State line on Flint Creek. There is an additional impoundment on Flint Creek under State Highway 33 near Flint, Oklahoma (see map, page 16).

Though no impoundments are located on Barren Fork Creek, the waters of Tenkiller Ferry Reservoir may back up into the creek a distance of 3 stream miles during times of heavy rains.

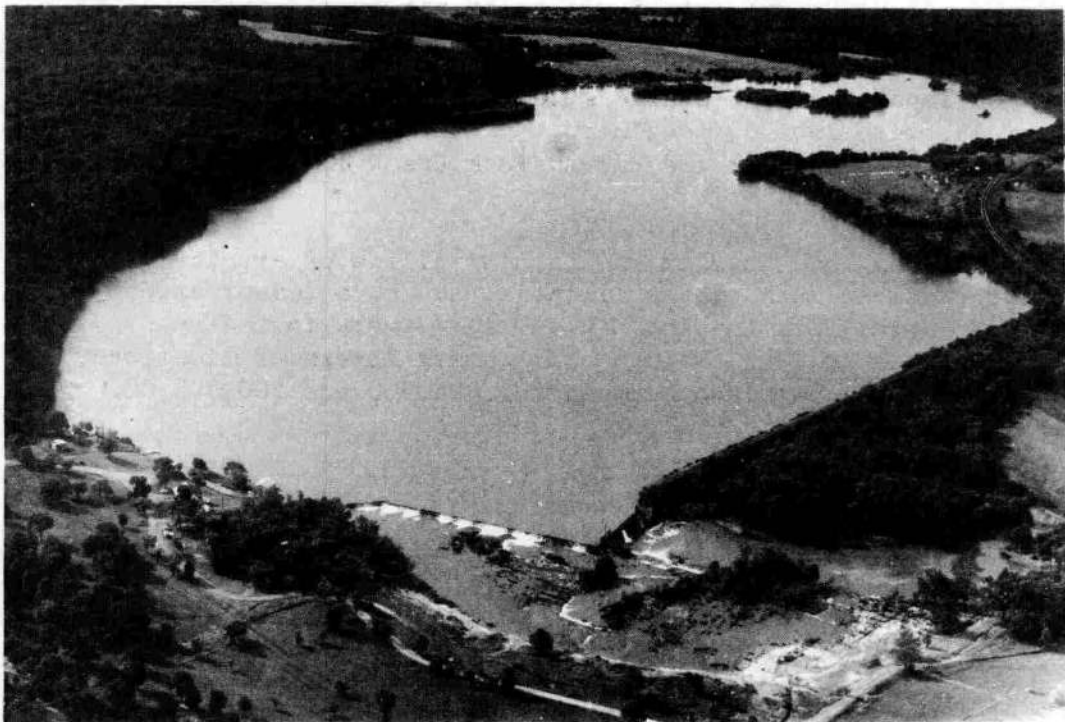


Tenkiller Ferry Reservoir is the largest impoundment on the Illinois River.

The Illinois River and its tributaries are among the primary tourism attractions in northeastern Oklahoma. Their recreation appeal draws tourists, mostly canoeists, from across Oklahoma, and from parts of Arkansas, Missouri, Kansas and Texas as well. Within a few hours driving time are the cities of Tulsa and Oklahoma City, Fort Smith and Fayetteville, Joplin, Wichita, and Dallas/Fort Worth.

No other streams in northeastern Oklahoma and few in the south central part of the Nation are as accessible or convenient to float as the Illinois River. Picturesque bluffs abut the river over much of its course, affording the user much scenic variety. The pastoral setting of an agricultural valley adds to the recreation enjoyment. Water quality continues to support a diverse fishery, although deteriorated from past years. Characteristic water clarity is one of the streams' most attractive attributes.

A significant chapter of Indian history evolves from the Illinois River area. It was there that the Cherokee Tribe, having been ousted from southern Appalachia and after enduring the infamous "Trail of Tears," founded their national capital at Tahlequah. Their cultural influence on the river valley area remains substantial to the present.



The spillway at Lake Francis is the upstream limit of the Illinois study segment.

RESOURCE CHARACTERISTICS

TERRAIN

Northeastern Oklahoma lies on the southwestern portions of the physiographic province known as the Ozark Uplift. Covering nearly 40,000 square miles in Missouri, Arkansas and Oklahoma, the Ozarks region includes much of Cherokee, Delaware, Adair, Wagoner, Muskogee, Ottawa, Mayes and Sequoyah Counties in northeastern Oklahoma.

The Ozarks region is bounded by the Arkansas River valley on the south and by the Grand and Spring Rivers to the west. Three physiographic sections comprise the Ozark Uplift, one of which is the Springfield Plateau. This plateau is deeply dissected, with rolling upland areas separated by V-shaped stream valleys. Generally, the valleys are between 200-300 feet deep. The study segments of the Illinois River, Flint Creek and Barren Fork Creek lie within the Springfield Plateau.

Geologic processes have created spectacular cliffs of erosion-resistant rock along much of the Illinois, and to a lesser extent on Flint and Barren Fork Creeks. These cliffs were formed by stream action cutting down through sedimentary layers of limestone, shale and sandstone deposited between 500,000,000 and 200,000,000 years ago in the Paleozoic Era.



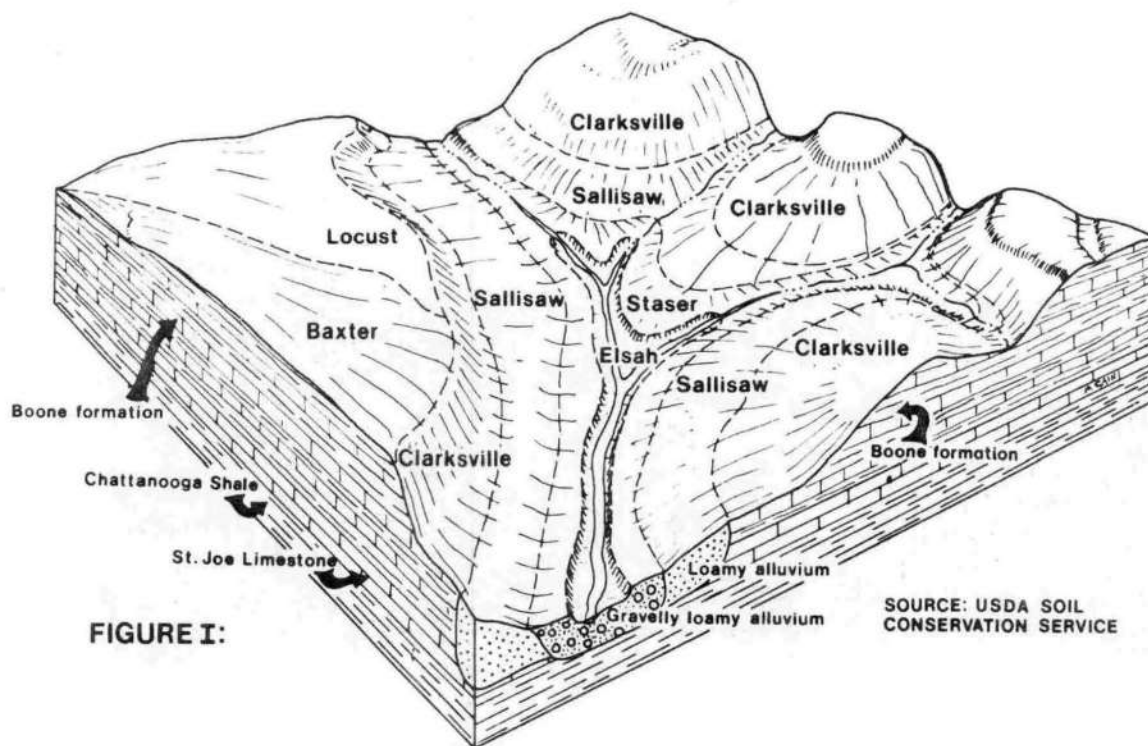
Dominant limestone cliffs such as these at Eagle Bluff characterize the Illinois River.

The following table demonstrates the types and locations of various rock strata. Layers are listed in ascending sequence.

Period	Name	Type	Color	Maximum Thickness
Ordovician	Burgen	sandstone	white, yellow	100'
" "	Tyner	sandstone	green, blue	100'
" "	Fite	limestone	grey	17'
" "	Ferndale	limestone	grey, pink	112'
Upper Devonian				
Lower Mississippian	Sylamore	sandstone	yellow, pink	2'
" "	" Noel	shale	black	71'
Mississippian	St. Joe	limestone	grey	70'
	Reed Springs	limestone	blue grey	175'
	Keokuk*	limestone	white, grey	70'

*Forms surface layer over 80% of the Springfield Plateau.

Layers of sand, gravel, silt and clay as much as 40 feet thick were deposited in the stream valleys during the more recent Pleistocene period. Today they are represented as terrace deposits above the present valley floors.



Typical Soil Associations

SOILS

The most common soils within the study area are of the Sallisaw-Elsah-Staser Association, which are characterized by loamy, clayey deposits along the streams. A high clay content gives a degree of instability to these soils, causing them to have a significant shrink-swell potential.

Land arising from the flood plains of the study streams contain soils of the Clarksville-Baxter-Locust Association. These soils have a coarse silty clay composition and drain rapidly. Because these soils are found in areas of extreme slope, they are easily disturbed and eroded.

The Soil Conservation Service has rated soils in the study area according to their capability for most kinds of farming, to the extent to which they can withstand certain types of development. (General soil capability for certain agricultural products, on a per acre basis, is given in Table V, page 55.) Ratings of slight, moderate, severe and very severe indicate soil limitations based on engineering characteristics. Due to the shrink-swell potential of the Sallisaw-Elsah-Staser Association, and because these soils are mostly located in flood plains, there are severe limitations for structural development. The Clarksville-Baxter-Locust Association soils with from 5 percent to 20 percent slope are rated as moderately to severely limited for recreation site or home construction, because of a high erosion potential. Slopes of 20 percent to 50 percent present severe to very severe limitations for recreation or second home use, again because of gullying and erosion.

An additional problem associated with the Clarksville-Baxter-Locust soils is their rapid permeability. Because they drain rapidly and are underlain by impermeable bedrock, vertical drainage is blocked and lateral drainage results, allowing eventual seepage into streams. Therefore, these soils are rated as having moderate to severe limitations for septic tank use.

CLIMATE

The area through which the Illinois River, and Flint and Barren Fork Creeks flow is characterized by a relatively pleasant climate, although temperatures may be extreme at times. During summer, the temperature will reach 100° F 10 or more days. The record high of 118° F was recorded at Tahlequah in August, 1936. Freezing temperatures are recorded an average of 90 days per year, with an official recorded low being -27° F at Watts in January, 1930. Average daytime temperatures are 49° F in January, and 92° F in July.

From 40-45 inches of rain fall each year. May is typically the wettest month with rainfall averaging over 6". Most precipitation occurs during intense thunderstorms, which are often accompanied by hail or tornadoes. Precipitation during fall and winter is less and does not come under such severe conditions. January is generally the driest month. Frozen precipitation averages 6-10 inches per year, but as much as 46 inches of snow and ice may fall in a year, as in the winter of 1969-1970.

With the last killing frost in mid-April, the growing season ranges from 179 to 205 days per year depending on topography, precipitation and other factors. The growing season ends with the first killing frost near the end of October.

Except for the north winds in January and February, prevailing winds are southerly and average 10-12 miles per hour.

GROUND WATER

Ground water is an important natural resource in the Illinois valley. Many farms and ranches obtain water for horticulture, pasture and drinking purposes from ground sources. Wells drilled into the Boone Formation yield averages of 3.5 gallons per minute (gpm). Thicker sections of Burgen sandstone yield between 5 and 15 gpm.

Springs in the study area are largely confined to the shallow-lying Boone Formation, which is severely weathered to form highly permeable material capable of storing large quantities of water. Ground water flows down gradient until it reaches an impermeable layer or until it is discharged as a spring at the surface. Springs are important here because they help furnish the perennial streams with water of a very high quality. At present the only detractive characteristic is hardness; some springs yield water hardened by calcium bicarbonate.

Since these springs are mostly found in the highly permeable Boone Formation, they and the streams into which they flow are quite susceptible to pollution from surface sources. Any polluting substance released into the Boone Formation aquifer or into any layer that might allow access to this Formation would permeate throughout the Formation rapidly.



Numerous springs furnish a constant supply of high-quality water to the study streams.

WATER QUALITY

In 1976, the Oklahoma State Department of Health contracted with the Oklahoma Department of Pollution Control to conduct a comprehensive water quality study of the Illinois River from Lake Francis to Tenkiller Reservoir in response to Section 208 of P.L. 92-500, the Federal Water Pollution Control Act Amendment of 1972. Included in the study were the lower ends of Flint and Barren Fork Creeks. The study was completed in August 1976 and its results are summarized below:

Lake Francis is in the late stages of eutrophication (the condition a body of water reaches when, because of mineral and organic nutrients, the dissolved oxygen level of the water favors plant over animal life). The eutrophic state is most probably caused by the nutrients and silt carried by the Illinois River upstream from and emptying into Lake Francis. The Lake Francis spillway discharge is responsible for 50 to 70 percent of the total nutrient contribution to the Illinois River in Oklahoma. High nutrient levels remain evident as far as 12 miles downstream from Lake Francis.

Flint Creek also is a major nutrient contributor. The creek receives wastewater effluent and stormwater runoff from Siloam Springs, Arkansas via Sager Creek, and it has been surmised that the point source discharge from the sewage treatment facility is the major factor in creating the high nutrient level in Flint Creek.

From 9 to 13 percent of the total nutrient load in the Illinois River is contributed by Flint Creek. By contrast, urban run-off and wastewater from Tahlequah contribute a total of approximately 2 percent. Barren Fork has a nutrient load approximately equal to Flint Creek (8 to 16 percent), but has a much greater average flow, thus indicating a more concentrated nutrient load in Flint Creek.

Recreation was analyzed with respect to its effect on water quality. The following is a quote from the survey report:

"Recreational use of the Illinois River was monitored chemically and biologically during this study. Chemical data do not show any significant nutrient loading due to public use, nor was there evidence of deterioration of water quality below recreational use areas. Biological data, however, suggested that recreational activity may cause a decrease in species diversity of fish in these areas. Benthic communities downstream from the Flint Creek confluence were indicative of stream conditions which could be attributed to organic enrichment and/or recreational use."

Chemical water quality gradually improves with distance downstream on the Illinois from Lake Francis to below the mouth of Barren Fork Creek. Biological tests indicate decreasing dissolved oxygen levels and increasing organic enrichment below recreation use areas and below the city of Tahlequah.

The study determined that, since Oklahoma contributes such a small percentage of nutrient loads (of which about 75 percent is runoff from forested areas, and therefore uncontrollable), attempting to regulate activities in Oklahoma to control the nutrient loading would, at best, reduce nutrient loading by 5 to 10 percent. It would be more practical and significantly more effective to investigate controlling the nutrient sources in Arkansas, which should allow significant water quality improvement in the Illinois, and slow the eutrophis rates of Lake Francis, Flint Creek, the Illinois River, and ultimately Tenkiller Ferry Reservoir. (End of Summary).

By contrast, the Water Quality Management Plan for the Middle Arkansas River Basin states that water in the Illinois River and its tributaries currently meets or exceeds a ranking of high quality according to State standards. The Oklahoma Water Resources Board has classified each of the three study streams according to water quality and has designated certain beneficial uses for each:

Table II
Beneficial Uses of the Study Streams

Beneficial uses*	Illinois River	Flint Creek	Barren Fork Creek
Public and private water supplies	X	X	X
Fish and wildlife propagation	X	X	X
Agricultural (includes livestock watering and irrigation)	X	X	X
Industrial & municipal cooling water			X
Receiving, transporting and/or assimilating adequately treated waste			X
Recreation, primary and secondary body contact**	X	X	X
Aesthetics	X	X	X
Smallmouth bass fishery	X	X	X

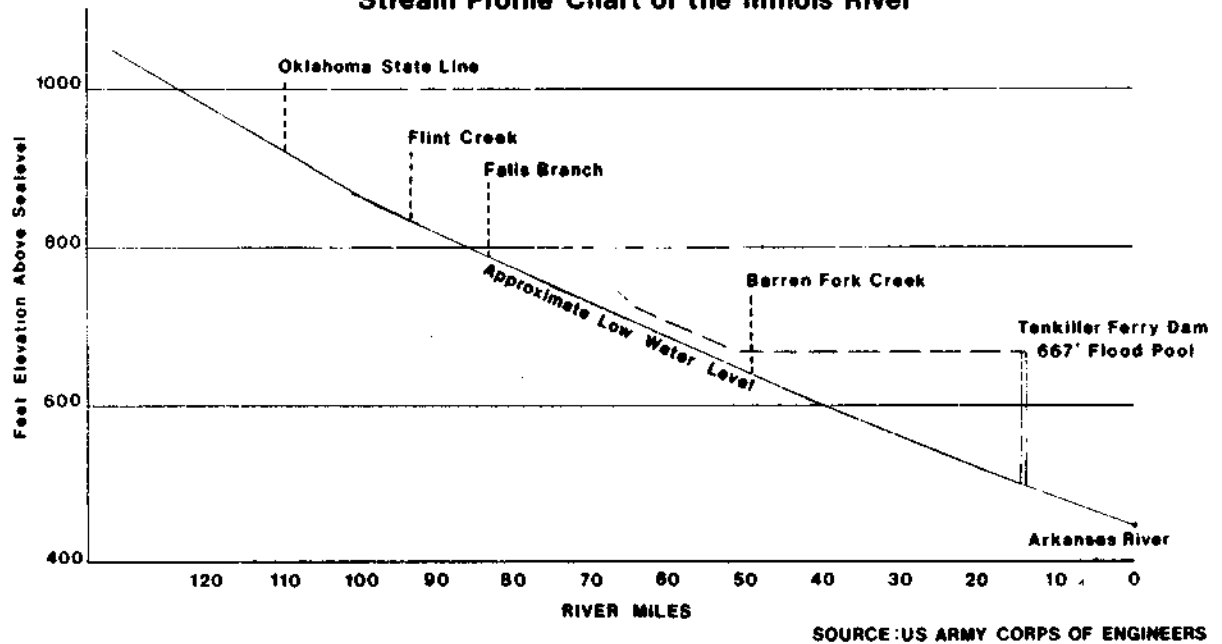
*An X indicates that the use or action may take place under present State water quality laws. Absence of an X indicates the reverse situation.

**Primary body contact - recreational uses where the human body may come in direct contact with the water to a point of complete body submergence. Secondary body contact - recreational uses such as fishing, wading, and boating where water ingestion is not probable.

FLOW CHARACTERISTICS

The Illinois River drops from 1600 feet elevation at its headwaters in Arkansas to 443 feet at its mouth on the Arkansas River. At the Oklahoma-Arkansas State line the river's elevation is 925 feet, and drops to 632 feet at Tenkiller Ferry Reservoir. This is a drop of 293 feet, or an average drop of 4.4 feet per stream mile within the study segment.
(Note: All elevations and distances are approximates.)

FIGURE II
Stream Profile Chart of the Illinois River



The amount of water that flows during certain seasons is an important factor in the analysis of recreation use of the Illinois River, and the Flint and Barren Fork Creeks. Adequate flows are critical in the summer months when recreational use peaks and the water is at a minimum. High flows on the Illinois, Flint and Barren Fork generally correspond to periods of highest rainfall--from April through June. Low flows characteristically occur during July, August and September, as well as in January which is typically the driest month. Springs play an important role in providing water for the streams during the drier months.

Despite seasonal variations in stream discharge, the Illinois can be floated throughout the year except during times of flood or in exceptionally dry years. Flint and Barren Fork Creeks are floatable in spring, early summer and fall, but because they are

smaller streams, low flows in late summer may prohibit floating. However, even during low flows, enough water remains in the two creeks to allow other important recreation uses such as swimming, wading and fishing.

Members of the study team have floated over 83 percent of the study streams. Of necessity, various segments were floated at different times of the year.

The following chart indicates dates and segments floated, and percentage of portaging necessary. Landmarks indicating put in and take out points for each segment floated are shown on the map, page 41.

Date	Stream	Segment Landmarks	Length (in mi.)	Flow*	Portage
10/7/75	Illinois	Fiddler's Bend to Hogshooter Bluff	8	376 cfs	0%
10/8/75	Barren Fork	Eldon to Welling	7	75 cfs	15%
5/11/76	Illinois	Hogshooter Bluff to No Head Hollow	17	467 cfs	0%
5/12/76	Illinois	No Head Hollow to Barren Fork Creek	21	722 cfs	5%
5/13/76	Flint	County Bridge to Fiddler's Bend	6	117 cfs	15%
6/6/76	Barren Fork	Baron to Eldon	20	244 cfs	10%
6/8/76	Illinois	Lake Francis to Fiddler's Bend	14	408 cfs	5%
6/9/76	Barren Fork	Welling Bridge to mouth	4	220 cfs	5%
6/9/76	Illinois	Barren Fork confluence to Horse-shoe Bend	3	852 cfs	0%

*Flow rates are taken from the U.S. Geological Survey gauging stations. Locations are listed below, and shown on the map, page 41:

Illinois River

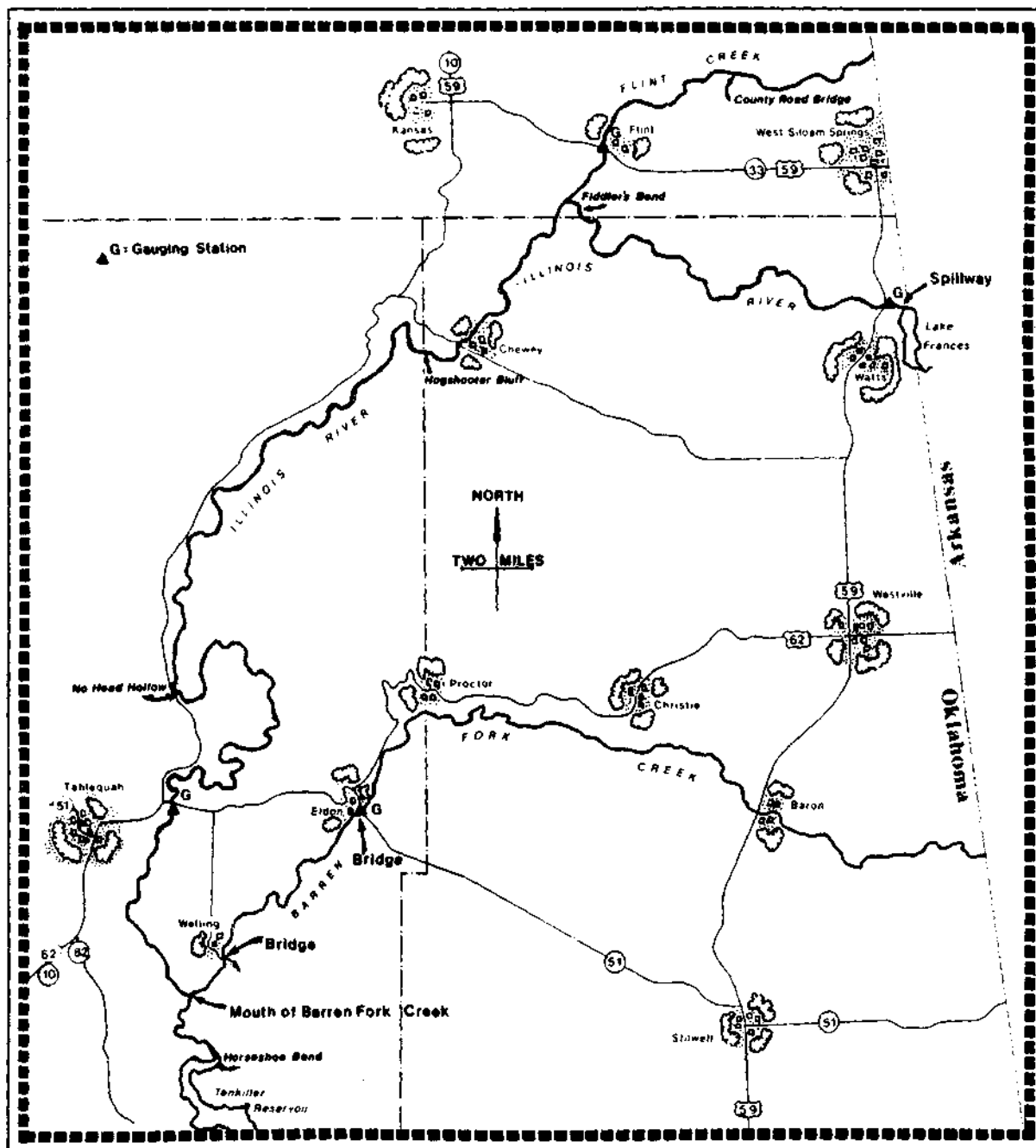
- near Watts, .8 mile below the Lake Francis spillway.
- near Tahlequah, .2 mile below the State Highway 62 Bridge.

Flint Creek

- at the State Highway 33 Bridge.

Barren Fork Creek

- near Eldon, at the State Highway 51 Bridge.



**SEGMENT LANDMARKS
AND
GAUGING STATIONS**

FLORA

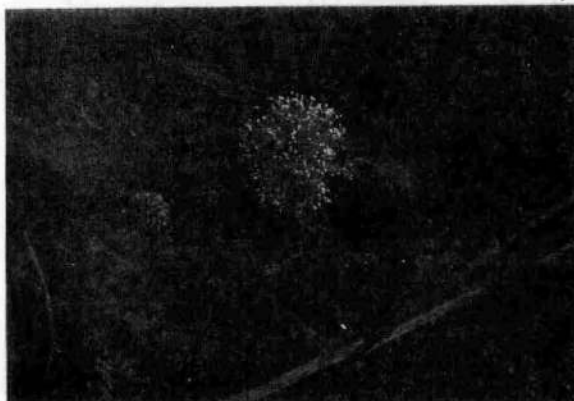
The Illinois River, Flint and Barren Fork Creeks are in the Ozark Biotic District (Blair and Hubbell, 1938), which extends eastward from Oklahoma into Missouri and Arkansas. Geographically, this area is characterized by the presence of Boone chert, which has been eroded to form hills, valleys, and bluffs to produce a rugged topography, and the physical features necessary to provide for a diverse vegetation. Timber yields from the Illinois River valley in general are shown in Table V, page 55.

Table III
Common Vegetation

Terrain	Trees	Lower Story
1. Dry hill slopes and crests	Principally: Blackjack and post oak, black hickory, winged elm. Occasionally: shortleaf pine.	Ground Cover: huckleberries, coral berry Shrubs: sassafras. Flowers: wild azaleas.
2. North facing slopes (with seepage zones and protected ravines)	Sugar maple, hop hornbeam, white oak, chinquapin, redbud, flowering dogwood, linden.	Shrubs: spice bush, wild hydranga, papaw, bladder nut, sassafras. Herbaceous plants: bloodroot, wild ginger, yellow dogtooth violet, mayapple, wild orchid, maidenhair fern.
3. Exposed limestone and chert bluffs	Red cedar, winged elm, blackjack oak.	Wildflowers: purple cliff brake, columbine, coneflowers, evening primrose.
4. Streamside and flood plain	Silver maple, redbush, American elm, cottonwood, sycamore, linden, oaks.	Herbs: lizard's tail.



A stand of ridge-top pine overlooks bottomland hardwoods.



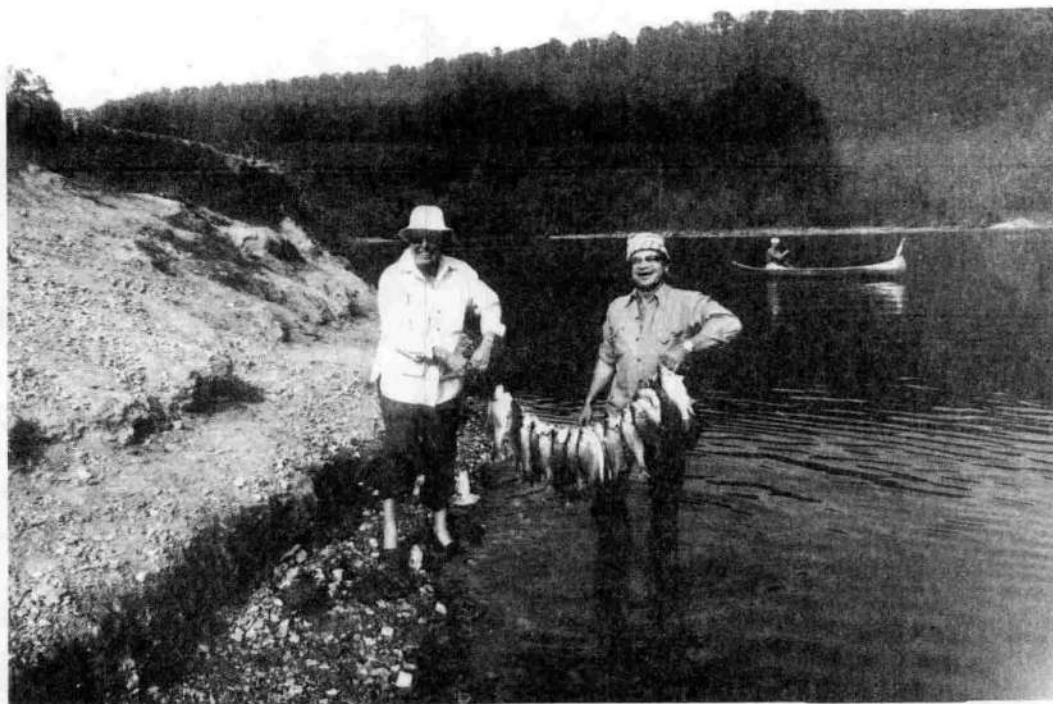
A variety of wildflowers can be found along the Illinois River.

FAUNA

Animals found in and on the Illinois River, Flint and Barren Fork Creeks are typical of the Ozarks region. The majority of the animal species found in this area are associated with the eastern deciduous forest and are at the western edge of their geographic range. Terrain, climate, and an abundance of water allow a diversity of animal species. (Appendix C provides a more complete listing of animal species.)

Fish

The three study streams afford probably the best stream fishing in Oklahoma. Moore and Paden (1950) describe the Illinois River as "possibly one of the richest rivers in the United States in regard to number of fish species," having found 92 species of fish in the river and believing that the number of species could possibly exceed 100. This richness can be attributed to several factors. The clear spring-fed Ozarkian water provides a stream environment which aids fish with a high dissolved oxygen content. Stream bottom composition is of chert gravel, with the bed rock in places exposing large boulders. A series of shallow riffles and deep pools occur on all three streams, providing a varied feeding and spawning habitat.



A spring run of sand bass provides plenty of action for anglers.

Game fish: Species include black and white crappie; largemouth, small-mouth, rock and spotted bass; channel catfish; warmouth; green and redear sunfish; bluegill; rainbow trout (occasionally).

Non-game fish: Non-game species account for the majority of fish numbers. Most diverse and unique among the fish groups found in the river system are the darters (family Percidae). These small fish are quite selective in their habitat preferences. Brook headwaters and spring habitat in northeastern Oklahoma are used almost exclusively by the Arkansas, strippled, fantail and orangethroat darters.

Of the 19 species of darters collected in northeastern Oklahoma (Blair, 1959), four have a limited distribution in the United States. Of the four, the strippled and redfin darters have been collected from the Illinois and its tributaries. Another, the longnose darter, one of Oklahoma's rarest fishes, occurs in a few Ozark streams, and may or may not inhabit the study streams.

Amphibians

The amphibians are probably the most unique group of animals found in the Illinois River basin of Oklahoma. The numerous limestone caves provide habitat for many salamanders which are restricted in distribution to the Ozark region of Oklahoma, Arkansas, and Missouri. The ringed salamander, Oklahoma dwarf salamander, and the Ozark blind salamander are only found in Oklahoma in Adair, Cherokee, and Delaware Counties (Dr. Jeffrey Black, personal communication). All three salamanders are considered rare in Oklahoma by the Rare and Endangered Species of Oklahoma Committee, an ad hoc committee of concerned Oklahoma biologists interested in identifying threatened species and publicizing pertinent information. Both the cave salamander and Ozark blind salamander live as adults in the caves of northeastern Oklahoma. Frequently observed amphibians include:

Common Salamanders - Tiger, small-mouthed and slimy salamanders; Louisiana waterdog; central newt.

Frogs and Toads - Bullfrog, green frog, grey tree frog, southern leopard frog, Blanchard's cricket frog; American, Hunter's spadefoot and eastern narrow-mouthed toads.

Reptiles

The turtles, lizards and snakes are well represented in the Illinois river basin. Frequently observed species include:

Turtles: Common snapping turtle, three toed box turtle, Mississippi map turtle, red-eared turtle, spiny soft-shelled turtle.

Lizards: Eastern fence lizard, five lined skink, eastern collared lizard, southern coal skink, prairie lined racerunner.

Snakes: Poisonous-northern copperhead, western cottonmouth, timber rattlesnake and western pigmy rattlesnake.
Nonpoisonous-eastern yellow-bellied racer, prairie kingsnake, speckled kingsnake, coachwhip, prairie ringneck snake, blotched watersnake, diamond-back watersnake, western ribbon snake, brown snake, black rat snake, milk snake, flat-headed snake.

Also found within the study area are the northern red-bellied snake and the midland water snake. These two are limited in distribution to eastern Oklahoma.

Birds

The study area abounds with bird life. Common species include the great and little blue heron, turkey vulture, red-tailed hawk, bald eagle, osprey, American kestrel, killdeer, belted kingfisher, red-bellied and red-headed woodpecker, cliff swallow, and the ruby-throated hummingbird. The golden eagle, a raptor associated with the western United States, has been seen on the Illinois River. Fifty-two heron nests were observed in one tree on the Illinois River above Chewey bridge. Another rookery is located in a slough near Horseshoe Bend on the Illinois River.



A single sycamore supports a large number of great blue heron nests.

Numerous songbirds can be heard and seen, such as the carolina chickadee, tufted titmouse, white breasted nuthatch, Bewick's wren, mockingbird, robin, wood thrush, red-winged blackbird, and the northern oriole.

Game birds include the turkey, bobwhite quail and mourning dove.

Mammals

Mammals are more secretive and less observed in the study area than the other four vertebrate classes. Many are nocturnal. Others frequent areas of dense vegetation and remain concealed from the streams. Typical mammals inhabiting the study area are the white-tailed deer, bobcat, raccoon, opossum, striped skunk, muskrat, beaver, eastern cottontail, fox squirrel, gray squirrel, and the southern flying squirrel. Red and gray foxes and coyotes are less common, and black bears, mink, and mountain lions are rarely observed.

The numerous limestone caves and sinks along the Illinois River provide valuable habitat for a number of species of bats. The big brown bat, red bat, and eastern pipistrel have been recorded as inhabiting the Illinois River area. The gray myotis, a bat listed by the U.S. Fish and Wildlife Service as endangered, occurs in a few caves along the Illinois River. These bats gather in large hibernating groups in Missouri, Arkansas and Oklahoma where the species is very vulnerable to human disturbance. The Indiana myotis, another Federally listed endangered species, has been collected from Adair County, Oklahoma. A cave along the Illinois River in Adair County is the only Oklahoma locality known for the eastern subspecies of the Townsend's big eared bat, which only lives in damp limestone caves.



Deer abound throughout the study area.

VII

CULTURAL AND SOCIO-ECONOMIC CHARACTERISTICS

PRE-HISTORY

No comprehensive archeological survey has been conducted in the study area. However, findings at fifty-five archeological sites along or near the Illinois, Flint, and Barren Fork and during the excavation work at Tenkiller Reservoir indicate rich and significant archeological resources.

In the area, the estimate at chronology is represented as:

Late Prehistoric	Fulton Aspect	Fort Coffee Focus
Temple Mound	Gibson Aspect	Spiro phase
Early Ceramic	Woodland	
Pre-ceramic	Archaic	Grove Focus Archaic

HISTORY

In the historic period, this valley region was the domain of the Osage Nation, who had pushed down from the north. Contact and mutual understanding were made by the Osage people with the Spanish and French who filtered into the area. The European-Osage trade relations provided the basis for a stable existence.

The character of the valley began to change abruptly in the late eighteenth century as the Cherokee people began to move into the area. The size of the migration of the Cherokee people mounted in the first decades of the

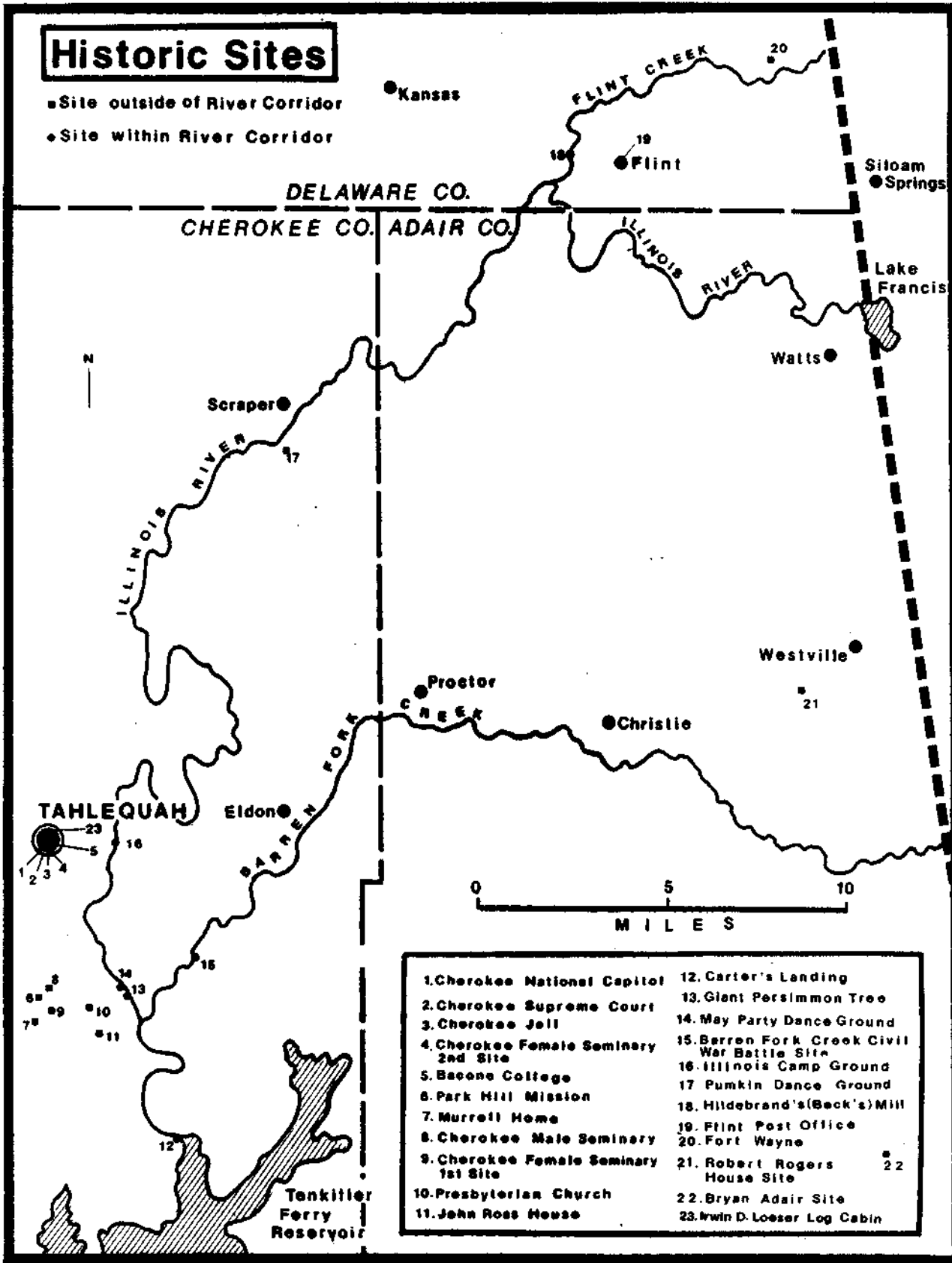
nineteenth century. The Cherokees wrested control from the Osage in 1817 with the decisive battle of Claremore Mound. Forced migration of the remaining Cherokee people in the decades of the twenties and thirties brought about a stronger Cherokee Nation in the west that survived as a republic until the creation of Oklahoma as a State in 1907.

The earliest historic events in the Cherokee Nation, such as its creation in the west in 1839, took place on the banks of the Illinois River. Significant development took place in Park Hill and Tahlequah, which were the intellectual and political centers of the Cherokee Nation.

Historic sites within or near the study area appear in Appendix D, and are shown on the map on page 50. Names and locations of these sites were provided by the Oklahoma State Historic Preservation Officer.

Historic Sites

- Site outside of River Corridor
- Site within River Corridor



POPULATION

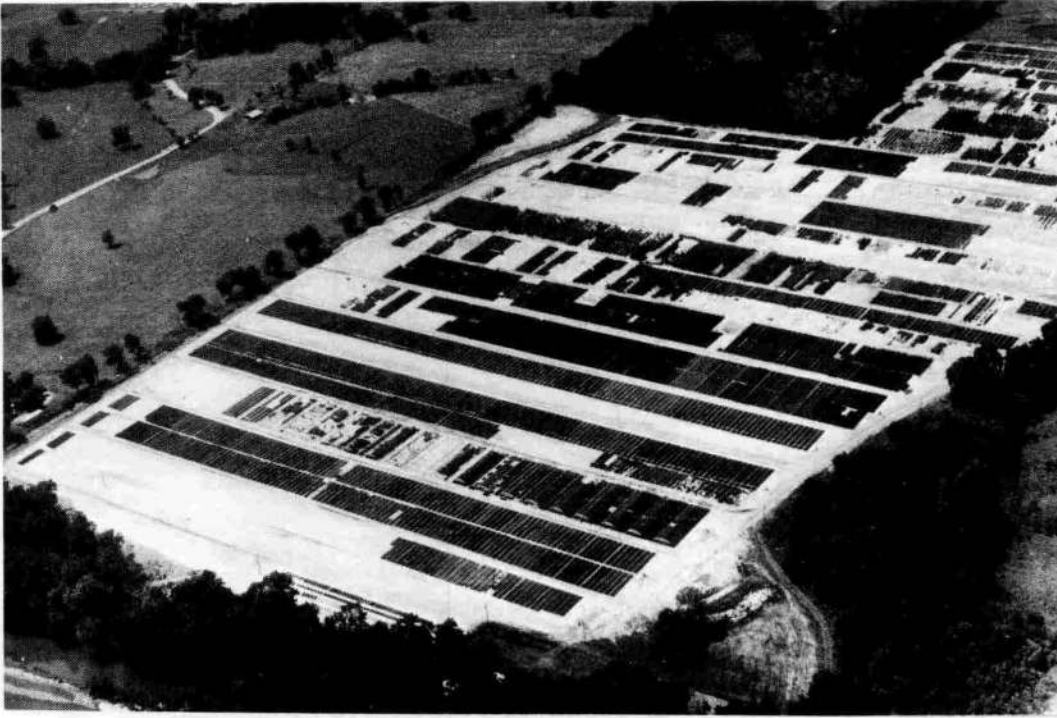
The population of Adair, Cherokee and Delaware Counties is predominantly rural. During the two decade period of 1950-1970, the total population of the three-county area first declined and then increased. The fluctuation was accompanied by an overall decline in the rural-farm population from 26 percent of the total to 18 percent. From 1950-1960, migration accounted for most of the population loss in the three county area. However, during the decade from 1960-1970 population gains were affected more by people moving into the three counties than by natural increase (births less deaths). That trend still holds. The three county area, especially Cherokee County, is currently experiencing a significant population increase which is typical of what is happening throughout the Ozarks-Ouachita region.

Based on the 1970 census, approximate current populations of communities in the vicinity of the study streams are: Tahlequah, Oklahoma, 10,500; Siloam Springs, Arkansas, 7,500; Stillwell, Oklahoma, 2,500; and Westville, Oklahoma, 1,050. Smaller communities along the Illinois River include Watts, Chewey and Ellerville, and along Barren Fork are Christie, Proctor, Eldon and Baron.

EMPLOYMENT

In the recent past, the primary occupation of residents of Adair, Cherokee and Delaware Counties has been directly or indirectly associated with agriculture. From 1940 to 1970, however, the majority of employment shifted from the agricultural industry to the manufacturing and services sectors. The three counties' agricultural employment has fallen from 62 percent of the total employed in 1940 to 10 percent in 1970. Employment in manufacturing has grown from 7 percent in 1940 to 17 percent in 1970. With the number of farms declining, a larger portion of the remaining farm operators have tended toward holding jobs away from the farm. For example, in 1969 over one-half of all farm operators in the three-county area were employed off-farm annually 100 days or more. This is an increase of 10 percent as compared to a decade earlier.

Two plant nurseries are among the largest single employers in the area, with approximately 800 persons employed along or near the study segments. Both nurseries are located on the west bank of the Illinois River, one within the study segment at the southern arc of Sparrowhawk Loop near Camp Lutheroma, and the other near the junction of State Highway 82 and the Illinois River, which is below the study segment. Services employment (for example - hospitals, gas stations, food chains, etc.) has risen from 11.8 percent in 1940 to 34 percent of the total work force in 1970. Comprising the remainder of the work force are jobs related to construction and retail trade, which are growing in percent of total employment, and the tourism-recreation industry which also is showing significant growth trends.



Two nurseries, one within the study corridor and the other below it, are among the largest employers of the area. Both nurseries are located on Staser soils.

ECONOMY

Although the Illinois River, the Flint and Barren Fork Creeks and their adjacent lands are locally economically significant resources and support diverse livelihoods, Adair, Cherokee and Delaware Counties are economically depressed. Among the reasons for this is the absence of such natural resources as oil, gas, and abundant deep, fertile soil. Existing poor soil conditions place limitations on farming. Although marketable minerals are present (mostly limestone, sand, gravel, asphalt and chert), marketing centers are too far removed to encourage expansion of the mining and mineral industry. The timber resource which occupies much of the three county area is only of marginal economic significance. There are no large industrial complexes in the vicinity of the study area.

Net assessed valuations for the three counties illustrate their comparative economic state. Out of 77 counties in Oklahoma, Tulsa County ranked first in 1976 for assessed value at \$1,108,341,083. The following chart shows the rankings of the 3 county study area:

County	Ranking	Assessed Evaluation
Delaware	48	\$24,533,273
Cherokee	57	\$19,610,336
Adair	76	\$ 9,900,086

The tax base in the three counties is relatively low, making it difficult for the county governments to operate effectively. For instance, Cherokee County government operates on a 10 mil ad velorum tax (\$10 for every \$1000 assessed value). The tax base has been continually eroded as private lands were purchased for public purposes and taken off the tax roles. Examples of such public lands are Lake Tenkiller, Camp Gruber Military Reservation, Cookson Hills Game Refuge, and lands for Indian housing projects. Cherokee County ranks 74th Statewide in corporate assessment (utilities and corporations), but third in double homestead claims, with double tax exemptions provided to the homesteaders.

Table IV

SELECTED SOCIAL CHARACTERISTICS

CHARACTERISTIC	ADAIR COUNTY	CHEROKEE COUNTY	DELAWARE COUNTY	STATE
1. Population for 1975	16,300	25,400	19,800	2,712,000
2. Projected population for year 2000	21,846	47,610	33,927	3,773,000
3. Rural population	100%	60%	100%	31%
4. Civilian labor force unemployed	6.0%	6.3%	4.5%	4.2%
5. Persons employed in county of residence	62.9%	68.0%	58.1%	83.1%
6. Persons employed outside county of residence	25.0%	21.3%	35.8%	11.3%
7. Per capita income	\$1572	\$1845	\$1867	\$2723
8. Families below poverty level	41.7%	28.0%	30.8%	15.0%
9. Families over \$15,000	4.3%	5.5%	4.9%	13.0%

AGRICULTURE AND HORTICULTURE

Agriculture and its related practices are the dominant economic activities in the Illinois watershed.

Although there has been a decline in the number of farms and ranches, agriculture is an expanding industry in terms of value of production and quantities of products sold. This expansion is possible because of increased agricultural efficiency.

Within the study area, the primary agricultural product is beef cattle. In addition, several dairy herds are in operation. Poultry farms, both chicken and turkey, are also a major agricultural practice. Wheat and soybeans are the largest crops produced. Green beans and purple hulled peas are important row crops. One nursery is located along the Illinois River study segment, seasonally employing approximately 400 people. Approximately 300 acres of orchards - apple, peach, pear and pecan - draw capital from outside the study area thus creating additional cash flow. Timber production makes a marginal contribution to the economic base.

Though the study area encompasses roughly 36,000 acres, certain economic activities immediately outside this area are directly dependent on the streams. For instance, the heart of a nursery or cattle ranch is in the bottomland. The entire operation depends ultimately on a relatively small percentage of river-front acreage.

The following table summarizes the major agricultural and horticultural practices in and near the study area during 1976. Figures are approximate, but indicate the economic importance of the streams.

Table V
Major Agricultural and Horticultural Practices

Activity	Extent of Activity	Annual Production Per Unit	Current Annual Gross Value
Hay and beef production	18,472 acres	140 bales of hay/acre and 570 pounds of beef/acre	\$11,314,000
Nurseries	80 acres	37,500 plants/acre/1.2 years	\$ 3,750,000
Poultry-chicken broilers chicken layers turkey broilers	29 houses 8 houses 5 houses	20,000 birds/house 8,000 birds/house 30,000 birds/house	\$435,000 \$204,000 \$750,000 \$ 1,389,000
Dairies	9 herds	1,750,000 pounds of milk/nerd and 14 cull cows/herd	\$ 862,500
Orchards-apple, pear, peach and pecan	300 acres	350 bushels/acre	\$ 300,000
Green beans	640 acres	8000 pounds/acre	\$ 218,000
Wheat, soybeans	1279 acres	2280 pounds of wheat/acre and 2150 pounds of beans/acre	\$ 201,000
Forest products*	10,557	30 cubic feet/acre	\$ 190,000
Beef production on grazed woodland	7212 acres	100 pounds of beef/acre	\$ 180,300
Hogs	10 herds	140 feeder pigs/herd	\$ 61,300
Horses	4 herds	10 colts/herd	\$ 30,000
Purple hull peas	160 acres	3000 pounds/acre	\$ 24,000
Honey	200 hives	30 quarts/hive	\$ 18,000

TOTAL: \$18,538,900

* Figures given reflect 1976 standing value and not annual gross.

RECREATION ENTERPRISES

The tremendous growth in outdoor recreation and tourism in the past decade ushered in a supplemental form of income for some landowners in the study area, especially along the Illinois River. Many found that more income could be gained using their lands as recreation bases in addition to or in lieu of farming and ranching.

As a result, 25 canoe liveries currently operate along the Illinois River (see map, page 70). In 1976 there were approximately 2110 rental canoes available, each canoe annually grossing over \$500, or a \$1,173,000 total gross for the entire valley. Related support facilities such as cabin rental and restaurants grossed an additional \$180,000 annually. Twelve of the livery operators also conduct full or part time farming or ranching operations.

Popularity of floating the Illinois River can be expressed in terms of supply as well as demand. For instance, canoes were rented only 600 times in 1970. In 1975, canoes were rented 36,000 times, a 6000 percent increase in demand within the five year period. These rentals were from 22 canoe liveries with 1488 canoes and 200 rubber rafts. By mid-1976, more than 2100 rental canoes were available, resulting from new canoe liveries which opened during the year as well as from additions to existing liveries. This is a growth in supply of 41 percent from the previous year. As of the end of the recreation season in 1977 there were over 2200 livery canoes. A recent livery inventory by the Scenic River Commission (February, 1978) counted just over 2500 rental canoes.



Numerous canoe liveries help provide floating opportunities for the public.

ECONOMIC GEOLOGY

Deposits of sand and gravel are abundant along the Illinois River, and along Flint and Barren Fork Creeks, but they are rarely used except as surface material for local roads. Within Cherokee County, mineral resources also include limestone, asphalt, and Tripoli (a weathered chert used in buffing compounds). Limestone is the most common mineral in the area and some is mined commercially for the production of cement. One deposit of glass sand has been identified in the study corridor of the Illinois River in northern Cherokee County, but it has not been mined.

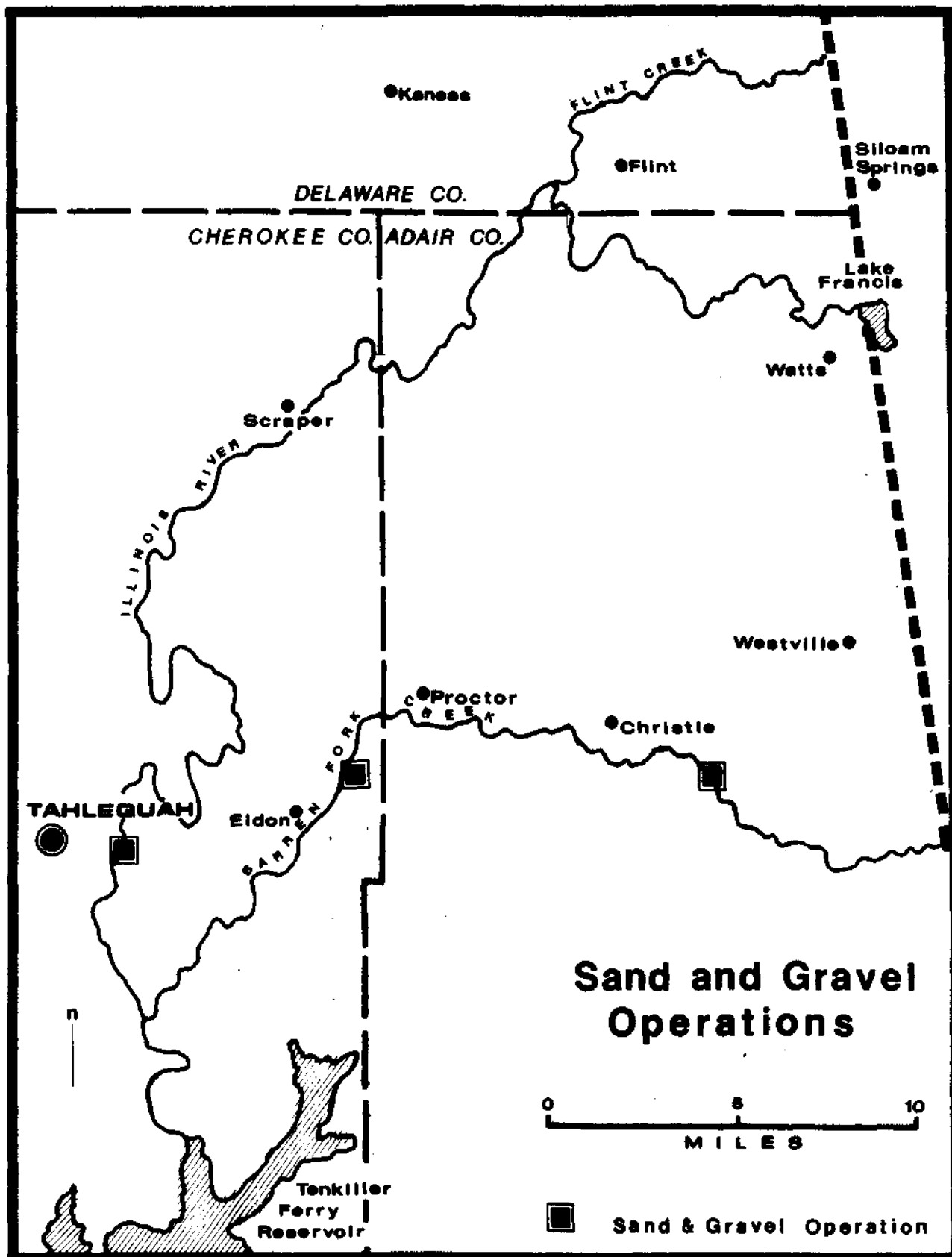
Currently, there are 3 sand and gravel operations holding mining permits along the three study streams (see map, page 58). The Oklahoma Water Resources Board is the State agency with jurisdiction over mineral removal and construction permits in the riverbed. Under Section 404 of Public Law 92-500, the Water Pollution Control Act Amendments, the U.S. Army Corps of Engineers administers a permit program for dredge and fill (mining) activities on U.S. waters. The Corps will not issue Section 404 dredge and fill permits unless the appropriate State official, which in Oklahoma is the Director of the Oklahoma Water Resources Board, first issues a water quality certificate for the dredge and fill operation under Section 401 of the Water Pollution Control Act.

According to the U.S. Bureau of Mines, mining and minerals contribute little to the economy of the study area. The reason for this is not because of a lack of commercially significant minerals, but because of a lack of nearby marketing centers. Tulsa, which is the nearest large city (75 miles northwest of Tahlequah), has a closer source of aggregate. Also, there are no major railheads in or near the study area, and trucking the aggregates over long distances becomes too expensive.

RECREATION AND TOURISM

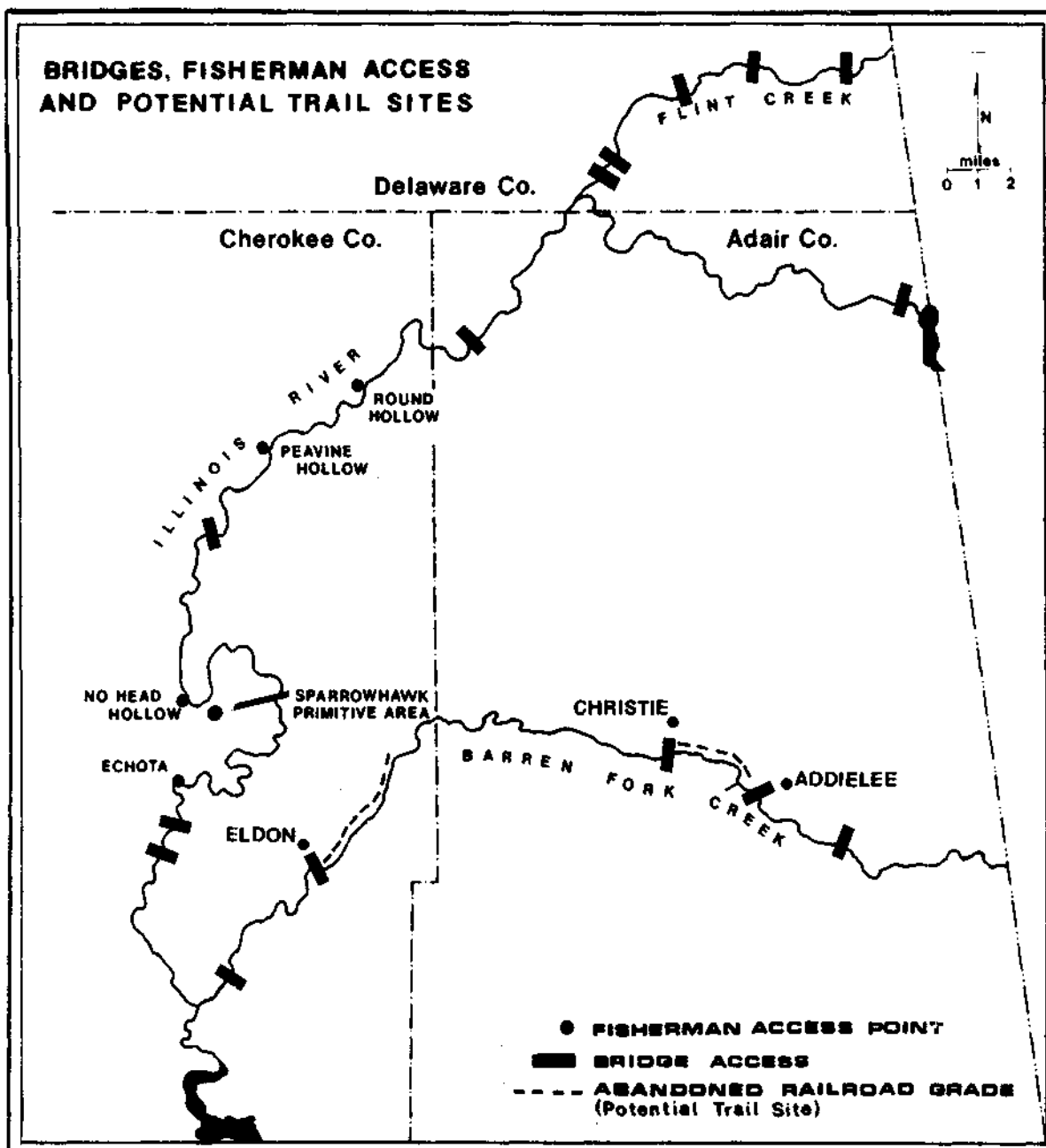
The primary recreation attraction in northeast Oklahoma is the water of area reservoirs and streams. Tourism in Adair, Cherokee and Delaware Counties continues to grow and stands second only to agriculture on the scale of economic value. In 1970, State and out-of-State tourists spent nearly five million dollars in the 3-county area, and by 1974, the figure had climbed to over seven million dollars.

Interpretation of the colorful Indian history and culture is a major tourism attraction. Tsa-La-Gi Cherokee Village and outdoor drama 3 miles south of Tahlequah on U.S. Highway 62 draws thousands of tourists annually. The drama, held in an outdoor amphitheater, depicts the story of the removal of the Cherokee tribe from southern Appalachia to northeastern Oklahoma, and the suffering they experienced while enduring the "Trail of Tears."



The Oklahoma Department of Wildlife Conservation manages several fisherman access sites adjacent to the Illinois River, shown on the accompanying map:

Area	Acreage
Echota Public Use Area	10
Sparrow Hawk Primitive Area	575
No Head Hollow Public Use Area	3
Peavine Hollow Public Use Area	60
Round Hollow Public Use Area	80



These sites have parking, canoe launching areas and toilets only. Sparrow Hawk Primitive Area includes a hiking trail up to a scenic overlook which affords an inspiring view of the Illinois River valley.

The Wildlife Conservation Department has indicated that it has reached a point where it can no longer meet public recreation pressures on the Illinois River. Each year fewer State maintenance funds are available, and these stream access areas continue to deteriorate. Accumulating litter creates eyesores and has been a source of concern to valley landowners. The situation is compounded by the amount of recreation use these sites receive. By nature of the Federal Dingell-Johnson funds used to acquire and maintain the sites, these areas were originally intended exclusively as fisherman access sites, but are serving additionally as launch sites for several canoe livery operations, and campgrounds for the general public. As proposed in the recommendation, administrative authority should be transferred to the Scenic River Commission so that adequate annual operation and management funding can be assured, and so the site can be appropriately used for the benefit of all river recreationists.

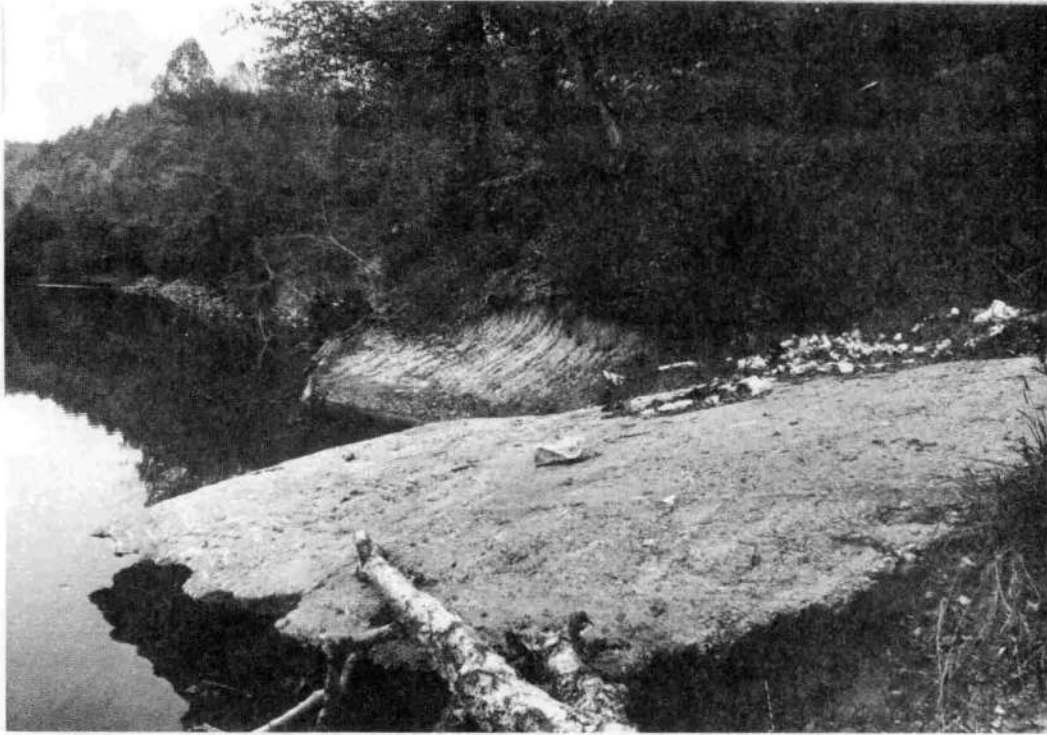
As mentioned under RECREATION ENTERPRISES, use of the water in the Illinois, Flint and Barren Fork is economically important in terms of the recreation dollars which the streams attract from Oklahoma and the surrounding States. There are few places in this part of the nation where a tourist can rent a canoe and arrange put-in and take-out shuttling as readily as on the Illinois. This convenient use is due largely to the 25 canoe liveries currently operating on the river. These liveries are increasing every year in terms of numbers of businesses and total rental canoes available. They have grown with recreation demand, and if current trends continue, both the demand and the businesses will continue to grow.

It has been recognized that as recreation continues to increase, visual impacts, litter and water quality degradation may impair the quality of the recreation experience currently available.

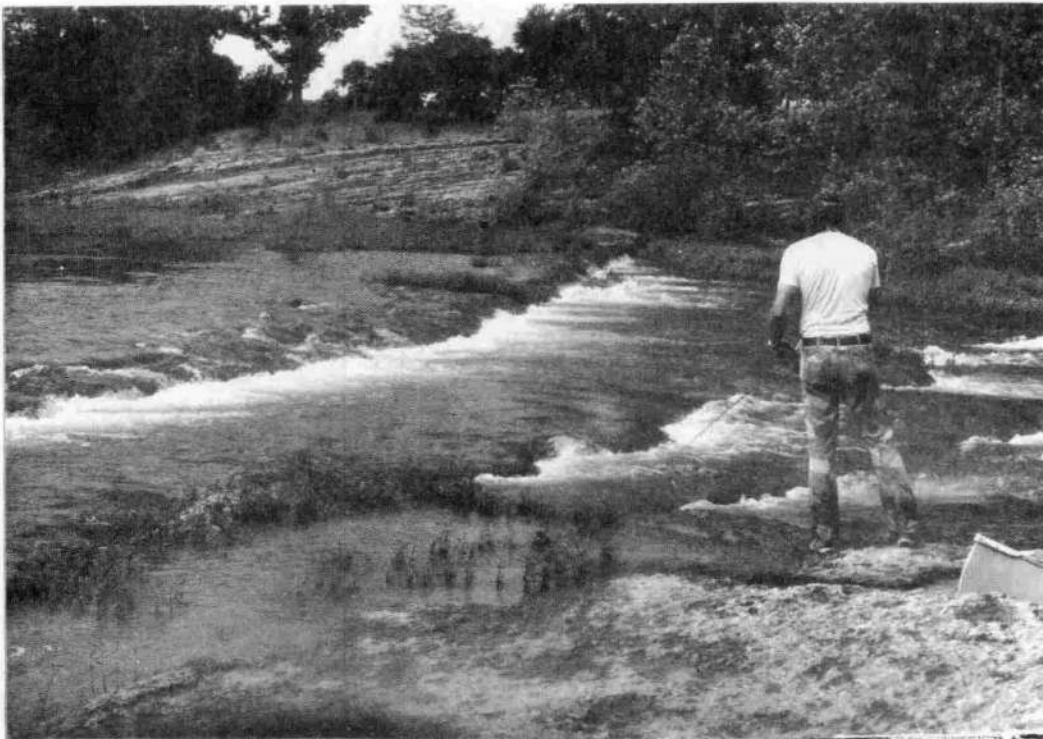
Within the past few years, litter left by recreationists has become a problem. Livery operators are attempting to deal with this problem by periodically cleaning portions of the river. Yet, confrontations between landowners and users involving littering and trespass continue to become more and more frequent.



Litter poses problems at fisherman access sites.



Litter accumulates at a public canoe launching ramp.



Barren Fork Creek provides excellent fishing for smallmouth bass.



A boy heads for a refreshing plunge into the cool waters of Barren Fork Creek.



The placid Illinois provides relaxation to two canoeists.



Fishermen wait patiently for the big one to strike.

Resource overuse relates directly to concentration of use, and recreation use on the Illinois River is definitely concentrated. Heaviest use occurs on summer weekends, between Chewey Bridge and Echota Public Use Area, a 30 mile stretch of river. Spreading use to occur on weekdays, during spring and fall months and over a wider area of the river and its tributaries would allow dilution of present intensity of use. This could be achieved by additional access points at strategic locations, explanatory literature as part of a public awareness program and by reducing canoe rental rates during weekdays (as is presently done by canoe livery operators).

It is difficult to accurately estimate the number of river trips made per year in privately owned canoes. As mentioned earlier, public canoe access is provided at the four Department of Wildlife Conservation areas on the Illinois River, as well as at many of the bridges that cross the Illinois, and Flint and Barren Fork. In addition, fee access is provided for those that use their own canoes at several of the canoe liveries and across private property of various landowners. This use is not monitored or measured, but conservative current estimates for total annual recreation use (including both rental and private canoes) are:

Canoeing	- 60,480 trips/year
Fishing	- 17,510 occasions/year
Swimming and wading	- 29,080 occasions/year

LAND OWNERSHIP

Land ownership in the Illinois River valley is largely private. Of the 36,480 acres of land within the study corridor, approximately 90 percent is privately owned. Generally, ownership is in relatively small parcels.

For example, from the State Highway 62 bridge near Tahlequah upstream to the Oklahoma-Arkansas State line, there are approximately 245 land tracts held by 137 landowners fronting or within 300 feet of the Illinois River. At least 28 landowners own more than a half mile of river front. Along Barren Fork Creek there are 89 river front landowners owning 98 tracts that total 8318 acres. The average holding is less than 100 acres.

Public ownership of land along the three study streams comprises about 10 percent of the total. Approximate public acreages are listed below:

U.S. Army Corps of Engineers	3500 acres*
Oklahoma Dept. of Wildlife Conservation	725 acres
Oklahoma Department of Highways	28 acres

*All lands below the 667 foot elevation line along the Illinois River and Barren Fork Creek were purchased by the Corps of Engineers for construction and operation of Tenkiller Reservoir.

LAND USE

Land use in the study corridor is predominantly agricultural. The only significant forms of commercial activity are the canoe liveries and associated recreation developments and services, and one nursery. Vacation homes development is a growing form of land use.

Important land uses adjacent to the streams are:

Use	Approximate Acreage
Improved pasture	18,500
Row crops	2,000
Second home developments	1,700
Nurseries and orchards	400
Commercial, private and public recreation	1,000
TOTAL	23,600

Other forms of land use include residences, vacation cabins and poultry operations. The remainder of the land is mostly flood plains and forest.

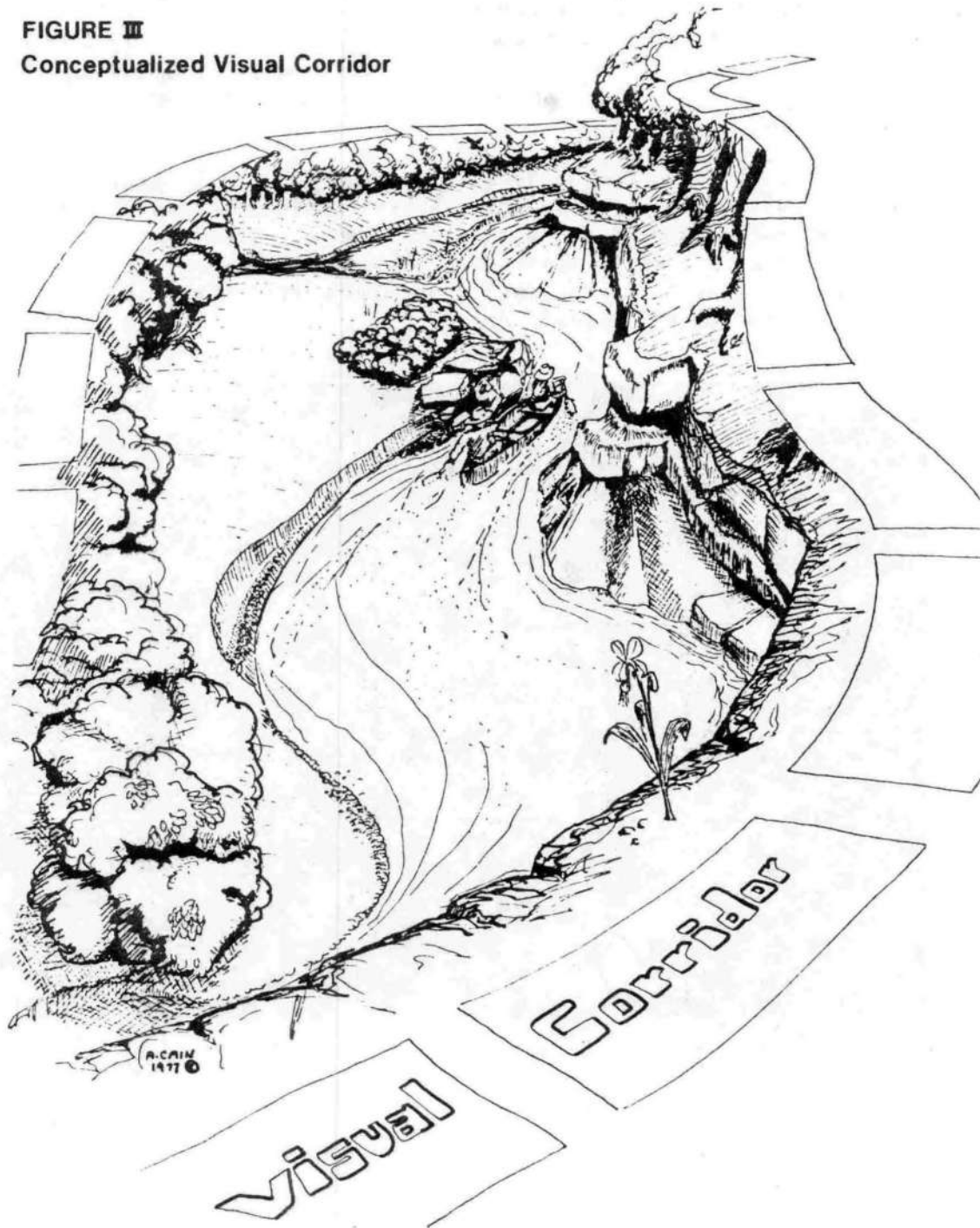
DEVELOPMENT

Various developments can be seen while canoeing the Illinois, and Flint and Barren Fork. Many more, however, are shielded from view by a dense vegetative screen and high stream banks. The vegetative screen is most effective when the trees and shrubs are in full foliage. A sense of isolation is retained over many parts of the streams due to the restricted visual corridor.



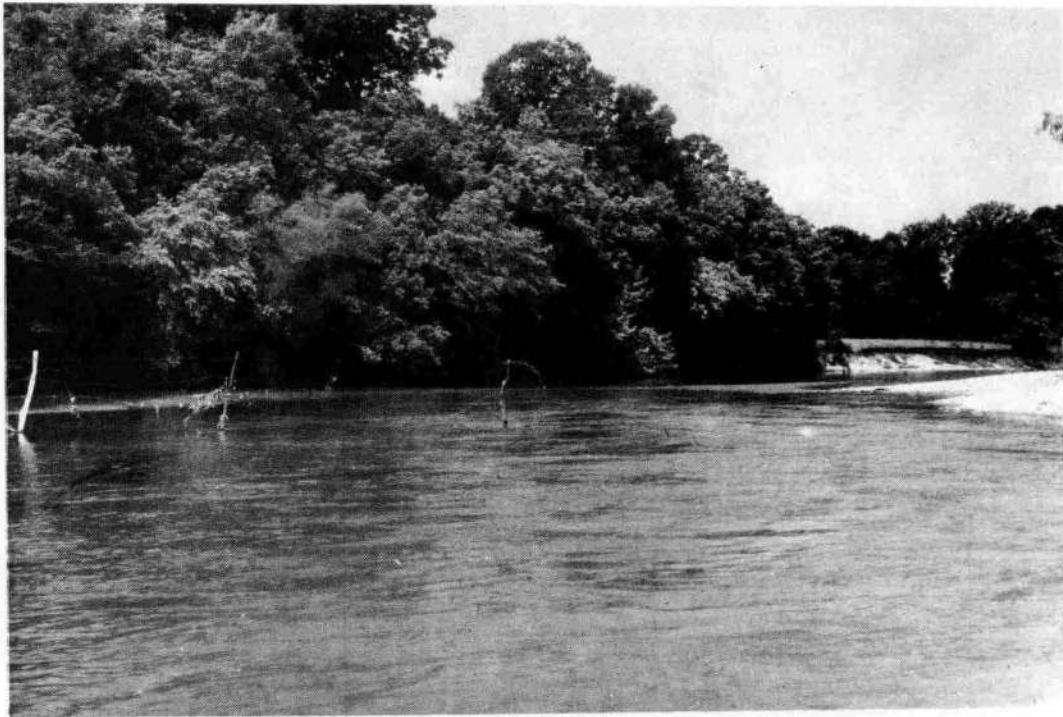
Streamside vegetation effectively screens much of the adjacent development.

FIGURE III
Conceptualized Visual Corridor

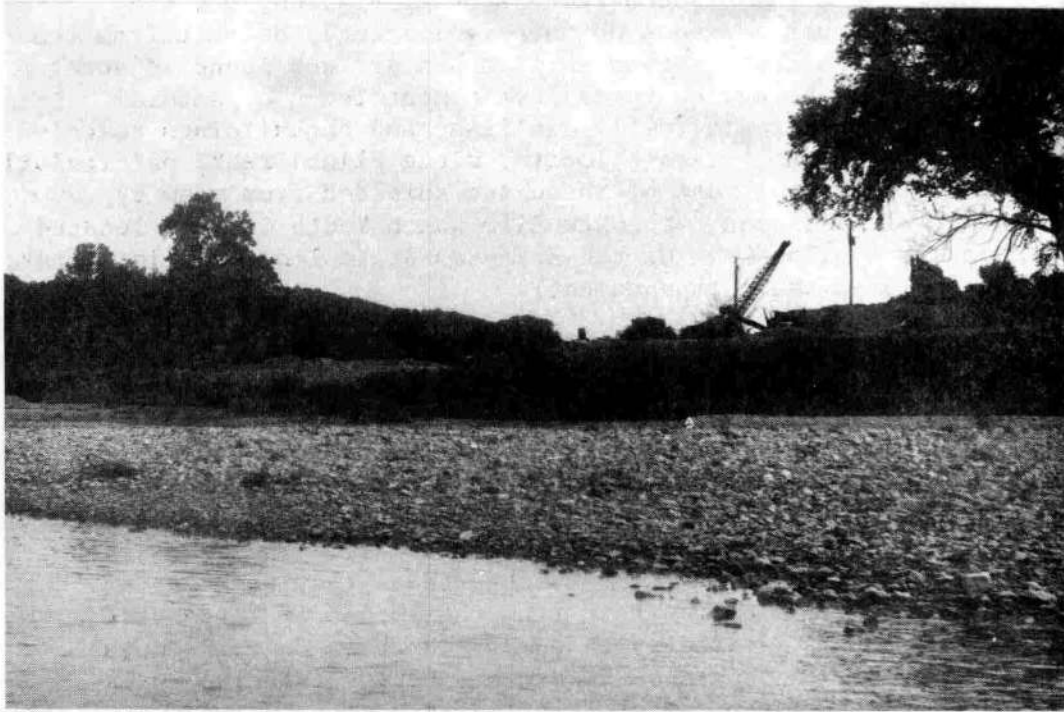


Land along Flint Creek has undergone some alteration, yet the current developments and uses do not significantly detract from the character of the stream. Urban settlements are not found adjacent to the creek and the agricultural development lends a pastoral setting. Numerous single-family dwellings and outbuildings associated with agricultural use are located along Flint Creek, particularly on the north bank, but most of these are shielded from view by vegetation. In addition, the New Life Ranch Youth Camp is located approximately 4 miles west of the Arkansas State line on Flint Creek, (at the site of a small impoundment).

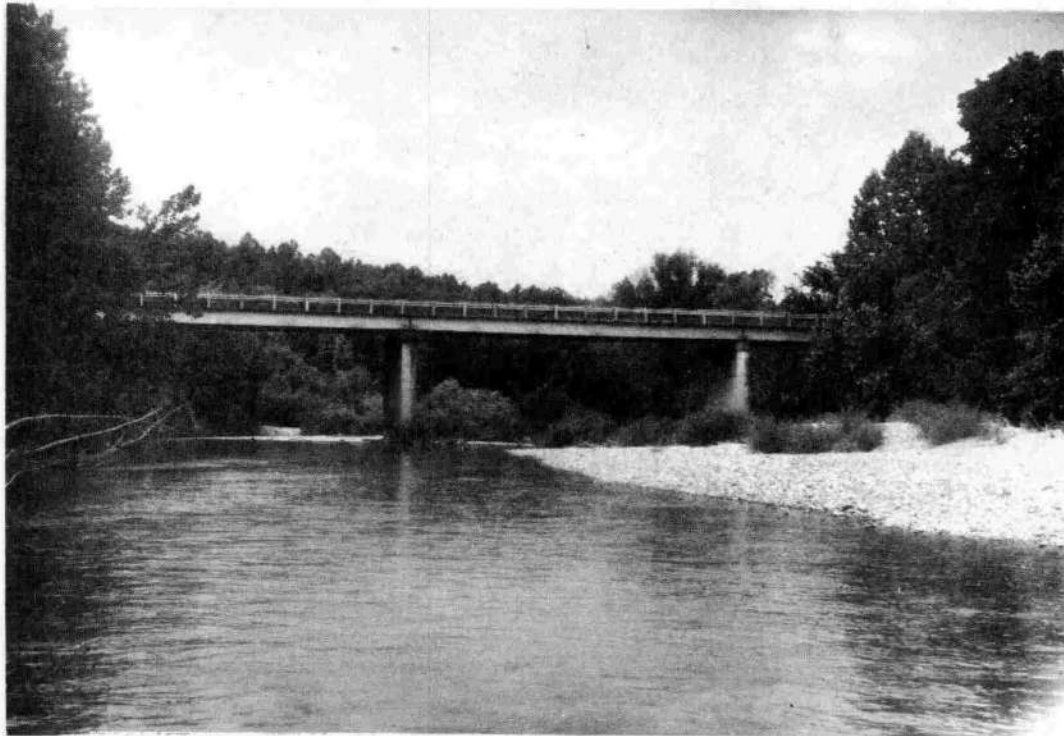
While Barren Fork Creek has also sustained some development, it is possible to float various portions of the creek without seeing any indications of human use. The most common types of development as seen from the stream are bridge crossings, pasture and hay meadows, livestock, occasional homes and vacation cabins on the bluff line, and a few power lines. Generally, these developments do not detract significantly from the creek's aesthetic quality. In places, however, use of the stream is more obvious. Near the lower end of the creek, recreation use is apparent from the amount of litter and debris left behind, especially in summer months. Gravel removal near the upper end intrudes on stream aesthetics (see map, page 58). Barbed wire fences, sometimes electrified, are occasionally found strung across the stream. Sanitation and littering are problems at de facto public recreation sites near bridge crossings.



A barbed wire fence strung across Barren Fork Creek poses a hazard to unwary canoeists.



Streamside gravel operations along Barren Fork Creek are unsightly, but occupy only a minute percentage of the total stream frontage.



Several bridges span Barren Fork Creek.

The Illinois River is the most developed of the three study streams. Yet, though the Illinois River corridor has undergone significant development in the last decade, there are still sections of the river that appear relatively natural.

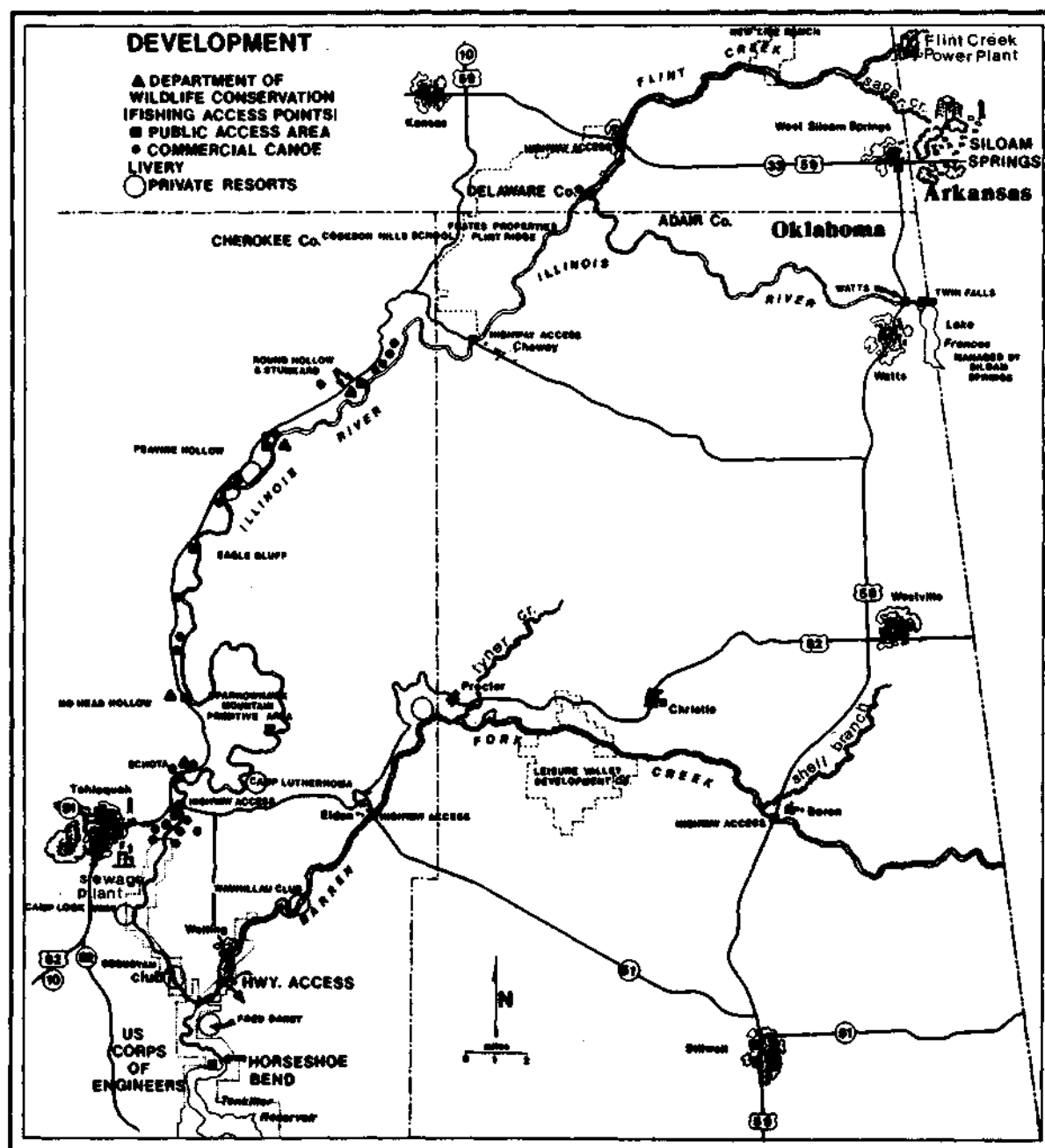
Since recreation recently has become an important element in the use of the Illinois River area, there are a sizeable number of commercial recreation establishments offering services ranging from canoe rental to camping and dining (see map, page 70). Several of these establishments have structures (cabins, bathhouses, boat storage) that are visible from the river. The majority of recreational businesses are concentrated in a thirty mile section of the river from the Echota public access site north to the Chewey Bridge. In this stretch structural alteration of the valley and often intense public use are most evident, particularly where the river closely parallels State Highway 10.

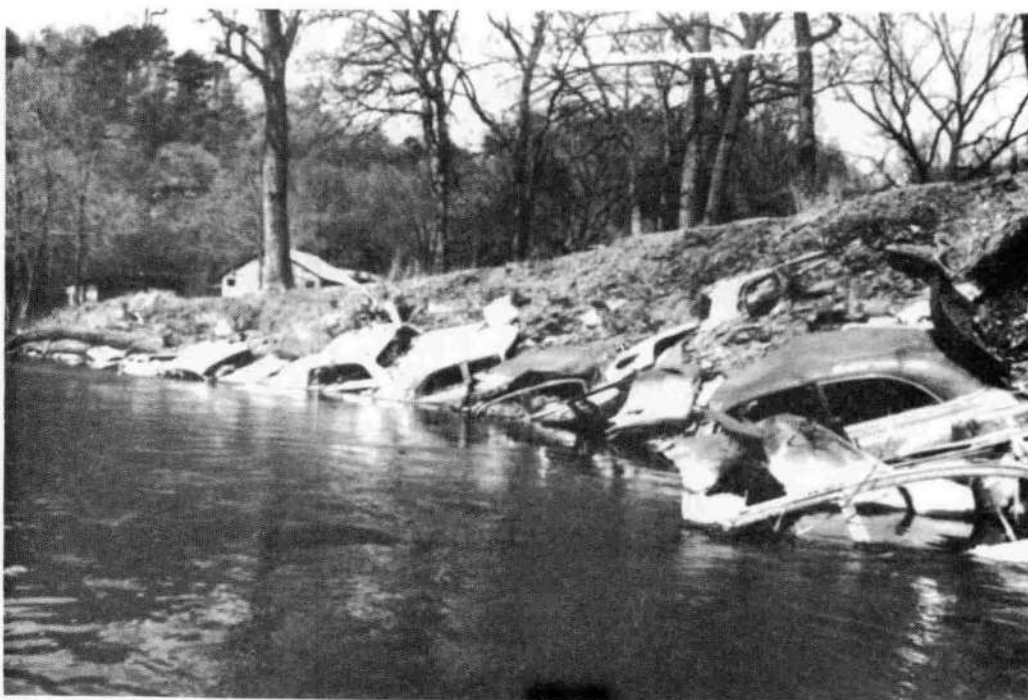
Above Chewey Bridge, development is less evident. A smaller number of businesses, an occasional residence, and agricultural uses are obvious, but the river corridor is not greatly changed from past years. Below the Echota Access site, particularly below the Tahlequah Water Supply Plant, relatively little development is evident.

In addition to the recreation businesses, other private development is obvious from some portions of the river, specifically along the segment closely paralleled by Highway 10. Numerous landowners have built homes, cabins, barns and other agricultural buildings close to the river. Several church and social organizations operate youth camps and similar facilities visible from the river.

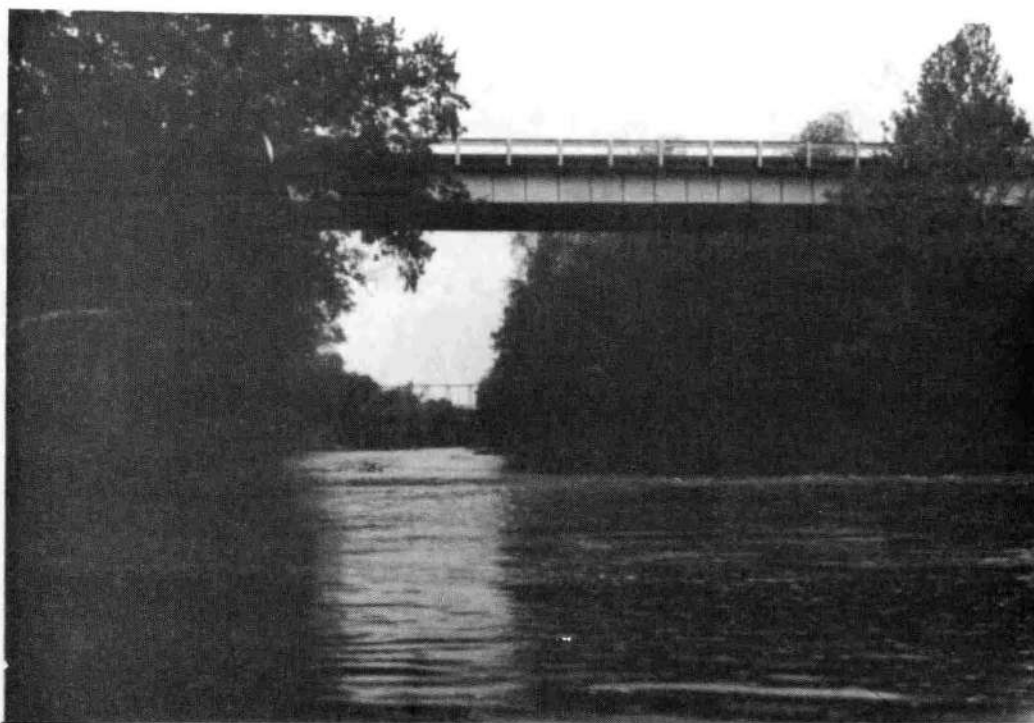
Located along seven miles of the Illinois River below the mouth of Flint Creek, a major second home development may influence future land use patterns. The Flint Ridge Development Company is selling lots in a 3600 unit, 7000 acre housing development on the west side of the river. Only those structures to be located on the bluff line will be visible from the river, and these will be designed (through set-back restrictions and vegetative screening) so as to be minimally visible. Over ninety miles of roads, as well as community centers and other facilities are planned. Based on the success or failure of Flint Ridge, other similar housing developments may locate on or near the study streams. One potential development is Leisure Valley Estates on Barren Fork Creek below the town of Christie. However, this venture has been inactive for over 2 years, and there is little likelihood of its becoming a viable project.

Several highways span the three study streams, totalling 15 bridge crossings (see map, page 59). State Highway 10 closely parallels the Illinois River a distance of 30 miles, and Highway 62 closely parallels Barren Fork Creek for about 12 miles (see map, page 70).

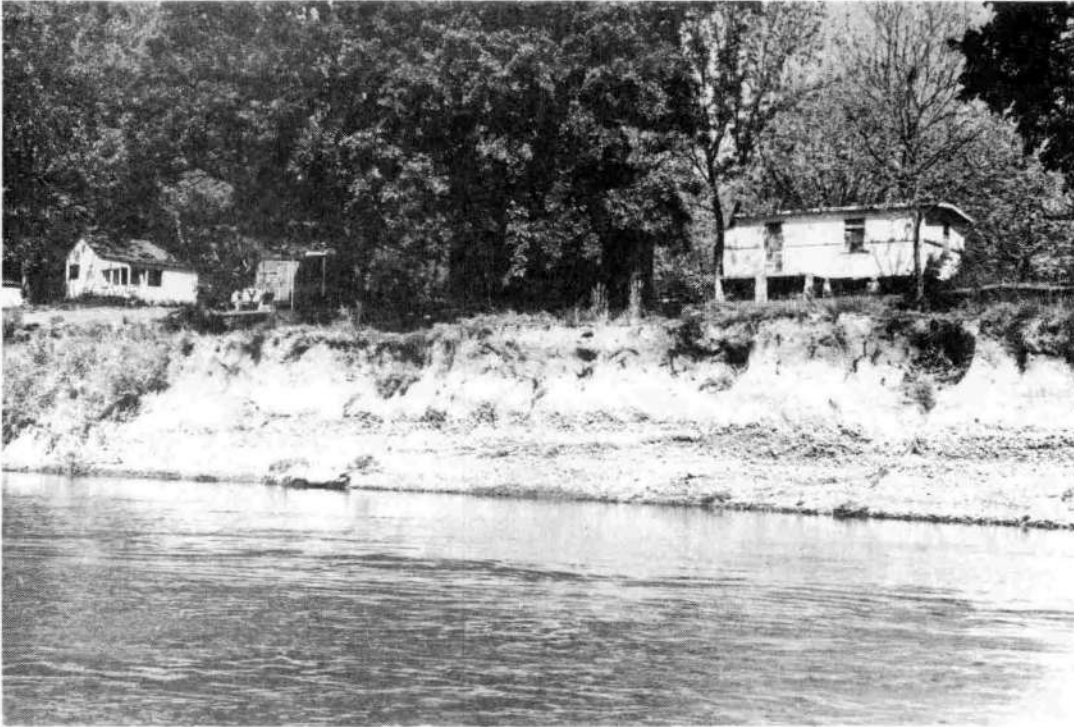




Old car bodies used to retard bank erosion are unaesthetic.



The Illinois also is crossed by five bridges



Closely spaced trailers and cottages also intrude on visual aesthetics.



On a typical summer weekend, canoe livery parking lots are filled to capacity.

WATER RIGHTS

While ownership of the riverbed is vested in the property holders along the stream, the water itself is publicly owned by the State of Oklahoma. As a public good, the consumptive use of this water is regulated by the State.

The first water law was enacted by the eighth Legislative assembly of the Territory of Oklahoma in 1905. This Act established the principle of beneficial use as the basis, measure, and limit of the right to use the publicly owned water of the State of Oklahoma. Most of this original act is still in effect. It has been enlarged to include not only irrigation but also municipal and industrial water supply, stream flow regulation, and water resource development. In 1975, the administration and control of the State's waters was consolidated under the Oklahoma Water Resources Board.

Domestic use of water does not require a permit, although other surface water extractions do require a permit from the Oklahoma Water Resources Board. According to the Board, domestic use is that water used by an individual or by a family or household for household purposes, for farm and domestic animals up to the normal grazing capacity of the land and for the irrigation of land not exceeding a total of three acres in area for the growing of gardens, orchards, and lawns. Only a 2 year supply of water may be stored for domestic use.

Water use (other than domestic) requires a permit. When a conveyance of the property occurs, the water right passes with the property. The only manner in which a water right may be severed from the permit holder and his property is by the failure of the permit holder to place his entire allocation to the beneficial use which it was assigned. In this case the permit would revert to the State for reallocation.

Although the study streams flow through a region that generally receives adequate rainfall, they are still considered important supplies of water for irrigation. The residents of the area consider the Illinois a source of insurance which can be tapped in drought years to provide water for irrigation of pastures and to allow normal cattle production in the valley. The following table presents the current allocation of water rights:

	Illinois River	Barren Fork Creek	Flint Creek
Number of permits:	39	25	8
Permitted acre feet/year:	30,319	2,879	1,518
Types and % of total permits:			
Irrigation	78%	88%	100%
Municipal	13%		
Commercial	3%		
Industrial	3%	4%	
Recreational	3%	8%	

The communities of Tahlequah and Watts, Oklahoma, and Siloam Springs, Arkansas tap the Illinois River as a municipal water supply source. The city of Tahlequah has recently completed upgrading its municipal water supply facility by placing an additional interceptor line in the Illinois River, roughly 2 miles downstream from the State Highway 62 bridge. This additional line will increase the present 3 million gallon per day (mgd) pumping capacity to 6 mgd.

Oklahoma law has vested ownership of ground water with the owner of the surface property. The law provides for the issuance of permits for two acre feet of water for each acre of owned, leased, or platted land overlying a ground water basin. Ground water rights are considered temporary until a detailed hydrogeologic study of the ground water basin is completed. All ground water permits therefore must be renewed each year.

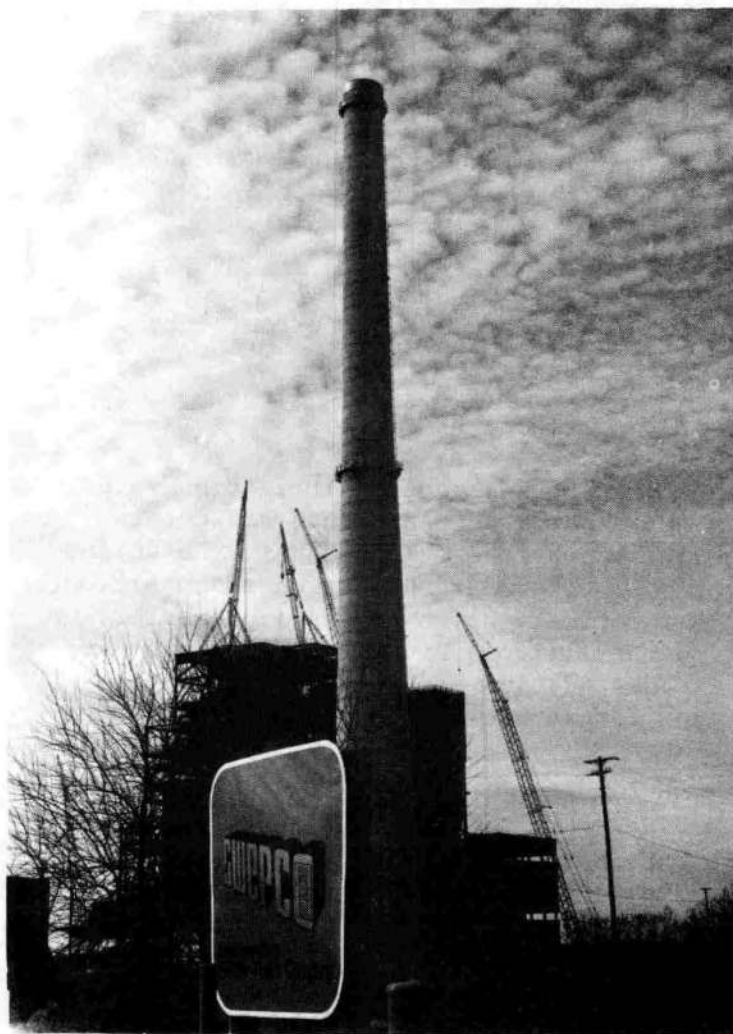
REGIONAL-LOCAL PLANS

Several proposals as well as current projects involve use of a location near the 3 study streams.

A. Flint Creek Power

Arkansas Electric Cooperative Corporation (ARKCO) and Southwestern Electric Power Company (SWEPCO) have constructed a 550 megawatt coal-fired electric generating station in northwestern Arkansas. Matching funds for the project have been provided by USDA's Rural Electrification Administration. The plant, which became operational in May, 1978, is located on Little Flint Creek, a tributary of Flint Creek, 2.3 miles upstream from the Oklahoma-Arkansas State line. Little Flint Creek has been impounded and a 531 acre cooling pond has been created to serve the needs of the power plant. The sponsor has guaranteed a downstream release of 2 cubic feet per second from the cooling pond with

water temperature not to exceed 90°F. The final environmental impact statement (ER-75/1197) indicated that water quality of Flint Creek and the Illinois River would not be affected, that ambient temperatures would not be increased and that flow would not be reduced. It was estimated that the plant would emit 14,400 tons of particulate matter into the atmosphere annually. According to the environmental impact report which accompanied the statement, these emissions are within applicable State and federal air quality standards, but there is currently a problem with excessive coal dust emissions showing up as far as 9 miles from the plant. Studies are underway to determine proper corrective actions. Based on meteorological estimates from stations in Tulsa, Oklahoma, and Fayetteville and Ft. Smith, Arkansas (the nearest forecasting stations), prevailing wind direction at the Flint Creek site is expected to be from the south and southeast. This would show the areas of greatest emission concentration to the north-northeast, which is in the opposite direction from the study segments (see map, page 70).



Flint Creek Power Plant is being constructed near the Oklahoma-Arkansas State line.

B. Northwest Arkansas Regional Water Quality Management Plan

The Northwest Arkansas Regional Planning Commission has completed a study of water quality management for Benton, Washington, and parts of Madison and Carroll Counties in northwestern Arkansas. The plan calls for the gradual phase-out of thirteen existing single-community sewage treatment plants, and the construction of two new regional secondary treatment plants on the Illinois River. One plant would be located west of Fayetteville and the other just upstream from Lake Francis near Siloam Springs. The goal is to limit or curtail all sewage discharge into Beaver Reservoir, which serves as water supply source for most of the region. All sewage instead would be processed through the two new plants, and after secondary treatment be discharged to the Illinois River.

As part of the plan, Lake Francis, located on the Illinois River at the Arkansas-Oklahoma State line, would cease to serve as water supply source for Siloam Springs, which would draw water instead from Beaver Reservoir northeast of Fayetteville. In addition, the Illinois River in Arkansas just above Lake Francis would be redesignated to allow the minimum dissolved oxygen level to be 5.0 milligrams/liter (mg/l) rather than the current 6.0 mg/l. According to the Arkansas Department of Pollution Control and Ecology, a dissolved oxygen level of 6.0 mg/l is necessary for a smallmouth bass fishery. A dissolved oxygen level of 5.0 mg/l is considered suitable for a warm water fishery.

The plan is under consideration, but there are no current actions for implementation.

C. Irrigation Water for Western Oklahoma

Some consideration has been given to transporting irrigation water from eastern Oklahoma to the semi-arid farms and ranchlands of western Oklahoma. No action has been taken by the Oklahoma Water Resources Board to implement this proposal. The Board has taken the position that if the proposal should be legislatively approved and implemented, no water would be withdrawn from the Illinois River, or Flint and Barren Fork Creeks, because of their designation as State Scenic Rivers. This position could change based on future water needs.

D. Camp Gruber Energy Park

In response to a request by the Federal Energy Administration, Battelle Pacific Northwest Laboratories in Richland, Washington completed a study in 1975 of the potential for siting nuclear facilities at the former Camp Gruber Military Reservation in southwestern Cherokee County. The study only concerned siting potential, and not whether an energy center ought to be situated at Camp Gruber. Among the many factors upon which siting of energy facilities depend is ample high-quality water supply.

Based on this and other factors, the report concluded that there were no significant disadvantages to siting energy facilities at Camp Gruber.

If the energy park were to locate at Camp Gruber it may have an impact on two of the study streams. The Illinois River near Tahlequah and Barren Fork Creek near Eldon were identified in the report as potential impoundment sites for creation of a cooling water source.

At this time, the project is receiving further investigation, but initiation in the immediate future is not foreseen.

E. Flint Ridge Development

Developers from Miami, Florida, and Tulsa, Oklahoma, have begun development of a 3600 unit, 7000 acre housing development on land bordering 7 miles of the Illinois River immediately below the mouth of Flint Creek on the west bank. The development is designed to be economically, socially and environmentally acceptable. However, area environmental groups, led by the Illinois River Conservation Council and the Scenic Rivers Association of Oklahoma, were concerned over the project's potential to cause severe erosion, pollution of the Illinois from septic tanks, visual intrusions caused by homes to be located along the ridge line and additional developments that Flint Ridge might induce, and took the case to court. In August, 1974 a United States District Court judge ruled that the U.S. Department of Housing and Urban Development, the entity responsible for issuance of an interstate land sales license, must prepare an environmental impact statement to adequately assess potential impacts associated with the project.

The case was appealed to and upheld by the Tenth Circuit Court of Appeals in July, 1975. Appealed once again to the United States Supreme Court, the decision was overturned on a technicality in June, 1976. Lot sales began again in October, 1977. As of April, 1978, two homes had been completed and two were under construction. A spokesperson for Flint Ridge has indicated that no lots will be located adjacent to the Illinois River, and that this land will be retained in its natural state for low-intensity recreation use. Because of the distance between the river and its west bluff line, houses located along the ridge will be perceptible but not noticeable to the casual observer. Also, vegetative screening and set back requirements will be used to further reduce the visual impact.

State requirements for septic tank use specify the minimum allowable lot size at $\frac{1}{2}$ acre, and that a percolation test be conducted and approved by the county health officer. The smallest Flint Ridge lot is 1.1 acres, with an average size of 1.5 acres. Also, it is a policy of the Flint Ridge developers that should a sold lot fail to pass a perc test, the owner will be traded another lot, or his/her money refunded.



The Flint Ridge development may be a major influence on land use within the Illinois valley.

F. Potential Impoundments

In the event that water supply becomes critically short for major Oklahoma urban areas in the future, the Oklahoma Water Resources Board has identified three sites within the study area that have impoundment potential. (see map, page 79).

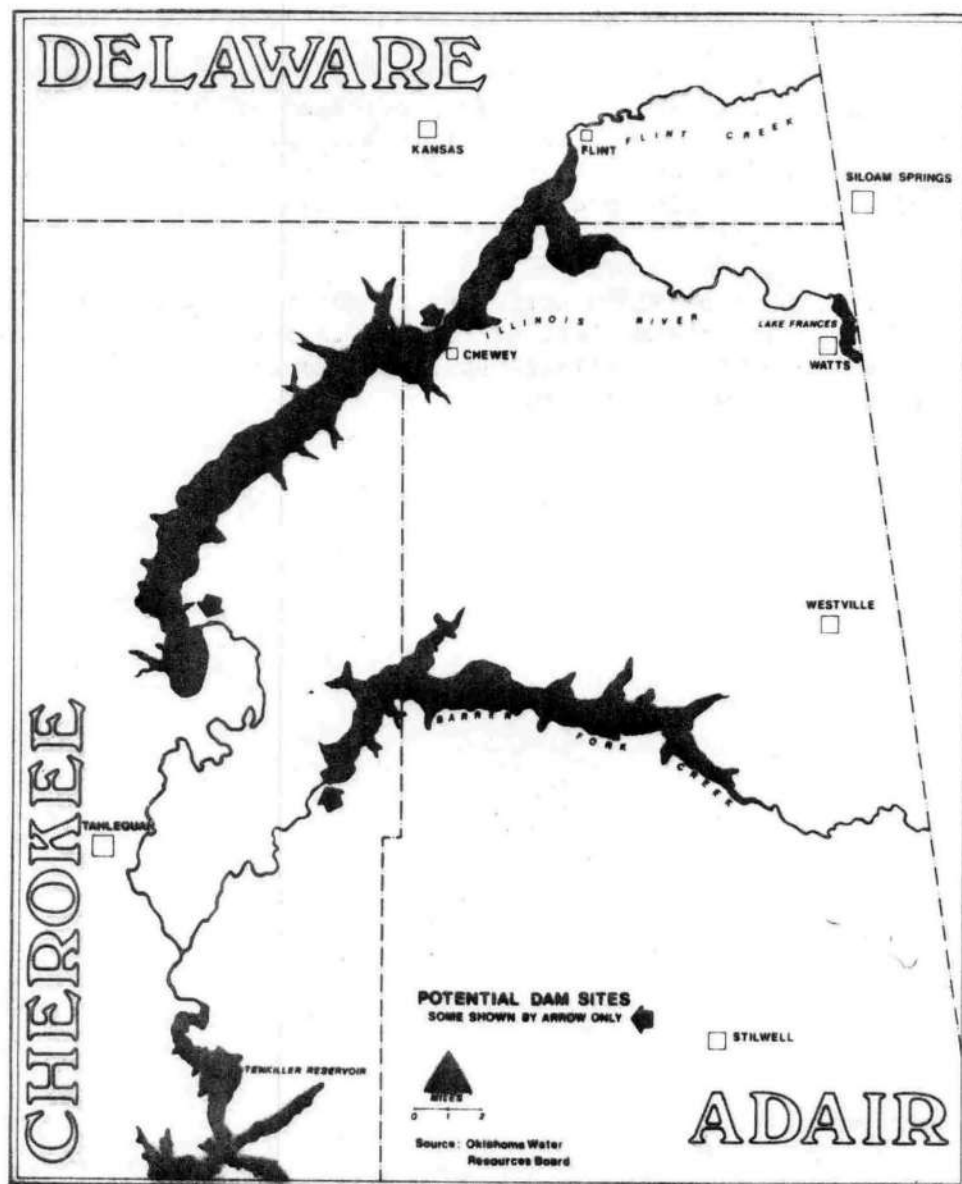
One primary site is a short distance north of Tahlequah near Sparrow Hawk Mountain on the Illinois.

The purpose of this impoundment would be municipal water supply, flood control and recreation. This site has a potential conservation storage of 2,036,000 acre feet and a water supply yield of 1,907,000 acre feet annually.

Another site is on Barren Fork Creek in the vicinity of Eldon. The purpose of constructing an impoundment here would be for municipal water supply and recreation. Conservation storage would be 280,000 acre feet with an annual water supply yield of 158,000 acre feet.

In addition to these two primary sites, an alternate site on the Illinois River near the town of Chewey has been identified. Its purposes would be the same as the primary site near Sparrow Hawk Mountain.

Both the Illinois and Barren Fork are Oklahoma Scenic Streams and their impoundment would require an act of the State Legislature if the stored water was to be used by a municipality outside the county of the scenic river area. Legislative approval for impoundment is waived for municipalities within a scenic river county for municipal or domestic water supply, provided the impoundments would not interfere with the scenic, free-flowing nature of the stream.



G. Bridges

The Oklahoma Transportation Commission's approved Five-Year Construction Program contains a project for improvement of State Highway 33 which will cross Flint Creek within the study area. This project has received FHWA location and design approval, and is presently programmed for bid opening in July 1980.

There are other active Federally-aided transportation projects within the study area. One is a bridge replacement across Barren Fork Creek on U.S. 59 north of Stilwell. This proposal consists of constructing a modern 2-lane structure on offset alignment just west of the existing bridge. Approximately .5 mile of roadway approaches would be reconstructed requiring about 2.75 acres of additional right of way.

Another is a bridge replacement project on a county road crossing of Barren Fork Creek approximately 2.5 miles southeast of Christie, Oklahoma. This proposed project would provide a bridge and approaches with the acquisition of about 7 acres of right of way. The bridge would be about 380 feet long with the entire project length, including approaches, estimated at .48 mile.

Additionally, U.S. 62 from Eldon northeast to Christie closely parallels Barren Fork Creek. If this segment of U.S. 62 is improved in the future, it is likely that new highway bridges spanning Barren Fork will be necessary in at least two locations.

ANALYSIS AND EVALUATION OF RECOMMENDATION AND FEDERAL ADMINISTRATION ALTERNATIVE

The Water Resources Council, on September 10, 1973, published in the Federal Register the Principles and Standards for Planning Water and Related Land Resources. Basically, this is a methodology for the comparison of economic and environmental gains and losses specifically for Federal water resource projects. Principles and Standards provides a systematic analysis for the purpose of determining, from among the alternative solutions, which solution makes best use of the water and related land resources while meeting the needs of society in a manner acceptable to the public.

It is now required that the Principles and Standards analysis be applied to all National Wild and Scenic River Studies because, under certain conditions, proposed wild, scenic or recreational rivers could be considered water resources development related. Qualitative and quantitative analyses of the recommended and alternative plans are presented in this chapter, and are displayed in tabular form using four accounts as one axis: national economic development (NED), environmental quality (EQ), regional development (RD) and social well-being (SWB). Impacts of the recommended and alternative plans comprise the other axis and are arrayed as four effects: 1) protection of a river's free-flowing characteristics, 2) management of land use within the river corridor, 3) management of a significant recreation resource and 4) prevention of further resource deterioration.

Generally, the Principles and Standards exercise analyzes at least two types of plans: a national economic development plan, emphasizing advancement of economic interests, and an environmental quality plan which stresses preservation of the environment. The Principles and Standards for the Illinois study was prepared pursuant to the "Guidelines for Implementing the Principles and Standards for Planning Water and Related Land Resources in Studies of Wild, Scenic and Recreational Rivers...", published by the former Bureau of Outdoor Recreation in June, 1976. According to these Guidelines, "...when there are no conflicts which could provide the basis for a viable national economic development alternative..., the range of alternative plans would relate to the environmental quality objective."

No national economic development alternative was prepared 1) because no authorized major water resources development projects were identified, and 2) because National Wild and Scenic River status is not recommended, so there would be no national designation to be weighed against elements which may be considered national economic interests. However, evaluation of a national economic development alternative might be necessary if national designation is sought by the State, since potential water resource projects have been identified.

During the study, the HCRS contacted major Federal and State water planning agencies to determine short and long range water resources development plans for the Illinois watershed. Responses of these agencies indicated that although several potential projects had been identified, nothing was planned in the immediate future. Summaries are provided below (the letters are in Appendix E):

- Federal Energy Regulatory Commission: no plans for water development on the study streams. However, the Chewey Project (near the town of Chewey) is a potential long-range water resources development project for generation of electrical power.
- Bureau of Reclamation: no plans for water development on the study streams.
- Corps of Engineers: currently assisting the Oklahoma Water Resources Board in preparing the Phase II Oklahoma Comprehensive Water Plan. It is too early to determine whether the Illinois River above Tenkiller Ferry Reservoir will be considered for additional water resources development for a proposed cross-State water transfer, or for additional potential impoundments.
- Oklahoma Water Resources Board: see summary under Corps of Engineers above.

Two environmental quality alternatives were developed for the study streams: one is the recommended (Scenic River Commission) alternative, and the other is an alternative for Federal administration of the resource. These alternatives are displayed on charts (pages 83-92), followed by a list of the assumptions upon which the alternatives are based.

CHART I R
Display of Net Effects for Recommendation

EFFECTS	N.E.D.			E.O.		
	WITH PLAN	WITHOUT PLAN	NET	WITH PLAN	WITHOUT PLAN	NET
1. Protection of a river's free-flowing characteristics.	NO CONFLICTS IDENTIFIED			Potential permanent impoundment protection for 115 miles of streams.	Existing State Scenic Rivers legislation provides general but not total protection from impoundment.	Potential permanent impoundment protection for 115 miles of streams.
2. Management of land use with the river corridor.	Land Acquisition. Fee: \$ 60,000 Easement: \$ 19,665 Total: \$ 79,665 Values foregone (annual): Timber: \$38,005 Sand and gravel: \$ 49,100		- \$79,665 - \$ 38,005 - \$49,100	Protection of scenic values of river corridors: Fee: 80 acres Easement 43.7 acres Remaining territorial jurisdiction- 17,116.3 acres (excluding fee and easement acquisition). Timber management objectives would be geared to harmonize with the land; will improve aesthetics.	No additional protection for streams or adjacent acreages. See above.	Protection of aesthetic value over 17,240 adjacent acres. See above.
3. Management of a significant recreation resource.	Recreation benefits (annual): \$1,013,656 Facility Costs: Development \$52,850 O&M \$32,150 \$85,000	Recreation benefits (annual): \$851,176 Fisherman access sites: O&M \$ 4,000	\$162,480 - \$81,000	More effective control over recreation use through placement of new facilities, and through river patrol.	No mechanism to control increasing recreation use.	Control over increasing recreation use.
4. Prevent further resource deterioration.	NO CONFLICTS IDENTIFIED			Stream bank and adjacent pasture erosion to be better controlled through increased labor, intensive public works projects, and by removing old car bodies currently serving as water deflectors. Aesthetics would be improved. An increased emphasis on water quality would improve fishery. Likely that recommendation would result in higher priority for water quality improvement. Quality of the resource would be maintained and enhanced through new management policies. Development standards for new construction would limit impacts of new structures on stream aesthetics (i.e. maximum height, proximity to stream, etc.)	Banks and pastures would continue to erode although they would receive some treatment through local initiatives. No special emphasis for maintenance or improvement of water quality. See above. No formal management provided. Construction standards would not be developed or enforced.	Erosion control for critical banks. Focus on improvement of water quality. See above. Establishment of management policies to improve resource. Placement and enforcement of construction standards to protect stream aesthetics.

CHART I R Cont'd

EFFECTS	R D			S W B		
	WITH PLAN	WITHOUT PLAN	NET	WITH PLAN	WITHOUT PLAN	NET
1. Protection of a river's free-flowing characteristics.	NO CONFLICTS IDENTIFIED			Maintenance of use diversity of an outstanding recreation resource. The educational value of the resource i.e. geologic, natural history and fish and wildlife would be enhanced.	Potential impoundments would limit use diversity and educational values to that available with flatwater recreation. See above.	Recreation diversity and educational values maintained. See above.
2. Management of land use within the river corridor.	Reduction of tax base through fee acquisitions would be slight. The 80 acres to be acquired would be spread over a 2 or possibly 3 county area to reduce individual county tax base losses. The easements be acquired would allow the land to remain on the tax rolls although at a reduced evaluation.	Tax base would remain unchanged.	Slight reductions in county tax base.	Protection of scenic, natural and pastoral values on 17,240 acres. Community and county population patterns i.e. places of residence, would remain largely unaffected. The exception would be the large scale subdivision of property within the visual corridor. Such developments would not be allowed to intrude on stream aesthetics.	Piecemeal degradation. Large scale second home developments could locate adjacent to and intrude on stream aesthetics.	Minimal but adequate protection established for the visual corridor. See above.
3. Management of a significant recreation resource.	NO CONFLICTS IDENTIFIED			Addition or upgrading of camping, access, rest facilities, and trails. Better enforcement of existing laws to control litter, trespass and vandalism. Place and enforce recreation use limitations.	No provision of additional areas and no regular upkeep of existing facilities. Litter would continue to be a problem and an eyesore. Current trespass and vandalism violations would continue unchecked. Present increasingly concentrated recreation levels would continue. Resource degradation would begin to occur as a result.	More and better recreation facilities. Litter would become decreasingly apparent. Better relationships between landowners and recreationists. More balanced recreation use.
4. Prevent further resource deterioration.	Regional economic growth would not be slowed. But it would be focused away from the immediate visual corridor of the streams to allow continued resource integrity.	Economic growth would continue, but may involve lands within the visual corridor.	Carefully planned development so as to have minimum impact on the visual corridor.	Improve quality and scope of recreational pursuits. Provision of additional sanitary facilities along river, and removal of streamside eyesores would enhance public health and safety. Emphasis on working in cooperation with local police units to assure law enforcement.	Recreation use would continue as at present with no primitive campgrounds or public rest nodes. Lack of convenient sanitary facilities would aggravate water quality problems. Unsightly streamside dumps would continue to impair the visual quality of the streams, and in some instances would continue to present recreation use hazards to the public. No structured law enforcement program; police response only to requests for assistance.	Increase in recreation facilities. Water quality and aesthetic improvement. Better visibility and enforcement of laws.

CHART I F
Display of Net Effects of Federal Administration Alternative

EFFECTS	N E D			E Q		
	WITH PLAN	WITHOUT PLAN	NET	WITH PLAN	WITHOUT PLAN	NET
1. Protection of a river's free-flowing characteristics.	NO CONFLICTS IDENTIFIED			Permanent impoundment protection for 115 miles of streams.	Existing State Scenic Rivers legislation provides general but not total protection from impoundments.	Provide permanent impoundment protection for 115 miles of streams.
2. Management of land use within the river corridor.	Land Acquisition: Fee: \$3,616,500 Easement: <u>\$5,259,150</u> Total: \$8,875,650 Values foregone (annual): Timber: \$95,013 Sand and gravel: \$ 68,750 Total: \$163,763		-\$8,875,650 -\$ 163,763	Protection of scenic values of stream corridors: Fee: 4,822 acres Easement: 11,687 acres Land within boundaries: 16,509 ac. Strict control over streamside timber management practices.	No additional protection for adjacent lands. See above.	Protect 16,509 acres of adjacent lands. See above.
3. Management of a significant recreation resource.	Recreation benefits (annual): \$923,752 Facility costs: Development <u>\$228,700</u> O&M <u>\$116,320</u> \$345,020	Recreation benefits (annual): \$851,176 Fisherman access sites O&M \$4000	+\$ 72,576 -\$ 341,020	Studies would reveal optimum carrying capacities for the resource. Recreation use would be managed to coincide with this number.	No mechanism to control recreation use.	Control over increasing recreation use.
4. Prevention of further resource deterioration.	NO CONFLICTS IDENTIFIED			Aesthetics would be improved by removal of car bodies along stream bank and stabilizing those and other badly eroding banks with appropriate, aesthetically acceptable measures. National designation likely would result in a higher priority for water quality improvement. Fishery would be improved as a result. Strict management policies would be enforced to help maintain and enhance the quality of the resource. No new structures would be allowed within the visual corridor, and possibly within the river boundary.	Banks and pastures will continue to erode, although they will receive some treatment through local initiative. No special emphasis on improvement of water quality. The river would receive no form of management. There would be no construction limitations for new structures within the visual corridor.	Bank and pasture protection, and aesthetic enhancement. Probable emphasis on increased water quality. Management policies to preserve existing resource integrity. Limitations on continued structural development within the valley.

CHART I F Cont'd

EFFECTS	RD			S W B		
	WITH PLAN	WITHOUT PLAN	NET	WITH PLAN	WITHOUT PLAN	NET
1. Protection of a river's free-flowing characteristics.	NO CONFLICTS IDENTIFIED			Maintenance of recreation use diversity of an outstanding recreation resource. Outdoor educational values of the resource will be enhanced by comprehensive interpretation of the area's natural history: geology, and fish and wildlife.	Recreation diversity and educational values would continue as are. Impoundments could partially eliminate these values. See above.	Recreational diversity and educational values maintained. See above.
2. Management of land use within the river corridor.	16,509 acres of private land would have to be acquired. Public Law 94-565, Local Government Units, would allow reimbursement for tax base loss in the amount of \$165,090.	No additional lands taken off tax roles.	16,509 acres placed in public ownership, with \$165,090 settlement for loss of tax base.	Protection of scenic, natural and pastoral values on 16,509 acres of land. Community population patterns would generally be unaffected. The exception would be that no new residences or second home developments would be allowed within the boundary.	Piecemeal degradation. Residential development could continue to occur adjacent to the streams.	Maximum protection established for the visual corridor. See above.
3. Management of a significant recreation resource.	NO CONFLICTS IDENTIFIED			Addition and upgrading of camping areas, access sites, rest areas, trails. Stringent laws to control litter, trespass and vandalism. Quality of the recreation experience maintained through placement of use limitations.	No provision of additional areas and no regular upkeep of existing areas. Litter, trespass and vandalism will continue to be a problem. No use limitations enforced.	More public recreation facilities, including better maintenance. Decreasing incidences of litter, trespass, and vandalism. Use limitations developed and enforced.
4. Prevention of further resource deterioration.	Expansion of private business within the boundary would be halted. Periphery business would increase.	No limit on regional economic growth.	Regional economic growth curtailed within boundary.	Improve quality and scope of recreational opportunities. Provision of additional sanitary facilities and removal of streamside eyesores will enhance public health and safety. Establishment of an independent police force with the primary responsibility of law enforcement within the boundaries.	Recreation use will continue at present without primitive camping areas or public rest nodes. Lack of convenient sanitary facilities will continue to aggravate water quality problems. Unsightly streamside dumps will continue to impair the visual quality of the streams and in some cases present recreation use hazards to the public. No structured law enforcement program; police response only to requests for assistance.	Increase in recreation facilities. Water quality and aesthetic improvement. Better visibility and enforcement of laws.

CHART II R

Beneficial and Adverse Effects of the Recommendation

EFFECTS	NED		EQ
	BENEFICIAL	ADVERSE	
1. Protection of a river's free-flowing characteristics.			Protection of the free-flowing characteristics of three Oklahoma streams by managing 115 miles to allow present and future generations an opportunity for a meaningful river recreation experience. Protection of a significant small-mouth bass fishery.
2. Management of land use within the river corridor.		Annual timber harvest foregone: \$38,005. Future annual sand and gravel production foregone: * \$49,100. Land acquisition costs: Fee: \$60,000 Easement: \$19,665 *This refers to unmined sand and gravel which will remain after deposits currently being mined are depleted.	Protection of aesthetic values in stream corridors by - Acquiring fee title to 80 acres Acquiring easements over 43.7 acres Placing (in addition to acquired lands) 17,116.3 acres within the territorial jurisdiction of the administrative agency. Establishment and enforcement of timber management guidelines.
3. Management of a significant recreation resource.	Net recreation benefits (annual): \$162,480	Cost of facilities: \$52,850 Operation and maintenance: \$32,150	Management of recreation and certain adjacent land uses to maintain existing aesthetic and environmental quality.
4. Prevention of further resource deterioration.			Identification and reparation of rapidly eroding shorelines and adjacent pasturelands. Maintenance of an outstanding fishery. Heightened emphasis on maintenance and improvement of water quality. Management policies will protect resource as a whole.

CHART II R Cont'd

EFFECTS	RD		SWB
	BENEFICIAL	ADVERSE	
1. Protection of a river's free-flowing characteristics.			Preservation of recreation diversity afforded by streams as opposed to slack water. Protection of riverine educational values.
2. Management of land use within the river corridor.		Slight reduction in county tax bases.	Limitations placed on adjacent landowners regarding the development and use of their lands Increased public enjoyment of the stream corridors through provision of additional public recreational facilities.
3. Management of a significant recreation resource.	Increased employment during facility development, and for O&M. Increased income to local economy resulting from multiplier effect of recreation expenditures.		Management of the streams to allow expanded and more satisfying public recreation use.
4. Prevention of further resource deterioration.			Quality and scope of recreational opportunities to be improved. Public health and safety enhanced through provision of adequate streamside sanitary facilities, and by removal of navigation hazards. Proper enforcement of laws will better protect the recreationist and streamside resident.

CHART II F

Beneficial and Adverse Effects of the Federal Administration Alternative

EFFECTS	NED		EQ
	BENEFICIAL	ADVERSE	
1. Protection of a river's free-flowing characteristics.			Protection of the free-flowing characteristics of three Oklahoma streams by managing 71 miles as scenic and 44 miles as recreational to allow present and future generations an opportunity for a meaningful river recreation experience. Protection of a significant small mouth bass fishery.
2. Management of land use within the river corridor.		Annual timber harvest foregone: \$95,013 Future annual sand and gravel production foregone: * \$68,750 Land acquisition costs: Fee: \$3,616,500 Easement: \$5,259,150 *This refers to unmined sand and gravel, including existing operations.	Protection of the scenic values within the stream corridor by: Acquiring fee title to 4,822 acres Acquiring easements over 11,687 acres Protection of critical riparian wildlife habitat. Strict control over streamside timber management practices.
3. Management of a significant recreation resource.	Recreation benefits (annual): \$72,576 *above benefits which would exist without plan.	Cost of facilities: \$228,700 Operation and maintenance: \$116,320	Recreation use limited to optimum carrying capacity.
4. Prevention of further resource deterioration.			Improvement of stream aesthetics by removal of solid waste and stabilization of severely eroding banks. Greater emphasis on improved water quality due to National designation. Strict management policies established and enforced to insure preservation of the resource. Structural development within the corridor severely limited.

CHART II F Cont'd

EFFECTS	RD		SWB
	BENEFICIAL	ADVERSE	
1. Protection of a river's free-flowing characteristics.			Preservation of recreation diversity afforded by streams as opposed to slack water. Protection of riverine educational values.
2. Management of land use within the river corridor.	Tax revenues lost from the purchase of 16,509 acres of private lands would be mitigated to some extent by payments to local government units through P.L. 94-565.		Strict limitations regarding land uses and economic development within corridor. Increased public enjoyment of stream corridors through provision of additional public recreational facilities, and availability of increased public land acreage.
3. Management of a significant recreation resource.			Addition and upgrading of camping areas, access sites, rest areas and trails. Enforcement of stringent laws to control litter, trespass, & vandalism. Quality of the recreation experience maintained through placement of use limitations.
4. Prevention of further resource deterioration.		Curtailment of private business expansion within corridor.	Improve quality and scope of recreation pursuits. Provision of additional sanitary facilities and removal of streamside eyesores will enhance public health and safety. Establishment of an independent body for enforcement of laws within the corridor.

CHART III

Summary Comparison of Federal Alternative and Recommendation

EFFECTS		FEDERAL	RECOMMENDED	DIFFERENCE*
N E D	2. Management of land use within the river corridor.	Values foregone: \$183,763 Land acquisition costs: \$8,875,650	Values foregone: \$87,105 Land acquisition costs: \$79,000	+\$76,658 +8,795,985
	3. Management of a significant recreation resource.	Net recreation benefits \$72,576 Cost of facilities: \$228,700 Operation and maintenance: \$116,320	Recreation benefits (annual)*: \$162,400 Cost of facilities: \$52,850 Operation and maintenance: \$32,150	+\$ 89,904 +\$175,950 + \$ 84,170
		*Above those which would exist without the plan.		
E D	1. Protection of a river's free-flowing characteristics.	Permanent impoundment protection for and management of 115 miles of streams.	Possible eventual permanent impoundment protection for and management of 115 miles of streams. *	Possible permanent impoundment protection for 115 miles of streams.
	2. Management of land use within the river corridor.	Manage 16,509 acres	Direct management of 233 acres (including 153 acres of fisherman access sites) Less restrictive management on 17,007 acres.	731 additional acres receiving less restrictive management
		Strict control over streamside timber management practices.	Timber management guidelines established and enforced.	Less restrictive control over timber operations.
	3. Management of a significant recreation resource.	In order to preserve aesthetic character of streams, recreation use limited to resources' optimum carrying capacity.	Recreation use limited only if it is determined to be detrimental to aesthetic character of stream.	Less restrictive control over recreation use.
	4. Prevent further resource deterioration.	Stream aesthetics improved through removal of solid waste and stabilization of eroding banks.	Stream aesthetics will be improved through removal of solid waste and stabilization of eroding banks.	None.
		Added emphasis for water quality improvement.	Added emphasis for water quality improvement.	None.
		Strict management policies.	Minimal management policies.	Less restrictive management policies.
		Curtailment of structural development within visual corridor.	Limitations on structural development within visual corridor.	Certain types of structural development allowed.
		*If streams are added to the National Wild and Scenic River System as State Administrative components.		
		*Expressed in terms of recommended plan.		

CHART III Cont'd

	EFFECTS	FEDERAL	RECOMMENDED	DIFFERENCE*
R D	2. Management of land use within the river corridor.	Acquisition of 16,509 acres of private land, resulting in possible payments of \$165,090 (through P.L. 94-565) to local government units for reimbursement of tax base losses.	Acquisition of 80 acres of private land. Tax base losses will be negligible.	Less tax base loss.
	4. Prevention of further resource deterioration.	Expansion of private business within the boundaries would be halted.	Private business within the boundaries would be allowed to expand with certain limitations.	Fewer restrictions on the growth of private business.
S W B	1. Protection of a river's free-flowing characteristics.	Maintain use diversity of an outstanding recreation resource. Outdoor education values enhanced through comprehensive interpretation of river's natural history.	Maintenance of recreation use diversity as an outstanding recreation resource. Interpretation of the river's natural history through voluntary effort.	None. Volunteer interpretive program.
	2. Management of land use within the river corridor.	Rigid protection of scenic, natural and pastoral values on 16,509 acres of land. No new residences allowed within boundary.	Management of scenic, natural and pastoral values on 17,240 acres of land New residences allowed within boundary, but limited within visual corridor.	Less stringent protection. Residential development allowed with limitations.
	3. Management of a significant recreation resource.	Addition of new public campgrounds, trails and rest areas. Renovation of existing public access sites. Strict laws controlling littering, trespass, and vandalism. Recreation use limitations enforced.	Addition of new public campgrounds, trails and rest areas. Renovation of existing public access sites. Strict laws controlling littering, trespass, and vandalism. Recreation use limitations enforced only if resource begins to deteriorate.	None. None. Less restrictions on recreation use.
	4. Prevention of further resource deterioration.	Improve quality and scope of recreation opportunities. Provision of additional sanitary facilities and removal of streamside eyesores will enhance public health and safety. Establishment of an independent police force with the primary responsibility of law enforcement within the boundaries.	Improve quality and scope of recreation opportunities. Provision of additional sanitary facilities and removal of streamside eyesores will enhance public health and safety. Cooperation with local police units to allow a measure of enforcement.	None. None. Less comprehensive law enforcement.
				*Expressed in terms of recommended plan.

Recommendation Assumptions:

1. All values are stated in terms of 1978 dollar values.
2. The potential developments discussed under Regional-Local Plans (pages 74-80) are not considered sufficiently advanced to warrant their mentioning as conflicts to the protection of the streams' free-flowing characteristics under the NED accounts of the recommendation or Federal administration alternative. With two exceptions these projects are still in the formative stages, and may or may not be implemented. The two exceptions are discussed below.

After reviewing Flint Ridge plans and specifications and discussing the development with project managers, it is the study team's professional judgment that Flint Ridge would have minimal impact on the river (assuming the plans and specs are rigidly adhered to). The environmental impact statement for the Flint Creek Power Plant indicated that the physical impacts of the plant's operation would not reach the portions of the streams under study.

3. Recreation costs for the recommendation are computed as follows:

Acquisition

Fee

Campgrounds	60 acres		
Rest nodes	+20 acres		
Total	80 acres	$\times \$750/\text{acre} =$	\$ 60,000

Easement

Trails	20		
Environmentally fragile areas	+23.7 acres		
	43.7 acres	$\times \$450/\text{acre} +$	\$ 19,665
		Total	\$ 79,665

Development

Campgrounds	\$18,075
Rest nodes	30,875
Trails	+ 3,900
Total	\$52,850

Operation and Maintenance

Campgrounds	\$ 6,450
Rest nodes	14,000
Trails	2,200
Fisherman access sites (currently owned by the Wildlife Conservation Department)	+9,500
Total	\$32,150

4. Recreation benefits are based on the following figures:

Without a plan:

Canoeing	60,483 trips x \$12/trip =	\$725,796
Fishing	17,509 occasions x \$5.50/occasion =	96,300
Swimming	29,080 occasions x \$1.00/occasion =	29,080
	Total (existing benefits) =	<u>\$851,176</u>

A total of \$4,000 was allocated by the Wildlife Conservation Department to operate and maintain the four fisherman access sites in 1977.

Recommendation:

Primitive camping: 6240 occasions x \$2.00/trip =	12,480
Additional recreationists attracted by full implementation of recommendation:	
12,500/year x \$12.00 visit =	<u>150,000</u>
Total (Additional benefits) =	<u>\$162,480</u>

5. Economic values foregone displayed in the recommendation are based on the following figures:

Timbering activities occurring in the Illinois valley currently are valued at \$190,000 annually. However, only approximately 20% of this activity would be visible from the study streams, and therefore would be precluded. \$190,000 x 20% = \$38,000. Sand and gravel operations immediately on the streams yield \$49,100 worth of products which would be foregone each year.

6. Study corridor acreages were figured as follows: 115 miles of streams with a 1/2 mile wide (1/4 mile on either side) corridor = 36,480 acres. The recommendation proposes a jurisdictional area for the Scenic River Commission over the 115 miles of streams with a 1/4 mile wide (1/8 mile either side of streams) corridor, equalling 18,240 acres. The Corps of Engineers currently owns the lower 10 miles (1000 acres) of this proposed area

18,240 corridor
<u>- 1,000 CoE</u>
Total = 17,240 acres of land for Commission jurisdiction
17,240 jurisdictional acres
<u>- 80 fee</u>
17,160
<u>- 43.7 easement</u>
Total = 17,116.3 nonpublic lands under jurisdiction of Commission

7. The Oklahoma Scenic River Commission Act (#7, page 118) gives the Commission authority to control private activities within the area under its jurisdiction. This would include control of rental canoes, and the use of the streams by livery operators.
8. It is assumed that management authority for four fisherman access sites (153 acres) on the Illinois River will be transferred (through lease, sale, trade, etc.) from the Oklahoma Department of Wildlife Conservation to the Scenic River Commission.

Federal Administration Alternative Assumptions:

1. If the Illinois study recommendation had been for Federal administration of the river, the most likely agency to assume that role would have been the National Park Service. There is no Park Service presence in or near the Illinois valley at present. Having to establish an administrative presence there (headquarters, personnel, maintenance facilities, etc.) would require significant expense beyond that of the land acquisition.

By comparison, State or local administration would be less costly, because the river could be administered out of a nearby State Park (Sequoiah State Park is 18 miles west of the river) or from the town of Tahlequah (1 mile west of the river). An administrative presence would not have to be located on the river.

2. As discussed under #2 of Recommendation Assumptions, the potential developments discussed under Regional-Local Plans were not considered as impending threats to the resource. Therefore, no conflicts to preservation of the river's free flowing characteristics were identified under the NED account.
3. With Federal administration (NPS) would come designation of the administered segments as components of the National Wild and Scenic Rivers System. Permanent protection from impoundment would thus be assured.
4. It is estimated that land acquisition along the Illinois would have approached or reached the 100 acres per mile limitation for fee acquisition set forth in the Wild and Scenic Rivers Act.

By contrast, State or local administration would, because of budgetary restraints and lack of authority to condemn land, include a much less aggressive or comprehensive fee acquisition program. Minimal lands would be acquired, and emphasis would be placed on donations, trades and/or cooperative use agreements. This assumes that in many cases, and especially in the instance of the Illinois, local landowners would tend to cooperate with a State or local ("close to home") type of administration, but not with a Federal management agency (example: Buffalo River, Arkansas).

5. In order to protect the same amount of resource as in the recommendation, the Park Service would have to acquire 16,509 acres, figured as follows:
- | | | |
|-------|---------|--|
| | 18,240 | corridor 1/8 mile either side of streams |
| | - 1,731 | total public acreage (CoE and Wildlife Conservation Department lands, including 153 acres of fisherman access sites) |
| Total | 16,509 | acres to be acquired. |

Note: The Department of Wildlife Conservation owns a total of 731 acres within the Illinois valley. 153 acres of this provides direct access to the Illinois. The remaining acreage is not adjacent to the river.

It is estimated that 4822 acres would have to be acquired in fee, and the remaining 11,687 acres in less than fee (easement). Costs would be:

4822 acres x \$750/acre =	\$ 3,616,500
11,687 acres x \$450/acre =	\$ 5,259,150
Total	\$ 8,875,650

6. Timber operations would be strictly controlled if not prohibited. The current annual value of timber is \$190,026 from the Illinois valley. 50% of that lies within the area which would be acquired. 50% of \$190,026 is \$95,013, which would be the annual timber value foregone.
7. It is assumed that streamside sand and gravel operations would be halted. Records from Cherokee, Adair and Delaware County sand and gravel operations are withheld from the public record. However, based on study team discussions with sand and gravel operators, it is estimated that annually a total of \$68,750 worth of commercial sand and gravel products would be foregone (including existing operations). This amount is larger than in the Recommendation because the Federal administrative alternative requires more land, including additional sand and gravel operations not immediately on the river.

The identified source of glass sand in northern Cherokee County is not adjacent to the river. However, it would be within a management corridor established by the Park Service. No information exists on the magnitude of the deposit, its commercial value or the timing or feasibility of its extraction. Therefore, it has not been considered in the Principles and Standards exercise.

8. It is assumed that, initially at least, designation of the streams as Wild and Scenic Rivers as administered by the National Park Service would attract significant additional numbers of canoeists (but not so for fishermen or swimmers). Designation would attract an additional 10% of canoeists annually, in addition to normal yearly increases of tourists. Based on the recreation benefits figures contained in Recommendation Assumptions, the recreation benefits are figured as follows:

60,483 canoeists x 10% increase =	6048
+ 6,048	
66,531 x \$12/day =	\$798,372 canoeing
	96,300 fishing
	+ 29,080 swimming
Total	\$923,752

9. Development and operation and maintenance costs under Federal administration are as follows:

Administrative headquarters and visitors center	\$150,000
Campgrounds (RV and primitive)	33,600
Rest nodes	30,875
Trails	<u>15,025</u>
	\$228,700
Operation and maintenance (annual)	
for all NPS lands and facilities	<u>116,320</u>
on the Illinois, and Flint and Barren Fork	
Total	\$345,020

This assumes that the river maintenance (litter control) currently provided voluntarily by the livery operators would have to be assumed totally by the NPS. It also assumes that NPS if established as river administrator, would have the authority to limit both the number of canoes and number of float trips provided by the livery operators, as the U.S.F.S. has done on the Eleven Point River, Missouri. Through management procedures, general public access at bridge crossings would also be controlled.

ASSESSMENT OF THE PROBABLE ENVIRONMENTAL IMPACTS OF THE RECOMMENDATION

INTRODUCTION

An environmental impact statement was not written for the Illinois Wild and Scenic River Study because no Federal action has been recommended. Therefore, an environmental assessment which discusses the probable impacts which implementation of the recommendation will have on the resource has been prepared. HCRS efforts in the field and the referenced material used in other portions of the report are the basis for statements on existing conditions. Statements regarding probable impacts of the recommendation are based on the professional judgments of the study team.

FISH AND WILDLIFE

The Illinois River supports a significant and diverse fishery and is regarded as one of the best fishing streams in Oklahoma. Although fishing on the Illinois River is excellent, the Oklahoma Department of Health's 1976 Water Quality Survey of the Illinois River between Lake Francis and Tenkiller Reservoir, (which includes the study reach) indicates that over the past 50 years 13 species of fish have increased in numbers, 16 have decreased, 20 are stable, 29 are of questionable status due to lack of data and 19 species are thought to have disappeared altogether from the river. Three possible causes are listed for the changes in composition: 1) the physical restriction of Tenkiller Dam eliminating upstream movement, 2) habitat disturbance due to recreational use, and 3) habitat alteration. The lowest species diversity was found where recreational use was the greatest. The following quote is found in Part 3, Section II of the survey report: "Intense recreational activity over a long time period can affect fish community structures. For example, reduction of riffle species can occur if those species are forced out of the riffle areas into pooled areas, where they are more subject to predation....a correlation between low diversities and high recreational use is suggested."

It is true that recreational use detrimentally affects riffle fish species, then implementation of the recommendation may cause disruption of additional fish communities (beyond those already disrupted by existing public and private recreation use), depending on the location of the proposed new public recreation sites. The master planning process by the Illinois Scenic River Commission will determine the location of the new sites. Careful planning in regard to site placement could help mitigate the potential impacts on fish populations. Locating the sites downstream from riffle areas, or adjacent to stream areas of less critical habitat, could limit disruptive effects.

The primary threat to wildlife currently within the Illinois River valley is the destruction of riparian habitat for development purposes. Implementation of the recommendation will lead to the establishment of zoning ordinances and use limitations which would limit the amount and type of land clearing which could occur. For the period prior to the time that the master plan becomes effective, an interim zoning plan is being considered by the Commission which would give it an element of control over land use changes.

The Illinois Scenic River Commission administrator will cooperate closely with the Oklahoma Department of Wildlife Conservation in the enforcement of laws protecting wildlife. Violators, especially poachers, will be prosecuted. The administrator will also have a full time staff of three recreation rangers during the recreation season. These persons will help control the use of firearms on the streams, which is another of the present threats to wildlife within the stream corridors. The development of the master plan for the streams, coordinated with the Department of Wildlife Conservation, will enable the identification of all areas of critical wildlife habitat (such as the heron rookeries, limestone caves harboring certain species of bats, etc.). Subsequent action taken by the Commission will provide certain degrees of protection for these areas (location of recreation sites sufficient distances away, periodic patrols to curb vandalism, etc.).

The primary impact on wildlife associated with implementation of the recommendation will result from the provision of new public use/access sites. It is recommended that 3 (20 acres each) primitive camping areas and 10 (2 acres each) rest nodes be acquired adjacent to the streams. The Scenic River Commission has voiced its willingness to work towards acquisition of the recommended acreages, but due to a limited budget, will forego acquisition initially and instead attempt to obtain the transfer of existing publicly and privately owned de facto use sites to its jurisdiction. These lands consist of the four fisherman access sites on the Illinois River, and the public and private lands within highway rights-of-way at bridge crossings. These sites currently receive heavy use as swimming/picnicking/canoe launching sites. Transfer of title and/or management responsibility to the Commission for operation and maintenance will not further impact riparian animal species.

Thus, the new lands acquired and developed as public use areas will result in a disruption of existing animal habitat, and probable relocation of species. Because of the small number of acres ultimately involved (80), it is probable that wildlife so disrupted will be readily absorbed into adjacent environments. It is unlikely that this absorption will result in competition for food and shelter to the extent that depletion of the habitat or species would result.

AESTHETICS

Though the Illinois River, and Flint and Barren Fork Creeks have attracted adjacent development, a float trip on any of the streams is still an aesthetically pleasing experience. Portions of the streams are densely overhung with characteristic bottomland vegetation, creating an aura of isolation. Abutting or visible from the streams are ridges several hundred feet high (such as Eagle Bluff, Pine Bluff and Sparrowhawk Mountain) which have become the trademark of the Illinois River. Streamside rock overhangs and faces also provide interesting contrast along the streams. Water, generally quite clear in the middle reaches of the Illinois and throughout Flint and Barren Fork Creeks, is another highly attractive characteristic. Agricultural development in the valley is not aesthetically disturbing, but instead lends an air of pastoral tranquility.

Due to fragility (extreme slope) of the scenic bluffs, it is very unlikely that they will attract development. Setback ordinances adopted by the Commission would protect the visual corridor by controlling development immediately along the bluffs' rims. Under the recommended plan, agricultural practices will continue unchanged and the pastoral setting will be maintained.

Zoning provisions will be used to control large scale adjacent development. Particularly sensitive areas could be protected by the administrative agency through fee acquisition or through scenic easements.

Mining activities for sand and gravel in or near the streams are aesthetic blights, but only occupy small parcels of riverfront property (less than 1 percent total riverfront). Little evidence of these activities is noticeable either immediately upstream or downstream. The recommendation would prohibit additional mining operations from locating on the streams, and as sand and gravel deposits at the existing sites are depleted, they would be phased out of operation.

Current litter problems plaguing the river during high-use months will be alleviated by the recommendation. The streams will be periodically cleaned through contract labor. Livery operators will continue to police the portions of the streams which they use for the float business. In addition, stiff fines will be assessed to violators caught by the administrative agency's river patrol. Litter has been repeatedly mentioned by users as the most detractive factor during float trips.

If implemented, the recommendation would help preserve the aesthetic experience currently available. It would not attempt to freeze or block all future development. However, it would identify and seek to protect from development those areas and vistas which are most significant. Any further development along the immediate river banks would be discouraged, as would disruption of adjacent foliage.

VEGETATION

Impacts to vegetation caused by implementation of the recommendation will center on the clearing of the land necessary for the development of the new public recreation sites. Although care will be taken to preserve as many trees as possible at each site, it is inevitable that some will have to be removed, along with the understory vegetation.

The recommendation proposes that 80 acres of land adjacent to the streams be developed for recreation use by the public. It is estimated that 25% of the trees and 95% of the understory vegetation will have to be cleared from this acreage. With careful planning and subsequent landscaping at each new site, the amount of erosion can be kept to a minimum and the aesthetics of the existing sites can be maintained.

A problem of great concern to the Scenic River Commission is the condition of the vegetative cover at the four fisherman access sites, currently administered by the Oklahoma Wildlife Conservation Department. Weeds, waist-high in some cases, have been allowed to grow unchecked over portions of the sites in an effort to discourage non-fisherman use (camping, picnicking, etc.). In addition, some of the trees covering and adjacent to the sites, have been stripped of their lower limbs by recreationists in search of firewood. Vegetative trampling by the large number of users is also increasing. In the more severe instances, trampling has removed all vegetation down to the bare earth, and erosion is becoming a problem.

The current impact which recreationists have on the vegetation on private lands adjacent to the streams is considered to be minimal because of the vast amount of streamside vegetation and its ability to regenerate quickly. However, landowners do view trampling and abuse to trees as disturbing, and some are posting their lands in an attempt to eliminate the problem. If implemented, the recommendation would provide for the placement of signs stating user rules at all access points, specifically prohibiting the cutting of living trees or the disturbance of plants. Also, the provision of new recreation sites along the streams would provide convenient rest stops, thereby likely reducing the incidence of trespass by recreationists and the resultant impact on vegetation.

Implementation of the recommendation will provide for administration, operation, and maintenance of the sites by the Scenic River Commission. Development and enforcement of user rules will control further abuse to the vegetation of the area, and also reduce the trampling and erosion problems through the replanting of hardy vegetation types and channeling recreationists away from these areas until the vegetation is established.

AIR QUALITY

Information on the status of air quality in the vicinity of the study streams is taken from the Flint Creek Environmental Report (Southwestern Electric Power Company), a supplement to the Flint Creek Power Plant Final Environmental Impact Statement (ER 75/1197). According to the report, the region has air quality that meets Federal primary air quality standards, but not secondary standards, for particulate matter, and meets primary and secondary standards for sulfur oxides, nitrogen dioxide, carbon monoxide and photochemical oxidants (hydrocarbons).

The recommendation does not propose any action which would directly reduce air quality. It could be argued, however, that the expected increase in recreation use (which is projected to occur with or without the proposed recommendation) will be accompanied by increased auto emissions and decreased air quality. There is no current attempt by the Commission to regulate automobile traffic because traffic and its resultant emissions have yet to become a problem. However, the recommendation proposes the establishment of management zones whereby commercial activity in Zone C (see page 19) can be controlled through regulation by the Commission. Eventually placing recreation use regulations on the streams to control resource deterioration (if necessary) will indirectly control the amount of recreationist automobile traffic and exhaust emissions.

WATER QUALITY

The best available information regarding the status of water quality in the Illinois River basin of Oklahoma comes from the recent Water Quality Survey of the Illinois River and Tenkiller Reservoir conducted and reported by the Oklahoma State Department of Health (June 1976 to October 1977). Salient facts from the report are summarized below:

- Lake Francis receives municipal and industrial discharges from the Illinois River in Arkansas. Non-point source contributions to Lake Francis occur from the forested areas east and north of the lake.
- Lake Francis is a major point source contributor (of nitrates, organic nitrogen, total nitrogen and total phosphorus) to the Illinois River.
- The Tahlequah Sewage Treatment Plant (see map, page 70) discharges into Tahlequah Creek, which flows into the Illinois River and causes increases of approximately 2% in the chemical oxygen demand, 12% in inorganic nitrogen, less than 1% in organic nitrogen, 9% in total nitrogen, and 10% in total phosphorus.
- Sager Creek flows through Siloam Springs, Arkansas (see map, page 70) and receives municipal and industrial wastewater effluents. Subsequently, Sager Creek flows into Flint Creek in Oklahoma. Sager Creek is Flint Creek's only point source.

- Shell Branch is the receiving stream for the Westville Wastewater Treatment Plant, and Tyner Creek receives industrial (cannery) effluent. Both of these streams empty into Barren Fork Creek in Oklahoma (see map, page 70). Barren Fork also has a major non-point source from the large amount of forested lands in its watershed.

Total nutrient loading (organic and inorganic nitrogen, total nitrogen, nitrate ammonia, phosphate and chemical oxygen demand) was measured on the three streams, and it was found the following sources contribute the indicated percentages of nutrient loading in the Illinois River*:

Source	Percentage of Nutrient Load in the Illinois River	
	Nitrogen	Phosphorus
Lake Francis	59.6	74.4
Illinois River (non-point sources)	8.2	3.7
Flint Creek	13.3	8.7
Tahlequah Creek (urban runoff)	2.1	2.4
Tahlequah Sewage Treatment Plant	0.8	2.7
Barren Fork Creek	16.0	8.1

- The impact which high intensity recreation has on water quality was not accurately measurable by the methodology used during the survey. Indications are that: 1) recreation does not appear to cause any appreciable increase in phosphorus, chemical oxygen demand, or organic nitrogen loading, and 2) public access areas do not appear to contribute appreciable nutrient loading. (End of summary).

Implementation of the recommendation will be beneficial to water quality of the three streams. The Scenic River Commission, specifically the Administrator and his employees, will serve as water quality watchdogs. In fulfilling this function the Commission staff will observe and report any apparent pollution problems to the Oklahoma Department of Pollution Control, and work with that agency in correcting the problem.

Water quality has been determined to be chemically unaffected by recreation use. As recreation use continues to grow, the provision of modern sanitary facilities at existing and future public use sites adjacent to the streams will help limit the amount of human excrement which enters the streams.

The above referenced water quality report does not address whether or not the water in the study areas of the river and two creeks is suitable for recreation use. However, the Oklahoma Water Resources Board has listed all three streams as suitable for recreation and primary body contact (see definition, page 38).

*The chart was adapted from Table 2-3 of the Water Quality Survey.

HISTORICAL AND ARCHEOLOGICAL ELEMENTS

The sites along or near the study streams which are either eligible for or are on the National Register of Historic Places are listed in Appendix D. Other sites of historic interest also are identified (see map, page 50.) It is anticipated that all of these sites will continue in private ownership and will generally not be available to the public.

If implemented, the recommendation will provide for special consideration of these sites by the Commission. The administrator will work closely with the Oklahoma State Historic Preservation Officer both in the development of a master plan and in site location of the new public recreation facilities to avoid disturbance to historic or archeologic sites. In addition, the proposal calls for the Commission to cooperate with landowners in the protection of these sites from vandalism through periodic patrol by the river rangers. Recreationists will be warned, by strategically placed signs, not to disturb buildings, structures or any other cultural or natural features found on adjacent lands. Penalties for violations will be publicized.

Implementation of the recommendation will not adversely impact historic or archeologic sites. Through coordination with the Oklahoma Historic Preservation Officer, significant sites will be identified, and the Commission will assist site owners in their protection by carefully reviewing projects which would cause adverse impacts.

LOCAL ECONOMICS

The Illinois River and Flint and Barren Fork Creeks represent significant resources in an area of the State which is economically depressed. The streams serve as the base for such uses as farms, ranches, nurseries, canoe liveries, orchards, sand and gravel operations and resorts.

The recommendation proposes the establishment of three management zones in which various degrees of resource protection will be provided (see Area of Jurisdiction). Traditional uses within all three zones will be allowed to continue. These include livestock grazing and watering, timber thinning and brushhogging, harvesting, fence and building maintenance, nursery container operations, orchards, sand and gravel mining* and livery operations. Management of the streams will center around protection of the aesthetic values within the visual corridor. Other types of land uses (i.e. second home developments) will be allowed, pending approval by the Commission, only if it can be demonstrated that the uses will not impact on the visual corridor. This will not deter economic development within the valley, but rather channel its location to areas which will not cause a physical or visual disturbance to the streams. The recommendation does not propose the removal of existing businesses, structures or land uses (with the singular exception of eventual phasing out of streamside sand and gravel operations - see Recommendation Assumptions, page 94). Examples of new land uses which would be prohibited from locating in Zone A and portions of Zone B would include slaughter pens, feed lots and timber clear cutting.

Of benefit to the local economy will be the generation of river maintenance funds through adoption and collection of a recreationist user fee by the Commission. In essence, this fee will consist of new dollars from outside flowing into the Illinois River valley, for use by the Commission in its recreation management work. A 1976 study by recreation-tourism students of Northeastern Oklahoma State University in Tahlequah revealed that tourism dollars in the Illinois valley vicinity turned over an average of 5 times before leaving the area.

It is considered vital to the economy of the 3 county area that the ways of life along the study streams be allowed to continue. The same is true for canoe liveries and support facilities found along the streams. These liveries attract over \$1 million annually in tourism dollars. If allowed to grow unchecked as in the past 5 years, however, the liveries could generate sufficient recreation business that the recreation appeal of the streams would be reduced. In order to avoid this possibility, the Commission and the livery operators are placing a ceiling on the number of rental canoes, and eventually may work jointly to limit the number of float trips allowed on the streams each year. Although this would somewhat limit the growth of the liveries and, to a degree, the valley's

*No verified documentation is available from Cherokee, Adair, or Delaware Counties regarding value of sand and gravel deposits along the 3 study streams. Also, it is not known where the mined products are marketed, so determining impact on local construction caused by the recommendation is difficult. However, other streams in the 3 county area also produce significant quantities of sand and gravel, and provide alternate nearby sources to supply local needs.

economic growth supported by the liveries, the resource would be maintained to assure a constant supply of recreationists. Otherwise, resource deterioration may force tourists, and their dollars, to go elsewhere for a floating experience.

Acquisition of the recommended 80 acres for new public recreation areas will have only a minor negative impact on the local tax base, as only .5% of the land under the Commission's jurisdiction will be acquired. This will be spread over a 2 or possibly 3 county area to further reduce the impact on the tax base for any one county. The 43.7 acres for which easement acquisition is recommended comprise .25% of the jurisdictional area. Easements allow the land to remain in private ownership (although at a reduced valuation). Again, scenic easement acquisition would be spread over a 2-3 county area.

RECREATION

As discussed under Recreation Enterprises (page 56), recreation use of the Illinois River and Flint and Barren Fork Creeks has been increasing in recent years. Indications, based on past purchases of additional canoes by livery operators, are that recreation use will increase with or without implementation of the recommendation. Local residents repeatedly mentioned during public meetings held during the study that recreation is the highest and best use of the streams in terms of economics and the environment.

The recommendation provides for dispersed recreation facilities to allow more diverse use of the resource. Primitive camping areas, currently unavailable, will be acquired and developed by the Commission. These and the proposed rest nodes will be spaced over the 115 miles of study streams, rather than being concentrated along a portion of the Illinois River where the majority of liveries and the fisherman access sites are currently located (see map, page 70). By selecting and purchasing these sites from a broad area, the Commission will be able to partially dilute the concentrated use that occurs currently where Highway 10 and the Illinois River closely parallel one another.

User fees collected by the Commission will provide funds for management of the streams. Litter is mentioned by recreationists as the most detractive characteristic encountered while floating. Currently the only litter control of the streams is done by livery operators on a voluntary basis, but this occurs exclusively on part of the Illinois, with other portions of the river and both creeks receiving no litter control. User fees will allow continual maintenance of the streams and the public access and use areas, and thereby improve the quality of the recreation experience.

Another benefit that would result from implementation of the proposed recommendation will be the capability of the Commission and the livery operators to help control the number of recreationists using the streams. This action is considered necessary if users increase to the extent that they become detrimental to the streams. Recreation limitations will help both to assure the integrity of the resource and to maintain a quality recreation experience for tourists.

LAND OWNERSHIP

The recommendation proposes a management strategy which will allow most of the privately owned lands to continue in private ownership. It is recommended that the Commission acquire 80 acres (see Recreation Development) of private land for development of primitive camping areas and rest nodes. The Commission does not have the power of eminent domain, so all acquisition would be on a willing-seller/willing-buyer basis. In addition, the recommendation proposes that the Commission acquire scenic easements on an additional 43.7 acres to protect environmentally fragile areas. Ownership would not change hands, but restrictions would be placed on any landowner action which would be detrimental to the integrity of the sites.

Based on the recommendation, new fee and less than fee acquisition by the Commission would occur on approximately .5% and .25% respectively of the lands within the territorial jurisdiction. Ninety percent of the affected land will remain in private ownership and will not be open to public use.

WATER RESOURCE PROJECTS

Three potential reservoir sites have been identified on the study streams by the Oklahoma Water Resources Board (see map, page 79.). Both the Water Resources Board and the Corps of Engineers, now in the process of jointly preparing Phase III of the Oklahoma Comprehensive Water Plan, have stated that it is too early in formulation of the plan to determine whether the Illinois and its tributaries above Tenkiller Reservoir will be considered for additional water resources development.

The Oklahoma Scenic Rivers Act of 1970 provides general impoundment protection to six Oklahoma streams, including the Illinois River and Flint and Barren Fork Creeks (see Appendix A). The act prohibits construction of any impoundment without legislative consent, except by nearby municipalities for municipal and domestic water supply where the impoundment structure does not impede the stream's free-flowing characteristics. The Oklahoma Scenic River Commission, by virtue of the legislation which enabled its creation, has the authority to review and block any action initiated by an incorporated town, city or county within the territorial jurisdiction if the action would be adverse to the purpose of stream protection. The Commission's authority would supplement the authority of the Oklahoma Scenic Rivers Act.

Impoundment of the Illinois River or Flint or Barren Fork Creek would require an act of the Oklahoma legislature. Should the streams be added to the National Wild and Scenic Rivers System (although this is not recommended at this time) they would receive comprehensive impoundment protection as specified in the Wild and Scenic Rivers Act of 1968.

SOILS

One of the causes of the relatively poor economic status of Adair, Cherokee and Delaware Counties is absence of deep, fertile soil. The existing layer of topsoil is shallow and not sufficiently rich to support significant crop production. Therefore, the primary use of the soil is for hay meadows and grazing, and to a lesser extent for certain row crops (see Table V).

Implementation of the proposal will result in 80 acres of private land being purchased and developed as public recreation sites. Location of these sites will be determined when the Commission's master plan has been completed. It is not likely that productive agricultural land will be purchased for recreation site purposes. Wooded areas exhibiting natural features would better fulfill the purpose.

Each of the streams is causing localized severe erosion of adjacent banks and pasturelands. This problem was the subject of a cooperative venture on Barren Fork Creek between Adair County, the Cherokee Hills Resource Conservation and Development (RC&D) Project, and the Economic Development Administration. The eroding banks were stabilized with aesthetically acceptable gabion structures, and the new vegetation growing on the formerly eroding banks is an indicator of the project's success. Similar types of cooperative ventures will be undertaken, spearheaded by the Scenic River Commission.

Soil compaction will occur on the 80 acres of new public use areas that are to be acquired and developed. This is unavoidable because of the heavy public use these sites will receive. However, this represents less than 1/2 of 1 percent of the land within the Commission's jurisdiction. By committing these sites to public recreation and allowing the majority of streamside land to be retained in private ownership, soil compaction will only occur on those public use sites, and therefore will be a problem of small proportion.

The recommendation will benefit valley soils. Severely eroding stream banks will be stabilized, thereby protecting the adjacent pasture lands from the erosive forces of the streams. Before development can occur on any area of extreme slope within the Scenic River Commission's jurisdiction, the proposal will be weighed as to its impact on soils and its potential for causing erosion. Soils will be kept in place rather than eroding into the streams. Water clarity, as well as lands adjacent to the streams, will benefit.

TRANSPORTATION AND UTILITY ROUTES

There are currently 15 bridges and 5 major power lines which span the 3 study streams. As mentioned under Regional - Local Plans, several rebuilt or new bridges are being proposed by the Oklahoma Department of Transportation. These are: State Highway 33 across Flint Creek (improvement); U.S. 59 across Barren Fork Creek north of Stilwell (replacement); and county road across Barren Fork Creek southeast of Christie (replacement). Additionally, new bridges across Barren Fork Creek likely will be required should U.S. 62 be improved from Eldon to Christie.

The recommendation does not propose that additional transportation and utility routes not be allowed to cross the study streams. The Commission does have legislative authority to block any action which it considers inappropriate or detrimental to the streams. Transportation and utility crossings do have an impact on stream aesthetics, but conversely, are vital to the economic sustenance of an agrarian society. As such, each proposal will have to be weighed on a case-by-case basis to determine whether it is warranted.

APPENDICES

- A. OKLAHOMA SCENIC RIVERS ACT OF 1970
- B. SCENIC RIVER COMMISSION LEGISLATION
- C. ANIMAL SPECIES
- D. HISTORIC SITES
- E. RESPONSES FROM WATER PLANNING AGENCIES
- F. AGENCY COMMENTS ON DRAFT REPORT

A. OKLAHOMA SCENIC RIVERS ACT OF 1970

CHAPTER 21.—SCENIC RIVERS ACT

- Sec.
1451. Short title.
1452. Preservation of certain free-flowing streams and rivers—designation of scenic river areas.
1453. Acts prohibited within scenic river area.
1454. Cooperation—acquisition of access points, easements or park areas—power of eminent domain prohibited.
1455. Littering—penalties.
1456. Property rights of private landowners.
1457. Pollution—prevention and elimination.
1458. Notice and hearing as to designation of additional scenic areas.
1459. Severability.

§ 1451. Short title.—This act shall be known as the "Scenic Rivers Act". Laws 1970, c. 68, § 1. Emerg. eff. March 17, 1970.

§ 1452. Preservation of certain free-flowing streams and rivers—Designation of scenic river areas.—(a) The Oklahoma Legislature finds that some of the free-flowing streams and rivers of Oklahoma possess such unique natural scenic beauty, water conservation, fish, wildlife and outdoor recreational values of present and future benefit to the people of the state that it is the policy of the Legislature to preserve these areas for the benefit of the people of Oklahoma. For this purpose there are hereby designated certain "scenic river areas" to be preserved as a part of Oklahoma's diminishing resource of free-flowing rivers and streams.

(b) The areas of the state designated as "scenic river areas" shall include:

(1) The Flint Creek and the Illinois River above the 650-foot elevation level of Tenkiller Reservoir in Cherokee, Adair and Delaware Counties.

(2) The Barren Fork Creek in Adair and Cherokee Counties from the present alignment of Highway 59 West to the Illinois River.

(3) The Upper Mountain Fork River above the 600-foot elevation level of Broken Bow Reservoir in McCurtain and LeFlore Counties.

(4) Big Lee's Creek, sometimes referred to as Big Lee Creek, located in Sequoyah County, beginning near the Adair and Sequoyah County line and ending in eastern Sequoyah County near the Arkansas River.

(5) Little Lee's Creek, sometimes referred to as Little Lee Creek, located in Adair and Sequoyah Counties, beginning approximately four (4) miles east-southeast of Stilwell, Oklahoma, and ending at its conjunction with Big Lee's Creek approximately two (2) miles southwest of Short, Oklahoma.

(c) The term "scenic river area" as used in this act is defined as the stream or river and the public use and access areas located within the area designated. Laws 1970, c. 68, § 2. Emerg. eff. March 17, 1970.

Navigable Waters §29; *Waters and Water Courses* §36.

§ 1453. Acts prohibited within scenic river area.—Once an area is designated as a "scenic river area" it is an expression of legislative intent that the stream or river in the area designated be preserved in its free-flowing condition and that the stream or river shall not be impounded by any large dam or structure except as specifically authorized by the Legislature. No agency or official of state government shall authorize or concur in plans of local, state or federal agencies for the construction, operation, or maintenance of any dam or related project in any "scenic river area", without legislative consent, except as needed by the municipalities located in the counties or the immediate vicinity of the "scenic river area" for their own municipal or domestic water supply and where such structures will not significantly interfere with the preservation of the stream as a scenic free-flowing stream. Laws 1970, c. 68, § 3. Emerg. eff. March 17, 1970.

Navigable Waters §29; *Waters and Water Courses* §36.

§ 1454. Cooperation—Acquisition of access points, easements or park areas—Power of eminent domain prohibited.—It is recognized by the Legislature that an effective program for preserving the scenic beauty of the free-flowing streams and rivers designated as "scenic river areas" necessarily involves the cooperation and support of the people in the "scenic river areas", as well as the people using the "scenic river areas", and the agencies of state government administering these areas. The primary purpose of this act is to encourage the preservation of the areas designated as "scenic river areas" in their natural scenic state. In order

to assist in the public use and enjoyment of such areas the Oklahoma Industrial Development and Park Department and the Oklahoma Wildlife Conservation Commission may acquire, develop and maintain public access points, easements or park areas in "scenic river areas"; however, such acquisitions shall be by private treaty only, and the use of the power of eminent domain for these purposes is specifically prohibited by this act. Laws 1970, c. 68, § 4. Emerg. eff. March 17, 1970.

Eminent Domain §17; *Navigable Waters* §29; *Waters and Water Courses* §36.

§ 1455. **Littering—Penalties.**—It is recognized by the Legislature that littering by people using the "scenic river areas" is one of the most immediate threats to the scenic beauty of our free-flowing streams and surrounding areas, therefore a penalty of up to a Two Hundred Fifty Dollar (\$250.00) fine and/or up to thirty (30) days in the county jail is imposed for littering such areas. The game rangers and other personnel of the Wildlife Conservation Commission, the personnel of the Industrial Development and Park Department, any landowner in the area, or any other interested party may file such a complaint. Laws 1970, c. 68, § 5. Emerg. eff. March 17, 1970.

§ 1456. **Property rights of private landowners.**—The property rights of private landowners in and around "scenic river areas" are the same as in any other area, and the unauthorized use of private property is trespassing and is subject to the penalties provided elsewhere in the statutes for such an offense. Laws 1970, c. 68, § 6. Emerg. eff. March 17, 1970.

Navigable Waters §29; *Waters and Water Courses* §36.

§ 1457. **Pollution—Prevention and elimination.**—The Director of the Water Resources Board and other appropriate state water pollution control agencies are hereby given the authority to assist in preventing and eliminating the pollution of waters within a "scenic river area". Laws 1970, c. 68, § 7. Emerg. eff. March 17, 1970.

Navigable Waters §29; *Waters and Water Courses* §36, 64.

§ 1458. **Notice and hearing as to designation of additional scenic areas.**—Before any plans for additional proposed "scenic river areas" are brought to the Legislature for consideration, the Industrial Development and Park Commission shall give reasonable notice in newspapers of general circulation in every county in which land and streams are situated that would be affected by the proposed "scenic river area". Said notice shall include a map or drawing of the proposed area and shall give the time and place of a meeting in each county affected, at which time and place the Commission shall present their plans for the proposed area. Laws 1970, c. 68, § 8. Emerg. eff. March 17, 1970.

Navigable Waters §29; *Waters and Water Courses* §36.

§ 1459. **Severability.**—The provisions of this act are severable and if any part or provision hereof shall be held void the decision of the court so holding shall not affect or impair any of the remaining parts or provisions of this act. Laws 1970, c. 68, § 9. Emerg. eff. March 17, 1970.

Statutes §64(2).

An Act

ENROLLED SENATE
BILL NO. 285

BY: ROZELL of the SENATE

and

TOWNSEND, WILLIS, HOLDE
ARNOLD and COWAN of the

Correctly Enrolled: *[Signature]*, Chairman, COMMITTEE ON ENGROSSED AND ENROLLED BILLS
(Enrolled in accordance with Senate Bill No. 115 of the Twenty-seventh Legislature)

AN ACT RELATING TO WATERS AND WATER RIGHTS; PROVIDING A STATEMENT OF PURPOSE; PROVIDING FOR THE ESTABLISHMENT OF CERTAIN COMMISSIONS RELATING TO SCENIC RIVERS; PROVIDING CERTAIN DUTIES, POWERS AND RESPONSIBILITIES FOR THE DEPARTMENT OF TOURISM AND RECREATION, CERTAIN COMMISSIONS AND CERTAIN LOCAL GOVERNMENTAL ENTITIES; PROVIDING FOR THE DELINEATION OF CERTAIN JURISDICTIONS; PROVIDING PROCEDURES; PROVIDING FOR CERTAIN ELECTIONS AND PROCEDURES THEREFOR; PROVIDING FOR CERTAIN HEARINGS AND ADMINISTRATIVE ACTIONS; PROVIDING FOR DISSOLUTION OF COMMISSIONS; PROVIDING FOR USE OF LAND AND EXEMPTIONS THEREFROM; PROVIDING FOR FUNDING; PROHIBITING CERTAIN ACTIONS; PROVIDING PENALTIES; PROVIDING EXCEPTIONS; DIRECTING CODIFICATION; PROVIDING SEVERABILITY; AND DECLARING AN EMERGENCY.

3 and

4 TOWNSEND of the HOUSE
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10 AN ACT RELATING TO WATERS AND WATER RIGHTS;
11 PROVIDING A STATEMENT OF PURPOSE; PROVIDING FOR
12 THE ESTABLISHMENT OF CERTAIN COMMISSIONS RELATING
13 TO SCENIC RIVERS; PROVIDING CERTAIN DUTIES, POWERS
14 AND RESPONSIBILITIES FOR THE DEPARTMENT OF TOURISM
15 AND RECREATION, CERTAIN COMMISSIONS AND CERTAIN
16 LOCAL GOVERNMENTAL ENTITIES; PROVIDING FOR THE
17 DELINEATION OF CERTAIN JURISDICTIONS; PROVIDING
18 PROCEDURES; PROVIDING FOR CERTAIN ELECTIONS AND
19 PROCEDURES THEREFOR; PROVIDING FOR CERTAIN
20 HEARINGS AND ADMINISTRATIVE ACTIONS; PROVIDING FOR
21 DISSOLUTION OF COMMISSIONS; PROVIDING FOR USE OF
22 LAND AND EXEMPTIONS THEREFROM; PROVIDING FOR
23 FUNDING; PROHIBITING CERTAIN ACTIONS; PROVIDING
24 PENALTIES; PROVIDING EXCEPTIONS; DIRECTING
25 CODIFICATION; PROVIDING SEVERABILITY; AND
26 DECLARING AN EMERGENCY.

27 BE IT ENACTED BY THE PEOPLE OF THE STATE OF OKLAHOMA:

28 SECTION 1. The Legislature finds that the protection and
29 development of the state's Scenic River Areas and adjacent and
30 contiguous lands should be provided for by properly planned and
31 executed regulations respecting public services, land use, occupancy,
32 structures, lot and plot sizes, density of population and other
33 activities as required for the proper protection of the aesthetic,
34 scenic, historic, archeologic and scientific features of the said
35 affected areas, or deemed necessary for the protection of the
36 ecosystem and the environment from pollution, despoliation and
37 destruction or waste of natural resources and all other factors
38 adversely affecting the public health, safety and the general welfare
39 so long as said regulations comply with the exempt provisions of this
40 act pertaining to farming, ranching, forestry, silviculture and other
41 agricultural uses.

1 SECTION 2. A. The creation of a Scenic River Commission is
2 hereby authorized for each designated Scenic River Area or
3 combination of areas for which territorial jurisdictions for planning
4 and management have been delineated. Each Commission shall be an
5 agency of the state and shall be named to reflect the area or areas
6 covered. State funds for each Commission shall be by a separate line
7 item appropriation through the state agency hereinafter named or by
8 direct appropriation. If funded through the named state agency, said
9 state agency shall disburse the funds to the appropriate Scenic River
10 Commission in the amount and under the conditions prescribed by the
11 Legislature.

12 B. The territorial jurisdiction for each Commission shall be
13 delineated in accordance with procedures provided for in this act and
14 shall include an area or combination of areas described in Section
15 1452 of Title 82 of the Oklahoma Statutes and such adjacent and
16 contiguous areas as are necessary to assure the proper planning and
17 management of the respective Scenic River Area(s).

18 C. Each Commission shall consist of not less than seven nor more
19 than fifteen members:

20 1. The board of county commissioners of each county that makes
21 up a part of the affected area shall appoint one member to serve an
22 initial term of three (3) years. Each appointee shall be a resident
23 of the appointing county. If the board of county commissioners of
24 any county fails to make this appointment, the board of directors of
25 the appropriate conservation district shall make the appointment.

26 2. The Governor shall appoint two members for initial terms of
27 one (1) year at least one of whom shall be a representative of the
28 State Conservation Commission or the State Tourism and Recreation
29 Commission. The President Pro Tempore of the Oklahoma State Senate
30 shall appoint, for an initial term of one (1) year, one member who
31 shall be a member of a statewide citizens' conservation or
32 environmental group. The Speaker of the Oklahoma House of
33 Representatives shall appoint one member for an initial term of four
34 (4) years who shall be a representative of the state agency through
35 which the Commission receives state appropriations. In the event a
36

1 Scenic River Commission receives its state funds through direct
2 appropriation, the member appointed to that Commission by the Speaker
3 shall be a representative of the State Conservation Commission or the
4 State Tourism and Recreation Commission. There shall be no more than
5 one member representative of any one state agency.

6 3. The additional members of the Commission shall be elected in
7 a nonpartisan election to represent the following:

8 a. The registered voters who reside or own property within
9 the territorial jurisdiction of the Commission shall
10 elect one member to represent the county in which they
11 live or own property for an initial term of two (2)
12 years.

13 b. The registered voters who reside or own property within
14 the territorial jurisdiction of the Commission shall
15 elect two at large members for initial terms of four
16 (4) years.

17 4. Thereafter, vacancies shall be filled by the above procedure
18 and terms of the members shall be for four (4) years and until their
19 respective successors shall be appointed and qualify, or elected,
20 unless terminated by death or resignation. Each Scenic River
21 Commission shall establish procedures consistent with the
22 requirements of this section for replacing members who fail to attend
23 meetings or otherwise become unable to function due to disability,
24 death or resignation. Such replacement(s) shall serve for the
25 remainder of the unexpired term(s) of the member(s) being replaced.

26 D. Each Commission shall be organized in cooperation with local
27 governments in accordance with procedures provided for in this act.
28 Provided, an interim commission consisting of the members appointed
29 by the Governor, the President Pro Tempore of the Senate, Speaker of
30 the House of Representatives and the boards of county commissioners
31 that compose a majority of the area to be included shall provide for
32 the election of additional members as provided for in paragraph 3 of
33 Section 2 of this act and shall provide for the delineation of the
34 territorial jurisdiction of the Commission subject to confirmation
35 through resolution by local units of governments as described in
36

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Chairman, Committee on Enrolled Bills

Correctly Enrolled:

Chairman, Committee on Enrolled Bills

Correctly Enrolled:
Chairman, Committee on Enrolled Bills

1 paragraph 1 of Section 3 of this act. If local units of governments
2 do not specifically disapprove the proposed territorial jurisdiction
3 submitted to them by the interim commission within forty-five (45)
4 days from the date it is submitted to them, said proposed
5 jurisdiction shall be deemed approved.

6 E. Each Commission shall be invested with the power to prepare
7 and establish minimum standards for planning, zoning and other
8 ordinances and regulations for the implementation of this act by
9 counties, cities or incorporated towns or any other local authorities
10 in the designated area and shall make and promulgate such rules and
11 regulations and issue such orders as necessary to protect the public
12 interest and to achieve the purposes of this act. The standards
13 shall be developed and executed in such manner as to protect and
14 enhance the values which caused the area to be named a Scenic River
15 Area, without, insofar as is consistent therewith, limiting other
16 uses that do not substantially interfere with the protection, public
17 use and enjoyment of these values. Primary emphasis in such
18 standards shall be given to protecting the aesthetic, scenic,
19 historic, archeologic and scientific features of the Scenic River
20 Area with due consideration being given to the orderly development of
21 the lands adjacent and contiguous to the Scenic River Area.
22 Standards set hereunder shall in no event be less rigid or exacting
23 than those established by any other agency, federal or state, having
24 jurisdiction in respect to the subject covered by the particular
25 standard. In addition, each Commission may engage in or supervise
26 the conduct of studies, make a plan or plans, receive, disburse and
27 allocate monies granted or appropriated to it, and do all things,
28 whether expressly enumerated herein or not, which may be lawful and
29 necessary and proper for the due accomplishment of the purposes of
30 this act; provided, that nothing herein shall ever be interpreted as
31 giving the Commission the power of eminent domain.

32 F. Each Commission shall have the following specified powers and
33 responsibilities:
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C. R. Allen
Chairman, Committee on Engrossed and Enrolled Bills

Correctly Enrolled:
C. R. Allen
Chairman, Committee on Engrossed and Enrolled Bills

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Chairman, Committee on Engrossed and Enrolled Bills

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C. R. Allen
Chairman, Committee on Engrossed and Enrolled Bills

- 1 ✓1. Establish and expand the territorial jurisdiction of the
2 Commission subject to confirmation through resolution by local units
3 of governments described in paragraph 1 of Section 3 of this act;
- 4 2. Appoint and fix the salary of an administrator experienced in
5 land resource planning and management who shall serve at the pleasure
6 of the Commission and in accordance with its policies, budgets,
7 powers and responsibilities. The administrator may select, appoint
8 and employ individuals to fill personnel positions authorized,
9 budgeted and deemed necessary by the Commission to carry out the
10 purposes of this act;
- 11 3. Act in cooperation with all federal, state and local
12 governments and agencies thereof to carry out the purposes of this
13 act;
- 14 4. Elect from the Commission membership a chairman and such
15 other officers as the Commission deems necessary to conduct its
16 affairs and hold Commission meetings not less than once each quarter,
17 at such times as may be fixed from time to time by call of its
18 chairman or as determined by majority vote in advance of the meeting.
19 It is the responsibility of the Commissioners to encourage general
20 public participation in the formation and adoption of plans,
21 standards, procedures and regulations. The meetings of the
22 Commission shall be open to the public. Minutes of each meeting
23 shall be kept and be filed in the office of the Commission and shall
24 be available for public inspection during reasonable office hours;
- 25 5. Adopt and publish rules and orders necessary and proper to
26 the exercise of the powers of the Commission and to achieve the
27 purposes of this act;
- 28 ✓6. Provide rules and regulations governing the procedures
29 necessary to carry this act into effect;
- 30 ✓7. Exercise the full power of planning and zoning and
31 regulations necessary and proper for carrying the purpose of this act
32 into effect;
- 33 ✓8. Prepare and adopt a management plan or plans to guide and
34 control private activities and public programs and to include varying
35 degrees of protection and development based on the special attributes
36

1 of the area. In default of action by any city, incorporated town,
2 county or agency thereof within the territorial jurisdiction of the
3 Commission, the Commission shall establish zoning regulations, a
4 building code, a housing code and other regulations to carry into
5 effect the purpose of this act;

6 9. Provide, where appropriate in the discretion of the
7 Commission, for the review and consideration by the Commission of the
8 impact on the natural and aesthetic environment of the area of
9 proposed action by public agencies or private individuals within the
10 territorial jurisdiction of the Commission;

11 ✓10. Accept, in the name of and through the Commission, real and
12 personal property that is granted, bequeathed, devised or conveyed to
13 the Commission to carry out the purpose of this act, upon such trusts
14 and conditions as may be prescribed by the grantors or devisors, upon
15 approval of the Commission;

16 11. Enter into contracts on behalf of the Commission to carry
17 out the purposes of this act and may accept gifts and grants, whether
18 such grants be of federal or other funds;

19 ✓12. Identify public and private nuisances which are adverse to
20 the purposes of this act and take such action as permitted by law to
21 remove such public nuisances;

22 ✓13. Own and control public access points to the Scenic River
23 Area, issue use permits, purchase easements and fee title to land
24 within the Commission's jurisdiction. Legal title to property shall
25 be held in the name of the individual Scenic River Commission as an
26 agency of the State of Oklahoma;

27 14. Review any action taken by any local, municipal or county
28 authority within the jurisdiction of the Commission in an
29 administrative adjudicatory proceeding brought upon the petition of
30 any officer or agency of this state, including the administrator or
31 of any person acting in behalf of the public interest, to determine
32 whether such action conforms to the standards promulgated by the
33 Commission or has an adverse effect upon the proper achievement of
34 the purposes of this act and upon finding that such action does not
35 so conform or does have such adverse effect, order that the action be
36

Correctly Enrolled: *[Signature]*
Chairman, Committee on Engraved and Enrolled Bills

Correctly Engraved: *[Signature]*
Chairman, Committee on Engraved and Enrolled Bills

1 nullified, superseded or amended to the extent necessary to produce
2 such conformity or eliminate such adverse effect, and may issue such
3 orders as may be necessary and proper to effectuate its primary
4 order;

5 15. Hire an attorney or request legal assistance from the
6 district attorney or the State Attorney General where appropriate and
7 where there is no conflict in the legal interest of the parties;

8 16. Bring an action in the district court of any county of the
9 state where service can be obtained on one or more of the defendants,
10 to enjoin the acts or practices which appear to constitute a
11 violation of any provision of this act or any rule or order hereunder
12 and to enforce compliance with this act or any rule or order
13 hereunder. Upon a proper showing, a restraining order, or permanent
14 or temporary injunction, or writ of mandamus, or other appropriate
15 remedies including damages shall be granted. The court may not
16 require the administrator or Commission to post a bond; and

17 ✓ 17. Suspend the effectiveness of any action taken by a city or
18 incorporated town or county within the designated territorial
19 jurisdiction of such Commission when, in the exercise of alleged
20 local functions, it appears such action has or may have an adverse
21 effect upon the proper achievement of the purposes of this act,
22 whereupon all proceedings thereunder shall be held in abeyance upon
23 receipt of written notice from the administrator pending a final
24 determination of the Commission in regard to such action. If it is
25 determined that such adverse effects exist, the Commission may
26 nullify, supersede or amend said action only to the extent necessary
27 to achieve the purposes of this act.

28 G. A Commission member to whom some private benefit, direct or
29 indirect, financial or otherwise, may come as the result of some
30 public action should not be a participant in that action. The
31 possibility, not the actuality, of a conflict of interest should
32 govern. A Commission member, experiencing a conflict of interest,
33 should declare his interest publicly, abstain from voting on the
34 matter should he have a vote and refrain from deliberation on the
35 matter. In addition, the Commission member should not discuss the
36

1 matter with any fellow member for the purpose of influencing a
2 decision thereon.

3 H. The rules and regulations or orders of the Commission shall
4 be adopted and issued in compliance with all applicable provisions of
5 the Oklahoma Administrative Procedures Act.

6 SECTION 3. The Oklahoma Department of Tourism and Recreation
7 shall:

1. Establish procedures for organizing and certifying Scenic River Commissions to administer a resource management program for designated Scenic River Areas and adjacent lands, consistent with the purposes of this act. Provided that, no Commission shall be certified as an agency of the state to exercise the powers provided for in this act until an interim commission shall have delineated the territorial jurisdiction of the Commission and formulated procedures for holding an election for the additional Commission members. Provided further, no Scenic River Commission shall be established unless otherwise provided for in this act or recommended for organization by one of the following methods:

19 a. a resolution signed by two or more counties or one
20 county and a city or conservation district of an
21 adjoining county statutorily defined as part of the
22 designated Scenic River Area,
23
24 b. a resolution signed by at least one county statutorily
25 defined as part of the designated Scenic River Area and
26 a state agency, or
27
28 c. a petition signed by five hundred (500) registered
29 voters residing in any county statutorily defined as a
30 part of the designated Scenic River Area;

2. Assist in the preparation of each Scenic River Commission territorial jurisdiction delineation study in cooperation with other state agencies and local units of government which shall include but not be limited to:

a. proposed boundaries for the territorial jurisdiction of each designated Scenic River Area,

1 b. criteria for requisite planning and management programs
2 for the area, and

3 c. requirements for administering a management program;

3. Disburse line item or other state appropriations to certified Scenic River Commissions established in accordance with this act and provide upon request, if funds and resources are available, technical assistance to said Commissions in the planning and administration of resource management programs within their respective territorial jurisdictions;

4. Prepare procedures for review and comment by appropriate state and local agencies on proposed management plans, standards and developments identified by a Scenic River Commission as having a significant impact within its territorial jurisdiction; and

5. Establish, as provided in subsection D of Section 2 of this act, a Scenic River Commission for the Flint Creek and Illinois River and the Barren Fork Creek Scenic River Areas, provided that within sixty (60) days of the effective date of this act no resolution opposing such establishment is adopted by affected county commissioners through the procedures established in paragraph 1 of this section for the establishment of a Commission.

SECTION 4. Each Scenic River Commission may be dissolved by a joint resolution passed by the boards of county commissioners of all counties that make up a part of the affected area and an affirmative vote of two-thirds (2/3) of the members of the Scenic River Commission. Upon the dissolution of a Commission the title to all real property and other property and funds shall vest in the State of Oklahoma.

SECTION 5. Nothing in this act shall be construed to unduly restrict or adversely affect the use of property within the jurisdiction of any Scenic River Commission for farming, ranching, forestry, silviculture and other agricultural uses so long as they are not inconsistent with the purposes of this act. Present farming, ranching, forestry, silviculture and other agricultural uses and practices, including existing building and replacement structures, are hereby exempt from the provisions of any Scenic River Commission.

1 Nor shall this act be construed in any way to affect existing rights
2 between a landowner and utility or pipeline companies.

SECTION 6. All cities and incorporated towns and counties that make up a part of a jurisdiction of a certified Scenic River Commission are hereby invested with full power to plan, zone and enact all ordinances and regulations that are necessary and proper to carry out the purposes of this act. The cities, incorporated towns and counties shall follow their respective general procedures in the conduct of legislative functions. In exercising planning and zoning functions, said cities, incorporated towns and counties shall utilize the organization and procedures available to cities and incorporated towns under the general planning and zoning laws of the state. Provided that, when a county exercises the powers provided by this act the board of county commissioners of that county shall perform the obligations and exercise the powers in the same manner as a local legislative body or mayor of a city, incorporated town or municipality.

18 SECTION 7. Each county, city, incorporated town or other
19 governmental entity that makes up a part of the territorial
20 jurisdiction of a Scenic River Commission is hereby authorized to
21 grant or otherwise provide funds for the operation of the Commission.

22 SECTION 8. Any person who willfully violates any rule,
23 regulation or order issued under this act, except such rules,
24 regulations or orders as relate solely to procedural matters, shall
25 be guilty of a misdemeanor.

SECTION 9. Action taken hereunder by any Commission or by its administrator may be reviewed in the district court of the county in which the Commission office is located or the county in which the property affected is located and in accordance with the standards established by the Administrative Procedures Act of this state.

31 SECTION 10. It is hereby declared to be the policy of the State
32 of Oklahoma to develop in an orderly and expeditious manner the
33 Scenic River Commissions contemplated in this act. For such
34 purposes, the provisions of this act, for a period of three (3) years
35 from and after its passage and approval shall apply only to the

Currently Enrolled: *House of Representatives* Chairman, COMMITTEE ON ENCLOSED AND ENROLLED BILLS
(Enrolled in accordance with Senate Bill No. 116 of the Twenty-seventh Legislature)

Passed the Senate the 24th day of March, 1977, and correctly enrolled the 27th day of April, 1977.

Alvin F. Phillips
President of the Senate

Passed the House of Representatives the 27th day of April, 1977.

Charlie O. Morgan
Speaker of the House of Representatives

OFFICE OF THE GOVERNOR

Received by the Governor this 28th
day of April, 19 77,
at 2:40, o'clock P M.

By: *Robert W. Smith*

Approved by the Governor of the State of Oklahoma the 3rd day of
May, 19 77; at 5:25 o'clock P M.

David Boren
Governor of the State of Oklahoma

OFFICE OF THE SECRETARY OF STATE

Received by the Secretary of State this 4th
day of May, 19 77,
at 8:45, o'clock A M.

By: *Jerome W. Byrd*

C. ANIMAL SPECIES

MAMMALS OF THE ILLINOIS RIVER WATERSHED*

<u>Scientific Name</u>	<u>Common Name</u>
<i>Didelphis marsupialis virginiana</i>	Opposum
<i>Blarina brevicauda carolinensis</i>	Short-tailed shrew
<i>Cryptotis parva parva</i>	Least shrew
<i>Notiosorex crawfordi crawfordi</i>	Crawford's desert shrew
<i>Scalopus aquaticus</i>	Eastern mole
<i>Myotis lucifugus lucifugus</i>	Little brown myotis
<i>Myotis keenii septentrionalis</i>	Keen's myotis
<i>Myotis subulatus leibii</i>	Small-footed myotis
<i>Lasionycteris noctivagans</i>	Silver-haired bat
<i>Pipistrellus subflavus subflavus</i>	Eastern pipistrelle
<i>Eptesicus fuscus fuscus</i>	Big brown bat
<i>Lasiurus borealis borealis</i>	Red bat
<i>Lasiurus cinereus cinereus</i>	Hoary bat
<i>Nycticeius humeralis humeralis</i>	Evening bat
<i>Corynorhinus townsendii ingens</i>	Townsend's big-eared bat
<i>Dasypus novemcinctus mexicanus</i>	Nine-banded armadillo
<i>Sylvilagus aquaticus aquaticus</i>	Swamp rabbit
<i>Sylvilagus floridanus alacer</i>	Eastern cottontail
<i>Lepus californicus melanotis</i>	Black-tailed jack rabbit
<i>Tamias striatus venustus</i>	Eastern chipmunk
<i>Spermophilus tridecemlineatus texensis</i>	13-lined ground squirrel
<i>Sciurus carolinensis carolinensis</i>	Gray squirrel
<i>Sciurus niger rufiventer</i>	Fox squirrel
<i>Glaucomys volans saturatus</i>	Southern flying squirrel
<i>Geomys bursarius cutcheri</i>	Plains pocket gopher
<i>Castor canadensis missouriensis</i>	Beaver
<i>Oryzomys palustris texensis</i>	Marsh rice rat
<i>Reithrodontomys fulvescens aurantius</i>	Fulvous harvest mouse
<i>Peromyscus maniculatus ozarkiarum</i>	Deer mouse
<i>Peromyscus leucopus noveboracensis</i>	White-footed mouse
<i>Peromyscus boylii attwaterii</i>	Brush mouse
<i>Sigmodon hispidus texianus</i>	Hispid cotton rat
<i>Neotoma floridana osagensis</i>	Eastern wood rat
<i>Microtus pinetorum memorialis</i>	Pine vole
<i>Ondatra zibethicus</i>	Muskrat
<i>Canis latrans frustror</i>	Coyote
<i>Vulpes fulva fulva</i>	Red fox
<i>Urocyon cinereoargenteus ocythous</i>	Gray fox
<i>Ursus americanus americanus</i>	Black bear
<i>Procyon lotor hirtus</i>	Raccoon
<i>Mustela frenata primulina</i>	Long-tailed weasel
<i>Mustela vison mink</i>	Mink
<i>Spilogale putorius interrupta</i>	Eastern spotted skunk
<i>Mephitis mephitis mesomelas</i>	Striped skunk
<i>Lutra canadensis interior</i>	River otter
<i>Felis concolor stanleyana</i>	Mountain lion
<i>Lynx rufus rufus</i>	Bobcat
<i>Cervus canadensis canadensis</i>	Wapiti
<i>Dama virginiana macroura</i>	White-tailed deer

* Based on E. Raymond Hall and Keith R. Kelson, The Mammals of North America, Volume II, The Ronald Press Company, (New York: 1959).

BIRDS OF THE ILLINOIS RIVER WATERSHED*

Scientific Name

Common Name

Species Resident Throughout the Year

Ardea herodias	Great Blue Heron
Accipiter cooperii	Cooper's Hawk
Buteo jamaicensis	Red-tailed Hawk
Buteo lineatus	Red-shouldered Hawk
Falco sparverius	American Kestrel
Colinus virginianus	Bobwhite
Meleagris gallopavo	Turkey
Tyto alba	Barn Owl
Otus asio	Screech Owl
Bubo virginianus	Great Horned Owl
Strix varia	Barred Owl
Asio otus (rare)	Long-eared Owl
Colaptes auratus	Common Flicker
Cryocopus pileatus	Pileated Woodpecker
Centurus carolinus	Red-bellied Woodpecker
Melanerpes erythrocephalus	Red-headed Woodpecker
Dendrocopos villosus	Hairy Woodpecker
Dendrocopos pubescens	Downy Woodpecker
Cyanocitta cristata	Blue Jay
Corvus brachyrhynchos	Common crow
Parus carolinensis	Carolina Chickadee
Parus bicolor	Tufted Titmouse
Sitta carolinensis	White-breasted Nuthatch
Thryothorus ludovicianus	Carolina Wren
Thryothorus bewickii	Bewick's Wren
Mimus polyglottos	Mockingbird
Lanius ludovicianus	Loggerhead Shrike
Sturnus vulgaris	Starling
Turdus migratorius	Robin
Sialia sialis	Eastern Bluebird
Dendroica pinus	Pine Warbler
Passer domesticus	House Sparrow
Sturnella magna	Eastern Meadowlark
Cardinalis cardinalis	Cardinal
Spinus tristis	American Goldfinch
Aimophila ruficeps (rare)	Rufous-crowned Sparrow
Spizella pusilla	Field Sparrow

* Based on George M. Sutton, Oklahoma Birds, University of Oklahoma Press, (Norman: 1967).

Scientific NameCommon Name

Breeding Species

Florida caerulea	Little Blue Heron
Egretta thula	Snowy Egret
Nyctanassa violacea	Yellow-crowned Nigh Heron
Coraguns atratus	Black Vulture
Cathartes aura	Turkey Vulture
Buteo platypterus	Broad-winged Hawk
Charadrius vociferus	Killdeer
Zenaida macroura	Mourning Dove
Coccyzus americanus	Yellow-billed Cuckoo
Coccyzus erythrophthalmus (rare)	Black-billed Cuckoo
Caprimulgus carolinensis	Chuck-will's Widow
Caprimulgus (rare)	Whip-poor-will
Chordeiles minor	Common Nighthawk
Chastura nelagica	Chimney Swift
Archilodhus colubris	Ruby-throated Hummingbird
Megaceryle alcyon	Belted Kingfisher
Tyrannus tyrannus	Eastern Kingbird
Myiarchus crinitus	Great Crested Flycatcher
Sayornis phoebe	Eastern Phoebe
Contopus virens	Eastern Wood pewee
Empidonax virescens	Acadian Flycatcher
Stelgidopteryx ruficollis	Rough Winged Swallow
Progne subis	Purple Martin
Toxastoma refum	Brown Thrasher
Dumetella carolinensis	Catbird
Polioptila caerulea	Blue-grey Snatcatcher
Vireo griseus	White-eyed Vireo
Vireo flavifrons	Yellow-throated Vireo
Vireo olivaceus	Red-eyed Vireo
Vireo gilvus	Warbling Vireo
Probonotaria citrea	Prothonotary Warbler
Limnithlypis swainsonii (rare)	Swainson's Warbler
Helmitheros vermivorus (rare)	Worm-eating Warbler
Parula americana	Parula Warbler
Dendroica cerulea	Cerulean Warbler
Seiurus aurocapillus	Ovenbird
Seiurus motacilla	Louisana Waterthrush
Oporonis formosus	Kentucky Warbler
Geothlypis trichas	Common Yellowthroat
Icteria virens	Yellow-breasted Chat
Wilsonia citrina	Hooded Warbler
Setophaga ruticilla	American Redstart
Quiscalus quiscula	Red-winged Blackbird
Icterus galbula	Northern Oriole
Icterus spurius	Orchard Oriole
Molothus ater	Brown-headed Cowbird
Piranga olivacea	Scarlet Tanager
Piranga rubra	Summer Tanager
Guiraca caerulea	Blue Grosbeak
Passerina cyanea	Indigo Bunting
Passerina ciris	Painted Bunting
Chondestes grammacus	Lark Sparrow
Spizella passerina	Chipping Sparrow

Scientific Name

Common Name

Winter Species

Accipter striatus
Buteo harlani
Haliaeetus leucocephalus
Certhia familiaris
Troglodytes troglodytes
Catharus guttatus
Regulus satrapa
Bombycilla cedrorum
Zonotrichia querula
Junco hyemalis

Sharp-shinned Hawk
Harlan's Hawk
Bald Eagle
Brown Creeper
Winter Wren
Hermit Thrush
Golden-crowned Kinglet
Cedar Waxwing
Harris's Sparrow
Dark-eyed Junco

Scientific Name

Common Name

Transient Species

Petrochelidon pyrrhonota
Riparia riparia
Tachycineta bicolor
Catharus ustulatus
Catharus minimus (no fall record)
Catharus fuscescens
Regulus calendula
Vermivora peregrina
Vermivora ruficapilla
Vermivora celata
Dendroica magnolia
Dendroica fusca
Dendroica castanea
Dendroica striata
Oporornis philadelphia
Wilsonia pusilla

Wilsonia canadensis
Zonotrichia albicollis
Melospiza lincolnii
Empidonax traillii
Empidonax minimus

Cliff Swallow
Bank Swallow
Tree Swallow
Swainson's Thrush
Gray-cheeked Thrush
Wilson's Thrush
Ruby-crowned Knight
Tennessee Warbler
Nashville Warbler
Orange-crowned Warbler
Magnolia Warbler
Blackburnian Warbler
Bay-breasted Warbler
Blackpoll Warbler
Mourning Warbler
Wilson's Warbler or Black-capped Warbler
Canada Warbler
White-throated Sparrow
Lincoln's Sparrow
Traill's Flycatcher
Least Flycatcher

FISHES OF THE ILLINOIS RIVER*

<u>Scientific Name</u>	<u>Common Name</u>
Petromyzonidae	
Ichthyomyzon castaneus	Chestnut lamprey
Ichthyomyzon gagei	Southern brook lamprey
Polyodontidae	
Polyodon spathula	Paddlefish
Lepisosteidae	
Lepisosteus osseus oxyurux	Northern longnose gar
Hiodontidae	
Amphiodon alosoides	Goldeye
Clupeidae	
Pomolobus chrysochlaris	Skipjack
Dorosoma cepedianum	Gizzard shad
Salmonidae	
Salmo gairdnerii	Rainbow trout
Catostomidae	
Megastomatobus cyprinella	Largemouth buffalofish
Ictiobus niger	Black buffalofish
Ictiobus bubalus	Smallmouth buffalofish
Carpiodes carpio carpio	Northern carpsucker
Carpiodes velifer	Highfin sucker
Catostomus commersonnii commersonnii	Common white sucker
Hypentelium nigricans	Hog sucker
Minytrema melanops	Spotted sucker
Moxostoma duquesnii duquesnii	Black redhorse
Moxostoma erythrurum	Golden redhorse
Moxostoma aureolum	Northern redhorse
Moxostoma macrolepidotum	Shorthead redhorse
Placopharynx carinatus	River redhorse

* From George Moore and John Paden "The Fishes of the Illinois River in Oklahoma and Arkansas", American Midland Naturalist, 44(1): 76-95, and Paul Kittle, Edgar Short, and Ramona Rice, A Preliminary Study of the Water Quality of the Illinois River in Arkansas, University of Arkansas, (Fayetteville: 1974).

Scientific NameCommon Name

Cyprinidae

Cyprinus carpio	Carp
Semotilus atromaculatus atromaculatus	Northern creek chub
Nocomis biguttatus	Hornyhead chub
Hybopsis storerianus	Silver chub
Hybopsis amblops amblops	Northern bigeyed chub
Hybopsis x-punctata	Gravel chub
Erimystax dissimilis	Spotted chub
Chrosomus erythrogaster	Southern redbelly dace
Notemigonus crysoleucas auratus	Western golden shiner
Notropis atherinoides atherinoides	Emerald shiner
Notropis percobromus	Plains shiner
Notropis rubellus	Rosyface shiner
Notropis fumeus	Ribbon shiner
Notropis umbratilis umbratilis	Southern redbfin shiner
Notropis cornutus chrysocephalus	Central common shiner
Notropis zonatus pilsbryi	Arkansas striped shiner
Notropis blennius	River shiner
Notropis greenii	Wedgespot shiner
Notropis spilopterus	Spotfin shiner
Notropis camurus	Bluntface shiner
Notropis lutrensis lutrensis	Red shiner
Notropis boops	Bigeye shiner
Notropis chrysocephatus	Striped shiner
Notropis volucellus buechanani	Ghost mimic shiner
Phenacobius mirabilis	Suckermouth minnow
Dionda nubila	Ozark minnow
Hybognathus placita placita	Plains minnow
Pimephales promelas confertus	Southern flathead minnow
Pimephales notatus	Bluntnose minnow
Ceraticthys perspicuus	Bullhead minnow
Ceraticthys tenellus tenellus	Neosho mountain minnow
Hyborhynchus notatus	Bluntnose minnow
Campostoma anomalum pullum	Central stoneroller
Campostoma oligolepis	Largescale stoneroller

Ameiuridae

Ictalurus punctatus	Channel catfish
Ictalurus lacustris punctatus	Southern channel catfish
Ameiurus melas cutulus	Southern black bullhead
Ameiurus natalis natalis	Northern yellow bullhead
Pilodictis olivaris	Flathead catfish
Noturus flavus	Stonecat
Schilbeodes millis	Tadpole madtom
Schilbeodes nocturnus	Freckled madtom
Schilbeodes insignis	Slender madtom
Schilbeodes miurus	Brindled madtom
Schilbeodes eleutherus	Furious madtom

<u>Scientific Name</u>	<u>Common Name</u>
Anguillidae	
<i>Anguilla bostoniensis</i>	American eel
Cyprinodontidae	
<i>Fundulus notatus</i>	Blackbanded topminnow
<i>Fundulus olivaceus</i>	Blackspotted topminnow
Poeciliidae	
<i>Gambusia affinis affinis</i>	Mosquitofish
Percidae	
<i>Stizostedion canadense</i>	Sauger
<i>Hadropterus phoxocephalus</i>	Slenderhead darter
<i>Percina caprodes carbonaria</i>	Southwestern logperch
<i>Dorostichus saxatilis</i>	Speckled darter
<i>Poeciliichthys zonalis arcansanus</i>	Arkansas banded darter
<i>Poeciliichthys spectabilis</i>	Orangethroat darter
<i>Poeciliichthys punctulatus</i>	Stippled darter
<i>Poeciliichthys whipplii whipplii</i>	Western redbfin darter
<i>Poeciliichthys flabellaris lineolatus</i>	Striped fantail darter
<i>Etheostoma blennioides</i>	Greenside darter
Centrarchidae	
<i>Micropterus punctulatus punctulatus</i>	Northern spotted bass
<i>Micropterus dolomieu velox</i>	Neosho smallmouth bass
<i>Micropterus salmoides salmoides</i>	Northern largemouth bass
<i>Chaenobryttus coronarius</i>	Warmouth
<i>Lepomis cyanellus</i>	Green sunfish
<i>Lepomis gulosus</i>	Warmouth
<i>Lepomis humilis</i>	Orange-spotted sunfish
<i>Lepomis megalotis</i>	Long-ear sunfish
<i>Lepomis macrochirus macrochirus</i>	Bluegill
<i>Lepomis microlophus</i>	Red-ear sunfish
<i>Ambloplites rupestris rupestris</i>	Northern rock bass
<i>Pomoxis annularis</i>	White crappie
<i>Pomoxis nigro-maculatus</i>	Black crappie
Atherinidae	
<i>Labidesthes sicculus</i>	Brook silverside
Sciaenidae	
<i>Aplodinotus grunniens</i>	Drum
Cottidae	
<i>Cottus caroliniae</i>	Branded muddler

REPTILES OF THE ILLINOIS RIVER WATERSHED*

<u>Scientific Name</u>	<u>Common Name</u>
<i>Graptemys kohni</i>	Mississippi map turtle
<i>Sceloporus undulatus hyacinthinus</i>	Northern fence lizard
<i>Agkistrodon contortrix mokasen</i>	Northern copperhead
<i>Lampropeltis triangulum sypila</i>	Milk snake
<i>Storeria occipitomaculata occipitomaculata</i>	Northern red-bellied snake
<i>Graptemys geographica</i>	Map turtle
<i>Pseudemys concinna hieroglyphica</i>	Missouri slider turtle
<i>Natrix erythrogaster flavigaster</i>	Yellow-bellied water snake
<i>Storeria dekayi wrightorum</i>	Midland brown snake
<i>Deirochelys reticularia miaria</i>	Western chicken turtle
<i>Graptemys pseudogeographica ouachitensis</i>	Ouachita map turtle
<i>Kinosternon subrubrum hippocrepis</i>	Mississippi mud turtle
<i>Macrochelys temmincki</i>	Alligator snapping turtle
<i>Pseudemys floridana hoyi</i>	Missouri slider snake
<i>Sternotherus odoratus</i>	Stinkpot
<i>Terrapene carolina triunguis</i>	Three-toed box turtle
<i>Eumeces anthracinus pluvialis</i>	Southern coal skink
<i>Eumeces fasciatus</i>	Five-lined skink
<i>Eumeces laticeps</i>	Broad-headed skink
<i>Agkistrodon piscivorus leucostoma</i>	Western cottonmouth
<i>Carpophis amoenus vermis</i>	Western worm snake
<i>Cemophora coccinea copei</i>	Scarlet snake
<i>Crotalus horridus horridus</i>	Timber rattlesnake
<i>Masticophis flagellum flagellum</i>	Eastern coachwhip
<i>Natrix sipedon pleuralis</i>	Midland water snake
<i>Opheodrys aestivus majalis</i>	Western rough green snake
<i>Sistrurus miliarius streckeri</i>	Western pigmy rattlesnake
<i>Tantilla gracilis</i>	Flat-headed snake
<i>Virginia striatula</i>	Rough earth snake
<i>Virginia valeriae elegans</i>	Western earth snake
<i>Chelydra serpentina</i>	Common snapping turtle
<i>Pseudemys scripta elegans</i>	Red-eared turtle
<i>Coluber constrictor flaviventris</i>	Eastern yellow-bellied racer
<i>Diadophis punctatus arnyi</i>	Prairie ringneck snake
<i>Heterodon platyrhinos</i>	Eastern hognose snake
<i>Lampropeltis calligaster calligaster</i>	Prairie kingsnake
<i>Lampropeltis getulus holbroki</i>	Speckled kingsnake
<i>Natrix erythrogaster transversa</i>	Blotched water snake
<i>Thamnophis proximus proximus</i>	Western ribbon snake

* Based on Robert G. Webb, Reptiles of Oklahoma, University of Oklahoma, The Stovall Museum, Norman, 1970.

D. HISTORIC SITES

Area	Location
* Cherokee National Capitol	Tahlequah
* Cherokee National Prison	Tahlequah
Cherokee Training School	5 miles southwest of Tahlequah
* Cherokee Supreme Court/ Cherokee Advocate	Tahlequah
Illinois Camp Grounds	1.5 miles southeast of Tahlequah
Old Methodist Church	Tahlequah
Mission at Forks of the Illinois	3 miles east of Park Hill
* Murrell House	.5 mile southeast of Park Hill
Presbyterian Mission School	Tahlequah
Ross House Site	.5 mile southeast of Park Hill
Dripping Springs	2 miles east of Flint
* Hildebrand's Mill	10 miles west of Siloam Springs
* Saline Courthouse	Rose
Watie Farmstead Site	6 miles southeast of Glover
Fort Wayne	
Second Site	4.5 miles southwest of Moyesville
Lee Street Grist Mill	Tahlequah vicinity
Standing Rock	Cookson vicinity
Creek Town	South of the confluence of Barren Fork and the Illinois
Ross Mill	Near mouth of Bum Garner Hollow
May Party Ground	2 miles northeast of Park Hill
The Giant Persimmon	Old Channel entrance of the Barren Fork into the Illinois
* Bitting Spring's Mill (Golda's Mill)	9 miles northwest of Stilwell
Bread Town Baptist Mission	3 miles north of Westville
Bryan-Adair House	7 miles east of Stilwell
Flint Post Office	
Second Site	Stilwell
Fort Wayne	
Flint Site	Tahlequah
Elias Boudinot Grave	Park Hill
* Cherokee Female Seminary	
First Site	1.5 miles northeast of Park Hill
* Cherokee Female Seminary	
Second Site	Tahlequah
Cherokee Male Seminary	2.5 miles northwest of Park Hill
Cherokee Methodist Mission	Park Hill
* Dr. Irwin D. Loeser Log Cabin	Tahlequah
* Properties on the National Register of Historic Places,	

E. RESPONSES FROM WATER PLANNING AGENCIES

FEDERAL POWER COMMISSION

REGIONAL OFFICE

819 Taylor Street
Fort Worth, Texas 76102

March 30, 1977

Mr. Rolland B. Handley
Regional Director
Bureau of Outdoor Recreation
U. S. Department of the Interior
Patio Plaza, 5000 Marble N.E., Room 211
Albuquerque, New Mexico 87110

Dear Mr. Handley:

This will acknowledge receipt of your March 11, 1977 letter (Reference 3439) concerning your study of the Illinois River and Flint and Barren Fork Creeks for their potential addition to the National Wild and Scenic Rivers System. The Federal Power Commission does not have any plans for development of the water resources on any of the rivers or creeks. Our interest in proposed water resources projects is their possible effect on bulk electric power facilities, including potential and existing hydroelectric developments and on natural gas pipeline facilities.

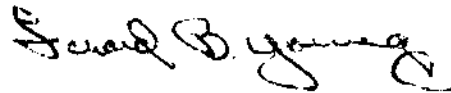
Please note that the Corps of Engineers' Tenkiller Ferry Reservoir is constructed on the Illinois River near Gore, Oklahoma. The project objectives are flood control, navigation and the production of hydroelectric power. Tenkiller is a 197-foot earth-fill dam with 1,230,000 acre-feet of storage capacity. The powerhouse contains two units with a total capacity of 34,000 kW. In 1975 the project generated 170,879 megawatt-hours which was marketed by the Southwestern Power Administration interconnected system. The Chewey Project located upstream of Tenkiller has a power potential of 42,000 kW. The Chewey Project should be considered as a long-range potential development. The Oklahoma Comprehensive Water Plan lists the Tahlequah (Illinois River) and Eldon (Barren Creek) Projects as potential developments for water supply and recreation. The Southwestern Electric Power Company is constructing a coal-fired, 511,000-kW steam generating plant on Flint Creek near Siloam Springs, Arkansas. In 1970, the State of Oklahoma established the Illinois River, Barren Fork, and Flint Creeks as state scenic rivers.

- 2 -

If you need additional information, please contact this office.
Please furnish a copy of your study when it is completed.

These comments are made at field level and do not necessarily
represent the official views of the Federal Power Commission.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "Lenard B. Young".

Lenard B. Young
Regional Engineer



United States Department of the Interior
BUREAU OF RECLAMATION

SOUTHWEST REGION
HERRING PLAZA BOX H-4377
AMARILLO, TEXAS 79101

IN REPLY
REFER TO: 720

121.

MAR 22 1977

Memorandum

To: Regional Director, Bureau of Outdoor Recreation,
Albuquerque, New Mexico

From: Acting Regional Director

Subject: Illinois Wild and Scenic River Study, Oklahoma State
Water Plan (Your Memorandum of March 11)

In 1967, the Bureau of Reclamation completed a report entitled "Water-the Key to Oklahoma's Future," which was a brief summary of the efforts and findings of the Bureau with respect to the water problems of Oklahoma and plans to aid in their solution. At that time, Tahlequah Reservoir on both the Illinois River and Flint Creek in Cherokee, Adair, and Delaware Counties; and Eldon Reservoir on Barren Fork Creek in Adair County were proposed as potential eastern Oklahoma storage reservoirs.

In 1971, the Oklahoma State Legislature enacted the Scenic Rivers Act designating the Illinois River, Flint Creek, and Barren Fork Creek as scenic river areas for the benefit of the people of Oklahoma. In our current reevaluation studies of the Oklahoma State Water Plan, we have eliminated any further consideration of storage sites on the Illinois River, Flint Creek, or Barren Fork Creek. The Bureau no longer has any water resources development plans for these streams.

MAR 22 1977

UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

State Office, Stillwater, Oklahoma 74074

March 17, 1977

Mr. Rolland B. Handley
Regional Director
U.S. Department of the Interior
Bureau of Outdoor Recreation
Patio Plaza, 5000 Marble N.E., Rm. 211
Albuquerque, New Mexico 87110

Dear Mr. Handley:

The Soil Conservation Service does not have any short- or long-range plans for development of any water resource projects that might affect the streams of Flint and Barren Fork Creeks on the Illinois River.

Sincerely,



Roland R. Willis
State Conservationist

MAR 21 1977





DEPARTMENT OF THE ARMY
TULSA DISTRICT, CORPS OF ENGINEERS
POST OFFICE BOX 61
TULSA, OKLAHOMA 74102

SWTED-PA

18 March 1977

Mr. Rolland B. Handley
Regional Director
South Central Region
Bureau of Outdoor Recreation
Patio Plaza, 5000 Marble NE, Room 211
Albuquerque, NM 87110

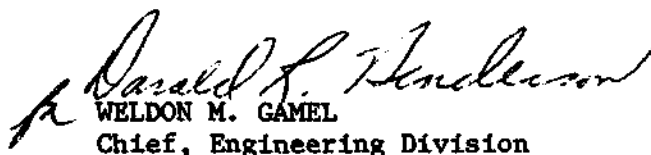
Dear Mr. Handley:

Your letter dated 11 March 1977 requested information concerning our short or long range plans for development of water resources projects within the Illinois River Basin, including Flint and Barren Fork Creeks.

The Tenkiller Ferry Lake study is underway to determine if the existing project can meet existing and future water resource needs of the area. We will determine if additional project purposes should be added, at this time, to the authorized purposes of hydroelectric power and flood control. This study is scheduled to be completed in 1982 and will not involve the Illinois River and its tributaries above the Tenkiller Lake.

We are assisting the Oklahoma Water Resources Board in the preparation of the Oklahoma Comprehensive Water Plan. Part of that assistance involves identification of potential reservoir projects which could help meet the future water supply needs of the state. However, our studies have not progressed sufficiently to determine whether the Illinois River Basin above Tenkiller Ferry Lake would be considered for further development.

Sincerely yours,


WELDON M. GAMEL
Chief, Engineering Division



OKLAHOMA WATER RESOURCES BOARD

FIFTH FLOOR - JIM THORPE BUILDING - OKLAHOMA CITY, OKLA. 73106

MAR 30 1977

March 28, 1977

Mr. Rolland B. Handley
Regional Director
U. S. Department of the Interior
Bureau of Outdoor Recreation
South Central Regional Office
Patio Plaza, 5000 Marble N. E., Room 211
Albuquerque, New Mexico 87110

Dear Mr. Handley:

This letter is in reply to your March 11, 1977, letter (3439) requesting short or long range plans by the Oklahoma Water Resources Board for development of water resource projects on or which might affect the Illinois River, Flint Creek and Barren Fork Creek.

The Oklahoma Water Resources Board is presently studying this area in Phase II of the Oklahoma Comprehensive Water Plan. However at this time we are still in the plan formulation stage and have no definite plan.

Major potential reservoir sites in this area include the Tahlequah site on the Illinois River and the Eldon site on Barren Fork Creek.

We are also aware of several communities and rural water districts in the vicinity that are considering development on the upper reaches of the Illinois as a source of future supply.

The City of Tulsa has made an application for water rights out of Tenkiller and several other cities have received permits subject to reallocation of storage in the reservoir. The Corps of Engineers is presently studying the feasibility for modification of the existing purposes of the project to meet future needs of the area.

As I'm sure you are aware, these streams were designated State Scenic Rivers by the Scenic River Act and cannot be impounded without legislative consent except as needed by municipalities located in the immediate vicinity for their municipal or domestic water supply.

GERALD E. BORELLI, Chairman
BERT L. CASTLEBERRY, Member
DON ARCH KING, Member

W. EARL WALKER, Vice-Chairman
LLOYD E. CHURCH, O.D.S., Member
RALPH G. McPHERSON, Member

L. L. MALES, Secretary
JACQUES CUNNINGHAM, Member
COY D. MORROW, Member

March 28, 1977
Mr. Rolland B. Handley
Page 2

Also, provisions of the Arkansas River Basin Compact must be considered in any water development planning in this area.

If I can provide you with additional information or assistance, please feel free to call upon me.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Michael R. Melton".

Michael R. Melton
Chief of Planning Division
OKLAHOMA WATER RESOURCES BOARD

MRM:cb

F. AGENCY COMMENTS ON DRAFT REPORT



GEORGE NIGH
Governor

405 / 521-2345

STATE OF OKLAHOMA
OFFICE OF THE GOVERNOR
212 STATE CAPITOL BUILDING
OKLAHOMA CITY, OKLAHOMA 73105

March 29, 1979

Mr. Chris T. Delaporte, Director
Heritage Conservation and
Recreation Service
United States Department of
the Interior
18th and "C" Streets, N.W.
Washington, D. C. 20240

Dear Chris:

I have reviewed the Illinois River study with Mr. Abe Hesser and find it an interesting and very comprehensive review of the conditions as well as the opportunities for preservation of the resource. I wish you to know that I fully support the concept encompassed in a state wild and scenic river with state and local government control.

I am asking Mr. Hesser to continue to work with the Oklahoma Scenic Rivers Commission for the Flint Creek, Illinois River and Barren Fork Creek Areas and the Legislators who have an interest in this program as we further our objectives of preserving the river.

Sincerely,


George Nigh
Governor

GN:ni

cc: Mr. Abe L. Hesser



DEPARTMENT OF THE ARMY
OFFICE OF THE UNDER SECRETARY
WASHINGTON, D.C. 20310

FEB 01 1979

Honorable Cecil D. Andrus
Secretary of the Interior
Washington, D.C. 20240

Dear Mr. Secretary:

This is in response to your request for views of the Department of the Army on your proposed report recommending administration of the Illinois River, Oklahoma, as a state unit of the Wild and Scenic River System.

The fact that this stream has been managed by the State of Oklahoma as a Scenic River for the past several years has acted to reduce planning options available to us during the on-going restudy of Tenkiller Ferry Lake located immediately downstream of the scenic segment. Federal recognition of this situation should have no further impact on U. S. Army Corps of Engineers projects or investigations. Consequently, we have no objection to submission of your report to Congress.

I appreciate the opportunity afforded the Department of the Army to review and offer these comments on your proposed report.

Sincerely,

Michael Blumenfeld
Deputy Under Secretary



December 29, 1978

Honorable Cecil D. Andrus
Secretary of the Interior
Washington, D.C. 20412

Dear Mr. Secretary:

We have completed our review of the Draft Wild and Scenic River Study Report for the Illinois River of northeastern Oklahoma (Department of the Interior project number 3701). This report, prepared by the Heritage Conservation and Recreation Service, recommends that river protection and management be the responsibility of the Oklahoma Scenic River Commission rather than being added to the National Wild and Scenic Rivers System at this time.

As no major Federal action has been recommended, our review has been conducted in an advisory capacity as an agency with expertise in this area. We find that the study report adequately assesses the environmental considerations appropriate to the proposed action, i.e., the report contains sufficient information to evaluate adequately the possible environmental impacts which could result from implementation of the project. Further, our evaluation of these effects is such that we have no environmental reservations regarding the implementation of this proposal.

We appreciate the opportunity to review this report and hope that our comments have satisfied your request.

Sincerely,

A handwritten signature in cursive script that reads "Clinton B. Spotts".

Clinton B. Spotts
Regional EIS Coordinator (6ASAF)

cc: Rolland B. Handley
Regional Director
Heritage Conservation and Recreation Service
South Central Region
5000 Marble Ave., N.E., Room 211
Albuquerque, New Mexico 87110

**Advisory
Council On
Historic
Preservation**

JAN 05 1979

1522 K Street NW.
Washington D.C.
20005

December 29, 1978

Mr. Rolland B. Handley
Regional Director, South Central Region
Heritage Conservation and Recreation Service
5000 Marble Avenue, N.E., Room 211
Albuquerque, New Mexico 87110

Dear Mr. Handley:

This is to acknowledge receipt of the environmental assessment for the Wild and Scenic River Study Report for the Illinois River in northeastern Oklahoma on December 4, 1978. We regret that we will be unable to review and comment on this document in a timely manner pursuant to Section 102(2)(C) of the National Environmental Policy Act of 1969.

Nevertheless, the Heritage Conservation and Recreation Service is reminded that, if the proposed undertaking will affect properties included in or eligible for inclusion in the National Register of Historic Places, it is required by Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. 470f, as amended, 90 Stat. 1320) to afford the Council an opportunity to comment on the undertaking prior to the approval of the expenditure of any Federal funds or prior to the issuance of any license. The "Procedures for the Protection of Historic and Cultural Properties" (36 CFR Part 800.4) detail the steps an agency is to follow in requesting Council comment.

Generally, the Council considers environmental evaluations to be adequate when they contain evidence of compliance with Section 106 of the National Historic Preservation Act, as amended. The environmental documentation must demonstrate that either of the following conditions exists:

1. No properties included in or that may be eligible for inclusion in the National Register of Historic Places are located within the area of environmental impact, and the

Page 2

Mr. Rolland B. Handley
Wild and Scenic River Study
December 29, 1978

undertaking will not affect any such property. In making this determination, the Council requires:

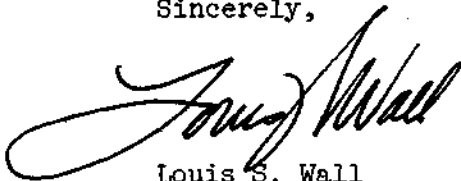
--evidence that the agency has consulted the latest edition of the National Register (Federal Register, February 7, 1978, and its monthly supplements);

--evidence of an effort to ensure the identification of properties eligible for inclusion in the National Register, including evidence of contact with the State Historic Preservation Officer, whose comments should be included in the final environmental statement.

2. Properties included in or that may be eligible for inclusion in the National Register are located within the area of environmental impact, and the undertaking will or will not affect any such property. In cases where there will be an effect, the final environmental statement should contain evidence of compliance with Section 106 of the National Historic Preservation Act through the Council's "Procedures for the Protection of Historic and Cultural Properties".

Should you have any questions, please call Michael C. Quinn at (303) 234-4946, an FTS number.

Sincerely,



Louis S. Wall
Assistant Director
Office of Review and Compliance, Denver



DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
WASHINGTON, D.C. 20410

DEC 26 1978

OFFICE OF THE ASSISTANT SECRETARY
FOR COMMUNITY PLANNING AND DEVELOPMENT

30 NOV 1978

IN REPLY REFER TO:

Honorable Cecil D. Andrus
Secretary of the Interior
Washington, D.C. 20240

Dear Secretary Andrus:

Your letter to Secretary Harris of November 13, 1978 requesting review and comment on the draft report on the Illinois River in Oklahoma, in accordance with the provisions of the Wild and Scenic Rivers Act, has been referred to our Dallas Regional Office for response.

The Regional Administrator is cognizant of the river study area and the Department's programs relating thereto. If there are substantial concerns in reference to the Department's programs in this area or the findings and recommendations of the study report, you will be advised by the Regional Administrator, Thomas J. Armstrong. He will provide the Department's views which are to accompany the report to the President.

We appreciate the opportunity to review and comment on the proposal.

Sincerely,

A handwritten signature in cursive script, appearing to read "Wonne S. Perry", is written over the typed name.

Wonne S. Perry
Deputy Assistant Secretary for
Interprogram and Areawide Concerns



U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
REGION SIX
200 N.W. 5th, Room 454
Oklahoma City, Oklahoma 73102
January 8, 1979

IN REPLY REFER TO HEC-OK

Mr. Rolland B. Handley, Regional Director
U. S. Department of the Interior
Heritage Conservation and Recreation Service
5000 Marble Avenue N.E., Room 211
Albuquerque, New Mexico 87110

Dear Mr. Handley:

We have reviewed the draft Wild and Scenic River Study Report for the Illinois River in northeastern Oklahoma and have the following comments:

1. Reference page 106, Transportation and Utility Routes. The study mentions that a bridge is being proposed by Adair County across Barren Fork Creek replacing an existing low water bridge. This proposed Federal-aid project, SOS-1(24), would provide for a bridge and approaches with the acquisition of about seven acres of right-of-way. The bridge would be 380 feet long with the entire project length, including approaches, estimated at 0.48 mile. Its location is about 3.0 miles northwest of Baron.
2. A second bridge, identified as proposed Federal-aid project BRF-329(54), would carry US 59 across Barren Fork Creek just south of Baron. This proposal consists of constructing a modern two-lane structure on off-set alignment just west of the existing structure. Approximately 0.5 mile of roadway approaches would be reconstructed requiring about 2.75 acres of additional right-of-way.
3. Both of these projects, as well as any others that might be initiated within the study area, will be developed using approved established procedures that assure the consideration of the overall social, economic, and environmental effects of any such proposal.

We appreciate the opportunity to review this study.

Sincerely yours

for Frank N. Cunningham
Gordon E. Penney
Division Administrator

JAN 11 1979

DEC 21 1978

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

State Office, Stillwater, Oklahoma 74074

December 18, 1978

Mr. Rolland B. Handley
Regional Director
Heritage Conservation and
Recreation Service
500 Marble Avenue, N.E., Room 211
Albuquerque, New Mexico 87110

Dear Mr. Handley:

We have no comments regarding the draft Wild and Scenic River Study Report for the Illinois River of northeastern Oklahoma.

We appreciate the opportunity to review this material.

Sincerely,



Roland R. Willis
State Conservationist





DEPARTMENT OF AGRICULTURE
OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20250

Honorable Cecil D. Andrus
Secretary of the Interior
Washington, D.C. 20240

Dear Mr. Secretary:

This is in response to your November 13, 1978, letter regarding our views on your Department's proposed report on the Illinois River in Oklahoma.

Although we do not object to the recommendations in the report, we believe there is an opportunity to provide those who will carry out the recommendations with additional data on the economic opportunities that may be foregone if the plan is implemented. Specifically, the development of the national economic development alternative in accordance with the Water Resources Council's Principles and Standards would provide the information.

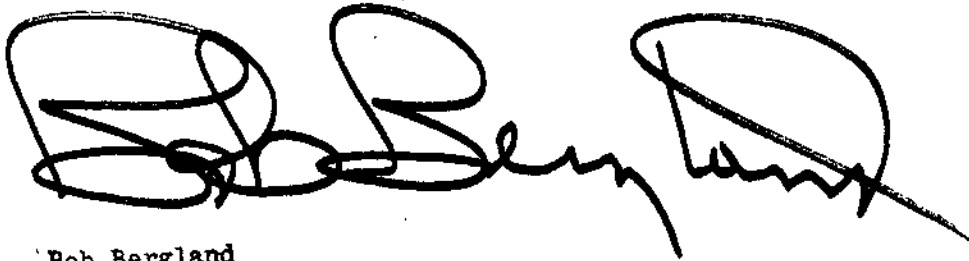
The report on page 81 indicates that there was no basis for a viable national economic development alternative and, therefore, it was dropped from consideration. However, the last paragraph on page 12 indicates that several potential economic developments are under consideration. We realize that the Illinois River is a component of the State of Oklahoma's scenic river system and a management plan for the river area is being developed. However, the development and display of environmental, economic, and other alternatives as a part of your report would allow the implementers of the plan to identify and evaluate the trade offs between the coequal objectives of economic development and environmental quality. The fact that the three counties involved in the plan are among the most economically depressed in Oklahoma seems to make the preparation of an economic development alternative desirable. Perhaps this would surface ways to upgrade the economic status of the involved counties in harmony with the objective of protecting the natural values of the river.

APR 13 1979

The information contained in the report about the natural values of the Illinois River and its immediate area favorably supports the study finding that the river qualifies for the National Wild and Scenic Rivers System. Protection of these values through appropriate programs implemented by the State of Oklahoma appears to be in the public interest.

Thank you for the opportunity to review your proposed report.

Sincerely,

A handwritten signature in black ink, appearing to read 'Bob Bergland', with a large, stylized initial 'B' and a long, sweeping horizontal stroke.

Bob Bergland
Secretary

SOURCES OF INFORMATION

Page	Subject	Credit
5	ONRA	Oklahoma National Recreation Area: Survey Report, U.S. Army Corps of Engineers, Tulsa District, 1972.
14	Water quality	<u>Water Quality Management Plan - Middle Arkansas River Basin</u> , Oklahoma Department of Pollution Control, January, 1976. <u>Water Quality Survey of the Illinois River and Tenkiller Reservoir</u> , Oklahoma Department of Health, 1977.
30	Tenkiller	<u>Oklahoma Water Resources Development</u> , U.S. Army Corps of Engineers, January, 1975.
32	Terrain and geology	<u>U.S. Bureau of Mines, Oklahoma City</u> , 1976. <u>Geology of Northeastern Cherokee County, Oklahoma</u> , Oklahoma Geological Survey, Circular 57, John M. Starke, Jr. 1961. <u>Park and Scenic Areas in the Oklahoma Ozarks</u> , Oklahoma Geological Survey, Guide Book XII, George C. Huffman, Tyson A. Cathey, James E. Humphrey, 1963. <u>Geology and Earth Resources of Oklahoma</u> , Oklahoma Geological Survey, Kenneth S. Johnson, Carl C. Branson, Neville M. Curtis, Jr., William E. Ham, Melvin V. Macher, John F. Roberts, 1972. <u>Geologic Field Trip in Oklahoma, Book I: Introduction, Guidelines and Geologic History</u> , Oklahoma Geological Survey, Kenneth S. Johnson, 1971.
33	Rock strata	<u>Geology of Northeastern Cherokee County, Oklahoma</u> , Circular 57, Oklahoma Geological Survey, John M. Starke, 1961.

Page	Subject	Credit (Cont'd)
34	Soils	<u>Soil Survey: Cherokee and Delaware Counties, Oklahoma, U.S.D.A., Soil Conservation Service in cooperation with the Oklahoma Agricultural Experiment Station, 1970.</u> <u>Soil Survey: Adair County, Oklahoma, U.S.D.A. Soil Conservation Service in cooperation with the Oklahoma Agricultural Experiment Station, 1961.</u>
35	Ground water	"Mid-Illinois Valley Resource Assessment - A Preliminary Statement," Oklahoma Wildlife Federation, Jerry Overton and Edward Pugh, 1974.
36	Water quality	<u>Water Quality Survey of the Illinois River and Tenkiller Reservoir, Oklahoma Department of Health, 1977.</u>
38	Beneficial uses of water	<u>Water Quality Management Plan - Middle Arkansas River Basin, Oklahoma, Department of Pollution Control, January 1976.</u>
38-39	Flow characteristics and stream profile	U.S. Army Corps of Engineers Stream Profile Graph, Tulsa District, 1976.
40	Flow rates	U.S. Geological Survey, Oklahoma District, taken from gauging station records, 1975-1977.
42	Flora	"The Biotic Districts of Oklahoma," W. F. Blair and T. H. Hubbell. <u>American Midland Naturalist</u> , Notre Dame Press: 1938.
44	Fish	"The Fishes of the Illinois River in Oklahoma and Arkansas," George A. Moore and John M. Paden. <u>American Midland Naturalist</u> , Notre Dame Press: 1950.
45	Fish	<u>The Fishes of Oklahoma</u> , Rudolph J. Miller and Henry W. Robison. Oklahoma State University Press: Stillwater: 1973.

Page	Subject	Credit (Cont'd)
45	Darters	Distribution of the Darters (Percidae Etheostomatinae) of Northeastern Oklahoma, Albert P. Blair, <u>Southwestern Naturalist</u> : 1959. <u>Flint Creek in Oklahoma - A Habitat Study of its Darters, Minnows and Other Native Fish</u> . William R. Cox, Master of Science thesis. University of Tulsa: 1975.
45	Amphibians	<u>A Field Guide to Reptiles and Amphibians of Eastern and Central North America</u> , Roger Conant. Houghton Mifflin Company, Boston: 1975. <u>Rare and Endangered Vertebrates and Plants of Oklahoma</u> , Rare and Endangered Species of Oklahoma Committee, 1975. Dr. Jeffrey Black, Oklahoma Baptist College, Shawnee, Oklahoma. Personal communication, 1976.
45-46	Reptiles	<u>A Field Guide to Reptiles and Amphibians of Eastern and Central North America</u> , Roger Conant. Houghton Mifflin Company, Boston: 1975. <u>Reptiles of Oklahoma</u> , Robert G. Webb, University of Oklahoma Press, Norman: 1975.
46	Birds	<u>Oklahoma Birds</u> , George M. Sutton. University of Oklahoma Press, Norman: 1967.
47	Bats	U.S. Fish and Wildlife Service Field Office, Tulsa, 1976.
48	Prehistory	National Park Service, Southwest Region, 1975.
48-49	History	National Park Service, Southwest Region, 1975.
50	Historic site map	Oklahoma State Historic Preservation Office, 1978.

Page	Subject	Cont'd
51	Population, employment	U.S. Bureau of Census, 1975. Bureau of Business and Economic Research, University of Oklahoma, 1975. Economic Research Service, U.S. Department of Agriculture, 1976.
52-53	Economy	Economic Research Service, U.S. Department of Agriculture, 1976. Cherokee County Tax Assessor's Office, 1977.
53	Selected social characteristics	Economic Research Service, U.S. Department of Agriculture, 1976. <u>General Social and Economic Character-</u> <u>istics: Oklahoma</u> , U.S. Bureau of Census 1972.
54-55	Agriculture and horticulture	Cherokee Hills Resource Conservation and Development Project; U.S. Soil Conservation Service; U.S. Forest Service, 1976.
56	Recreation enterprises	Illinois River canoe livery operators, 1976.
57	Economic geology	U.S. Bureau of Mines. Oklahoma City, 1976.
57	Recreation expenditures	Economic Research Service. U.S. Department of Agriculture, 1975.
59-60	Access sites	Oklahoma Department of Wildlife Conservation, 1976.
64	Private land ownership	<u>Cherokee, Delaware and Adair Counties:</u> <u>Oklahoma Plat Books</u> , 1975.
80	Bridges	U.S. Department of Transportation, Federal Highway Administration, 1979; Oklahoma Department of Transportation, 1979.