

DES 94-49

LOBED WILD & SCENIC RIVER

TENNESSEE



General Management Plan
Development Concept Plan
Environmental Impact
Statement

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OBED WILD & SCENIC RIVER

T E N N E S S E E

General Management Plan
Development Concept Plan
Environmental Impact
Statement

DES 94-49

August 1994

U.S. Department of the Interior
National Park Service

United States Department of the Interior / National Park Service

**Draft Environmental Impact Statement/General Management Plan/
Development Concept Plan**

**Obed Wild and Scenic River
Morgan and Cumberland Counties, Tennessee**

A general management plan has been prepared for the Obed Wild and Scenic River (Obed WSR) pursuant to the National Parks and Recreation Act, P.L. 95-625, and NPS policy to provide for the protection of Obed WSR values and address resource management and visitor use. The plan has been prepared in cooperation with the Tennessee Wildlife Resources Agency and with public and agency involvement, and will guide management of the Obed WSR for approximately the next 10 to 15 years. Two alternatives for the general management and use of the Obed WSR and the environmental consequences of each are presented and analyzed. **"Alternative A, The Preferred Course"** constitutes the Park Service's proposed course of action and represents the minimum actions and developments needed to make the Obed WSR operational. This alternative proposes a management zone system representing area specific applications of management objectives; a resource management strategy that addresses the complexity of issues both inside and outside the Obed WSR boundaries; enhanced and expanded visitor oriented programs and facilities to provide visitors the opportunity to experience the special values of the Obed WSR; expanded boundaries to include approximately 200 acres of land and more than 6 river miles and, in the future to study and potentially include other river sections. **"Alternative B, The Existing Course"** is based primarily on continuing the present course of action which includes implementation of the *1978 Development Plan* and its modifications as updated by new data and specific program planning. Most of the proposals in this alternative are very similar to Alternative A, however, there are some key differences. The management zone system is based on ownership patterns; landscape character is not addressed as a resource; some different visitor facilities are proposed including different locations for an overlook and trails and more roads to be developed and maintained; and only two tracts containing less than 65 acres would be added to the boundaries. Because the Alternatives are so similar, the environmental consequences of implementing either alternative are also similar. Overall, neither alternative would have a significantly adverse effect on the resources and values of the Obed WSR. Most impacts from development and use would be mitigated. The additional roads and different overlook development proposed in Alternative B would negatively affect a greater amount of land and vegetation. Since county tax income may be reduced if lands are acquired in fee, the socioeconomy may be impacted more from implementing Alternative A as more boundary adjustments are proposed. However, it is difficult to accurately predict this impact since a land acquisition strategy—fee or less-than-fee—has not been determined for these lands. Alternative A was selected as the Proposed Action because it: brings the *1978 Development Plan* in line with NPS Management Policies based on additional information and the management objectives, provides an overall direction for resource management and interpretation, and contains a management zone system based more specifically on the Wild and Scenic River legislation, resource opportunities and constraints, and the desired visitor experience.

For further information about this document, contact:

Regional Director
Southeast Regional Office
75 Spring Street, SW
Atlanta, GA 30303
404-331-5185

or

Superintendent
Obed Wild and Scenic River
P.O. Box 429
Wartburg, TN 37887
615-346-6294

SUMMARY

The *1978 Development Plan* was prepared pursuant to the Wild and Scenic Rivers Act, P.L. 90-542. This General Management Plan/Design Concept Plan/Environmental Impact Statement (GMP) was prepared to satisfy the requirements of the National Parks and Recreation Act, P.L. 95-625, and NPS policy which requires the preparation of a GMP for all units of the National Park System. A GMP addresses not only development but also resource management and all aspects of visitor use. The general management plan serves to guide development of the Obed WSR, as the *1978 Development Plan* did, but also guides the overall management and use of the park in ways that will best serve visitors while preserving the values for which the Obed WSR was established.

The GMP has been prepared in cooperation with the Tennessee Wildlife Resources Agency, and with public and agency involvement, and will guide management of the Obed WSR for approximately the next 10 to 15 years. It presents two alternatives for the management of the Obed WSR, one of which the Park Service prefers and is identified as the Proposed Action.

In many respects, the two alternatives are very similar in dealing with visitor use, park operations, and facility development. However, there are important differences between the alternatives regarding such topics as land use and management and boundary adjustments.

"Alternative A: The Preferred Course" constitutes the Park Service's proposed course of action. This alternative also represents the minimum actions and developments needed to make the Obed WSR operational. A new management zone system has been devised representing area specific applications of the Management Objectives. An overall strategy for

resource management addresses the complexity of the Obed WSR and the need to address resource issues both inside and outside Obed WSR boundaries. Visitor oriented programs and facilities would provide visitors the opportunity to experience the special values of the Obed WSR. Revised interpretive themes and an expanded interpretive services program is proposed. Overlooks would provide visitors visual access to the Obed WSR. One developed overlook would be located near Lilly Bridge at Lilly Bluff. A long distance trail system, located primarily on lands managed by the National Park Service, and expanded camping facilities are also proposed. Facilities for river access and associated uses would be accommodated within appropriate management zones. The visitor contact center, administrative headquarters, and maintenance facility would remain in Wartburg. Some changes would be made in the current use and management of easements to provide for protection of values and accommodate visitor access. Boundaries would be expanded to include approximately 200 acres of land and more than 6 river miles and other river sections may be studied in the future for potential inclusion.

Alternative A was selected as the Proposed Action because it:

- is more consistent with NPS Management Policies based on additional information and the management objectives,
- provides an overall direction for resource management and interpretation, and
- contains a management zone system based more specifically on resource protection and visitor experience.

“Alternative B: The Existing Course” represents the on-going implementation of the 1978 *Development Plan* as modified and supplemented over the years by later information and specific program planning.

Most of the proposals in this alternative are very similar to A. However, there are some key differences. The management zone system is based primarily on land ownership patterns. Landscape character is not addressed as a resource in this alternative since it is not reflected in any existing resource management proposals or planning documents. An overlook would be developed in the Obed River and Clear Creek Junction area. The locations of long distance trails are also different. In this alternative the trail system is proposed primarily on Catoosa Wildlife Management Area lands. Roads would be constructed and maintained to the river at Obed Junction and Norris Ford. Boundaries would be adjusted to include two tracts containing less than 65 total acres.

The environmental consequences of implementing either alternative are similar. Overall, neither alternative would have a significantly adverse effect on the resources of the Obed WSR. Most impacts from development and use would be mitigated. There are only two main different consequences between the alternatives. Implementing the additional roads and overlook development proposed in Alternative B would affect a greater amount of land and vegetation. Since county tax income may be reduced if lands are acquired in fee, the socioeconomy may be affected more from implementing Alternative A as more boundary adjustments are proposed. However, it is difficult to predict this impact since a land acquisition strategy--fee or less-than-fee--has not been determined for these lands.

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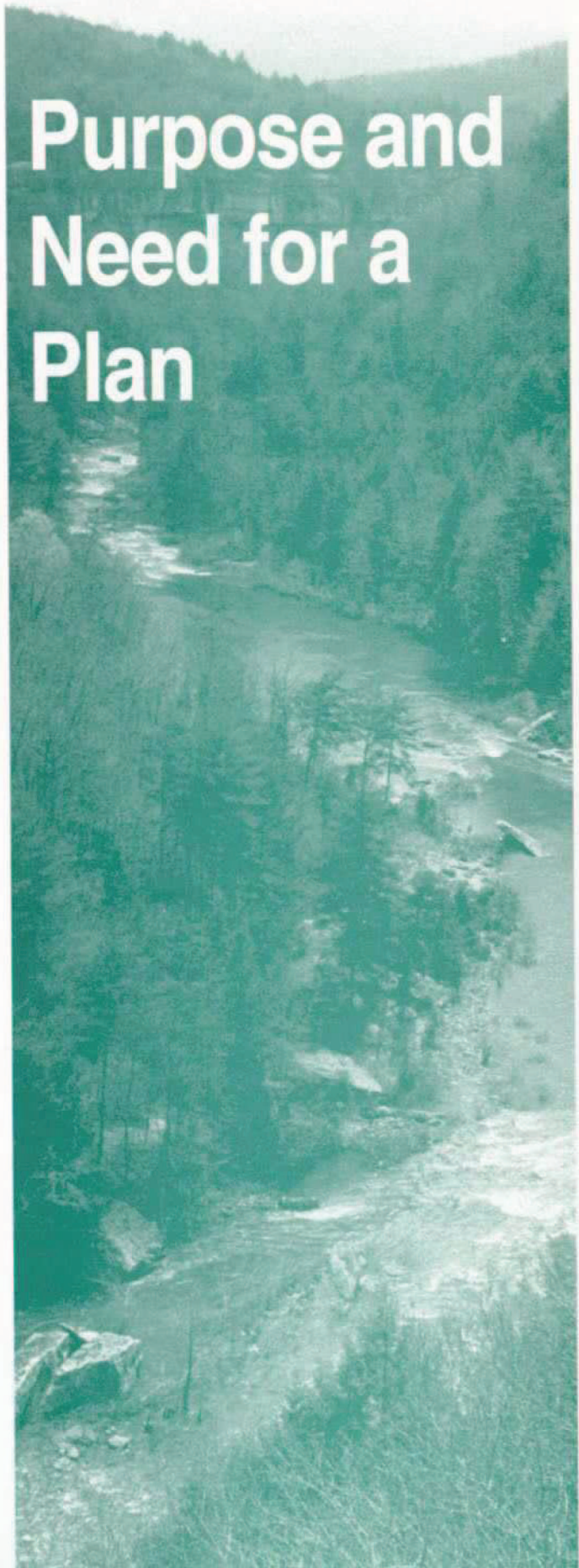
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Purpose and Need for a Plan



BACKGROUND

The Wild and Scenic Rivers Act, Public Law 90-542 (Appendix A), declared the following as 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 future generations."

The Act also states that these rivers would be preserved "in their free flowing condition to protect the water quality . . . and to fulfill other vital national conservation purposes".

In 1976, Public Law 94-486 (Appendix A) amended the original Act to establish the Obed Wild and Scenic River (Obed WSR) encompassing 45.2 river miles on portions of the Obed and Emory Rivers, and Clear

and Daddys Creeks in Morgan and Cumberland Counties, Tennessee. The National Park Service (NPS) has primary management responsibilities for the Obed WSR. Lands currently within Obed WSR boundaries that are part of the Catoosa Wildlife Management Area (Catoosa WMA) will continue to be owned and managed by the State of Tennessee, Tennessee Wildlife Resources Agency (TWRA) in such a way as:

"to protect the wildlife resources and the primitive character of the area and without further development of roads, campsites, or associated recreational facilities unless deemed necessary by that agency for wildlife management purposes."

The legislation required that a development plan be prepared and include a cooperative agreement between the two agencies due to their joint management responsibilities.

A *Development Plan and Stream Classification* was prepared by the NPS in 1978. This plan identifies classifications of stream segments -- 44.25 river miles as "wild" and 0.95 river miles as "recreational" -- and presents a plan for development consistent with the classifications. The plan also contains the first Memorandum of Understanding (MOU) between the Department of the Interior and TWRA. The MOU has been renewed about every five years with the

most recent approved in 1992 (see Appendix B). Parts of the 1978 *Development Plan* have been initiated, including improvements to two river access sites and partial development of one trail. A third river access was scheduled for improvement in Fiscal Year 1993, however, improvements have been deferred pending completion of the general management plan. Little else in the plan has been implemented primarily due to lack of funding.

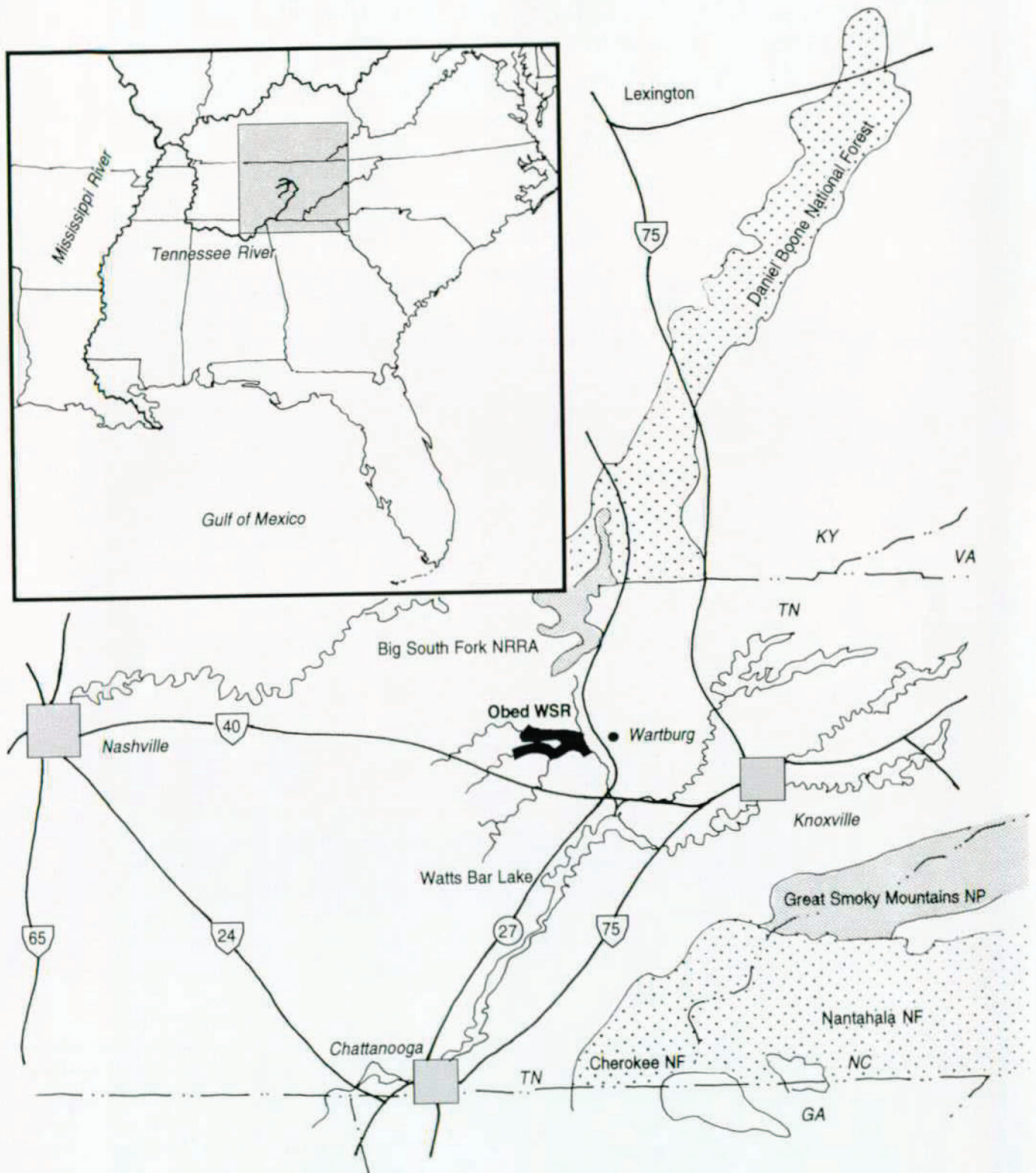
As a unit of the National Park System, Obed WSR is also subject to the legislative mandate that applies to all units of the system:

to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.
(NPS Organic Act, 16 USC 1)

This general management plan was prepared pursuant to the National Parks and Recreation Act, P.L. 95-625, to provide for the protection of the river values and address resource management and visitor use. The plan serves to guide development of the Obed WSR, as the 1978 *Development Plan* did, but will also guide overall management and use in ways that will best serve visitors while preserving the values for which the Obed WSR was established.

The GMP has been prepared in cooperation with the TWRA, and with public and agency involvement, and will guide management of the Obed WSR for approximately the next 10 to 15 years. It presents two alternatives for the management of the Obed WSR one of which the NPS prefers and is identified as the Proposed Action. This document also analyzes the environmental consequences of implementing the alternatives.





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The regional setting of the Obed Wild and Scenic River.

DIRECTION for the PLAN

To ensure public participation in the planning process, public workshops and an "open house" were conducted. The purpose of these events was to identify the issues, alternatives, and impacts that should be considered in the general management plan. These meetings also provided a direction for the planning process.

To initiate the general management planning effort, a management objectives workshop was held in Wartburg, Tennessee on May 27 and 28, 1992. Participants included the NPS as well as representatives from the TWRA, other agencies, the local community, and special interest groups.

The purpose of this workshop was to develop a series of clear statements specific to the Obed WSR which would guide its management including development of the general management plan. The process used to develop these statements, or management objectives, along with the comments received during the other workshops and open house, have resulted in:

- a statement of the purpose of the Obed WSR,
- a description of the significance of the Obed WSR including its major attributes and distinctive position in the National Park System,
- a discussion of the issues and management concerns affecting the Obed WSR, and
- the management objectives.

Each of these is listed or discussed in the following sections. Together, these materials provide the fundamental basis and direction for the general management plan.

PURPOSE of the OBED WILD and SCENIC RIVER

To preserve and protect the Obed Wild and Scenic River System and the surrounding area in an essentially primitive condition, with unpolluted waters, for the benefit and enjoyment of present and future generations.

SIGNIFICANCE of the OBED WILD and SCENIC RIVER

The Obed WSR is a unit in the National Wild and Scenic Rivers System—a system containing more than 150 rivers—and is one of only seven such units that have been authorized in the southeastern United States. It is one of the last remaining wild rivers in the eastern United States, the only one managed by the NPS in the southeast, and the only designated Wild and Scenic River in Tennessee.

The Obed WSR is located within Morgan and Cumberland Counties on the Cumberland Plateau in north-central Tennessee. Existing boundaries encompass approximately 5,057 acres (2046 hectares) including portions of the waters, stream bed, and lands adjoining 45.2 miles of the Emory River, Obed River and two of the Obed River's tributaries--Clear Creek and Daddys Creek.

The quantity and quality of waters in the Obed WSR sustain and nourish a rich variety of outstandingly remarkable values. The Obed WSR contains an outstanding example of a deep sandstone gorge with high stream gradients which together direct white water flows down boulder-strewn courses intermingled with quiet, smooth-flowing stretches. The water is clear and is considered to be among the highest quality in the State.

The Obed WSR is a very scenic resource, with high bluffs, waterfalls, unique geologic features, luxuriant plant life, and many species of animal life occurring within its boundaries. Possessing great ecological diversity, the area contains 10 of 12 ecosystems unique to the Cumberland Plateau, 2 critical habitats and 16 State and federally listed endangered, threatened, and rare species (see "Affected Environments" for more specific information). About 90 percent of the corridor is forested and contains stands of mature hardwood and evergreen forests.

Rugged terrain has caused the river corridor to remain relatively uninhabited. Seasonal prehistoric Native American hunting groups used the natural rock shelters, river

terraces, and upland terrain. Logging and mining camps were established during the 19th and early 20th centuries. More recently, recreational use has dominated the river corridor.

The general inaccessibility and wild character of much of the area offer visitors a unique opportunity to experience a vestige of primitive America. A wide variety of outdoor recreational experiences are accommodated. Boating, fishing, hunting, swimming, picnicking, and camping are common activities by local residents and visitors from major portions of the eastern United States. For boaters, the varied levels of difficulty and the primitive setting contribute to a high quality white water experience.



PLANNING ISSUES and MANAGEMENT CONCERNS

The following issues and concerns were raised during the management objectives workshop and other meetings with the public and other agencies. These issues are addressed in this plan.

Resource Management:

- *Resource Data.* Information gaps exist that hinder effective resource management. What additional information and protection measures are needed?

- *Water Quality.* Do waters in the Obed WSR meet current state water quality standards for the designated beneficial uses? How can the water quality in the Obed WSR be protected when the presently authorized land base makes up a small portion of the watershed? What impact do land management practices occurring on public and private lands upstream have on the Obed WSR? Some large subdivisions are being developed within the Obed River watershed and the population in the area is expected to increase. Lands within and adjacent to the boundaries have been leased for the extraction of coal, oil and gas. Timber cutting, clearing lands for development, oil and gas drilling, and agricultural and residential land activities can impact water quality by causing soil erosion, ground and surface water pollution, and drainage alteration.

- *Water Quantity.* The quantity of water in the streams is linked to its quality. What are the natural stream flows of the Obed WSR and what can be done to maintain them for plants, animals, and recreation? A number of dams and impoundments exist and more are proposed. What impact do these impoundments have on the natural stream flows?

- *Endangered and Exotic Species Management.* How should the feral hogs in the area, which cause erosion and can

damage endangered plants and their habitats, be managed? What management is needed to protect the 23 plants, 11 wildlife species, and the critical habitats for two wildlife species which are classified as rare, threatened, or endangered species, or carry other special designations?

- *Cultural Resources.* Very little is known about the number, type, and location of cultural resources in the Obed WSR. Of the 13 culturally significant sites that have been identified, most have been vandalized or are being threatened by other human activities. How many other culturally significant sites exist within the Obed WSR boundaries? What management and protection measures are needed? What resources are eligible for listing on the National Register of Historic Places? Are there significant ethnographic patterns or influences that should be protected?

Visitor Use and Interpretation:

- *Education and Interpretation.* What interpretation of the Obed WSR is needed? How and where should visitor orientation, information and interpretation be accomplished? How should the value of and need to protect the Obed WSR resources be communicated to the local community?

- *Visitor Experience.* What is the quality of experience in the WSR and what uses are appropriate to provide and preserve this experience? Since use of the Obed WSR is projected to increase, what types of uses and how many users can utilize the river environment while still protecting the resources and wild character of the area?

Development:

- *Visitor Facilities.* What type and size of visitor, administrative and maintenance facilities are required and where should they be located? While the Act creating the Obed WSR gave the Secretary authority to acquire lands along the river, no consideration was given to acquiring space for visitor orientation/information, adminis-

trative or maintenance functions. Development within the boundaries is restricted by the WSR legislation. Currently the NPS leases a former bank in downtown Wartburg from the City to serve as both administrative offices and visitor contact station. A maintenance building, two blocks away, is also leased.

-Access areas, Trails and Overlooks. How should access to the river be provided and where? The river environment offers hazards to the unprepared visitor and a lack of access roads and trails make rescue options difficult. How much and what type of development is appropriate at the access areas? What impact does the potential for flooding have on development of the accesses? Littering, vandalism and theft are serious problems at the Obed WSR and unattended vehicles at river access points are favorite targets. There is a lack of facilities for the collection of trash and human waste at the various access points which can lead to increased insect, odor, sanitation, and water quality problems during the summer months when these areas are highly used. What type of scenic

overlooks or vistas would be appropriate to the area without impacting the wild character?

Operations:

-NPS/TWRA Interface. The NPS and Catoosa WMA share management responsibilities along portions of the Obed WSR. Each agency has its own unique management purpose and is required by the enabling legislation to work cooperatively to protect the values of the Obed WSR. What impact do the differing management policies have on resource management and visitor use? What opportunities exist for enhanced cooperation?

Land Protection:

-Land Base. Since land acquisition ceilings restrict the size of the Obed WSR, is the land base adequate to implement the intent of the WSR legislation, provide a quality visitor experience, and carry out the operational needs of the Obed WSR? Do the existing easements provide for the necessary protection?



MANAGEMENT OBJECTIVES

The Management Objectives that follow are referred to throughout the general management plan. They are presented in three categories.

Resources

To achieve and maintain high water quality -- using current State water quality standards as a minimum -- and natural stream flows that are beneficial to aquatic life and suitable for swimming.

To protect the natural systems, cultural resources, landscape character, and biodiversity of the Wild and Scenic River area.

To maintain the natural abundance and diversity of native wildlife populations.

Visitor Experience

To provide the opportunity and means to learn about, experience, and enjoy the special values of the Obed WSR (essentially primitive, unpolluted, and generally inaccessible) while assuring the protection of those values.

For the "Wild" river areas (44.25 river miles): To provide the user the opportunity to experience the primitive nature of the resource between existing public bridge crossings.

For the "Recreational" river areas (0.95 river miles): To provide the user the opportunity for outdoor recreation experiences in a natural setting.

Development

To provide the following types of access and development with minimal resource degradation in concert with the river classification.

--Provide vehicular access and minimal public use facilities along the river, only at existing bridge crossings;

--Provide hiking trails;

--Provide scenic overlook experience(s); and

--Allow for and manage primitive camping.



The Proposal and Alternatives

INTRODUCTION

This draft general management plan contains two alternatives for management of Obed WSR. These two alternative "futures" for the Obed WSR were developed using the management objectives.

"Alternative A: The Preferred Course" constitutes the Park Service's proposed course of action. This alternative also represents the minimum actions and developments needed to make the Obed WSR operational in a way that provides for primary visitor use, park management, and resource protection.

"Alternative B: The Existing Course" is based primarily on continuing the present course of action which includes implementation of the *1978 Development Plan*, that has been guiding area development and management.

In many respects, Alternative A and B are very similar as there are very few major

differences between them. The similarities and differences are represented in the Summary of Alternatives chart at the end of this chapter. Although additional alternatives were considered, the WSR legislation and management objectives narrowed the range of appropriate options to these two alternatives.

Alternative A was selected as the Proposed Action because it:

- is more consistent with NPS Management Policies based on additional information and the management objectives;
- provides an overall direction for resource management and interpretation; and
- contains a management zone system based more specifically on resource protection and visitor experience.



ALTERNATIVE A: THE PREFERRED COURSE

Alternative A: The Preferred Course, constitutes the NPS's draft general management plan for Obed WSR. This alternative focuses on achieving the intent of the management objectives. Actions are proposed and discussed for the following topics.

- Desired future conditions for specific areas of the Obed WSR are identified in **Land Use and Management**.

- Strategies identifying the principal projects needed to protect, preserve, and perpetuate the natural and cultural resources are discussed in **Resource Management**.

- Visitor Use and Associated Facilities** addresses issues relating to the desired visitor experience and on the activities, levels of use, and appropriate development to be accommodated.

- Staffing levels are discussed and appropriate facilities proposed for effective administration of the Obed WSR in **Park Operations and Associated Facilities**.

- Proposed modifications to the existing boundaries are described in **Land Protection**.

- Plan Implementation and Costs** contains implementation strategies and estimated total costs of implementing this alternative.

Maps and Development Concept Plans (DCPs) accompany some of the topics to depict the proposals. DCPs illustrate the general nature of development proposed for a site.

LAND USE and MANAGEMENT

The Park Service uses a management zone system to indicate the management emphasis for specific lands and waters within a unit of the National Park System. The management zones used for Obed WSR are described below and are depicted on the Management Zoning maps.

The Wild and Scenic Rivers Act, Public Law 90-542, charges that rivers included in the System "shall be classified, designated, and administered" as Wild, Scenic, or Recreational river areas. The two river area classifications applicable to the Obed WSR are defined as follows.

Wild river areas--Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.

Recreational river areas--Those rivers or sections of rivers that are readily accessible by road or railroad, that may have undergone some impoundment or diversion in the past.

Through applying the legislatively based river classifications, purpose of the Obed WSR, and management objectives; assessing resource opportunities and constraints; and considering the desired visitor experience and established uses, desirable future conditions for the Obed WSR were described and became the basis for the management zones. The "desired future conditions" represent goals for each area and are stated in terms of what would actually be happening in the future, if these goals are fully realized. Accordingly, the management zones described below represent area specific application of the above noted considerations.

WILD ZONE

Desired Future Condition: The primitive nature of the river corridor is being protected. Visitors are experiencing a vestige of primitive America--essentially primitive shorelines and unpolluted waters--by floating the river, viewing the river and gorge, hiking on trails, and camping along the river and trails without intrusions by motor vehicles or developments. Sensitive resources are being monitored and protected.

This Zone applies to most of the "wild" classified section of the Obed WSR corridor. Only non-mechanized means of transportation would be allowed on the river or trails in this zone except for emergency or administrative purposes. Alterations to the natural setting would be limited to hiking trails and walk-in or "boat-in" camping areas. Visitor use is controlled to preserve the specific ecologic, geologic, and cultural values for which the Obed WSR was established.

DEVELOPMENT ZONE

The Development Zone addresses areas, both inside and outside Obed WSR boundaries, with concentrations of existing or proposed facility developments. Existing development areas contain facilities which substantially alter the primitive character such as roads and bridges. Proposed developments are limited to the minimum facilities needed to accommodate river access, associated activities, and administration. This zone has been subdivided into the following three subzones. The subzones were delineated based on resource protection, management needs, and the line-of-sight from the Wild Zone to existing facilities.

DEVELOPMENT ZONE / Recreational Facilities Subzone

Desired Future Condition: Visitors are participating in a variety of recreational activities in a natural setting. Resource interpretation is enhancing visitor understanding and appreciation of the Obed WSR. Trails provide access to river and parking and other improvements may be available. These developments minimally intrude on the natural character of the landscape.

The Recreational Facilities Subzone applies to the area classified as "recreational" and to areas near existing bridge crossings, including the developed overlook at Lilly Bluff. Development of facilities would be limited to those needed to accommodate river access, associated recreational activities, and visitor appreciation of area resources and values and in order to control and minimize the resource impacts currently occurring from use of these areas. Access roads and parking areas are available. Trails would lead from parking areas to the river, long distance trails, or overlook destinations.

DEVELOPMENT ZONE / Road and Rail Right-of-Way Subzone

Desired Future Condition: Visitors are driving through or accessing parts of the Obed WSR within existing road or rail rights-of-way. Although these lands are owned by others, they are being used in a manner compatible with resource values and visitor use.

This subzone is used to identify existing State and County road and railroad rights-of-way. Where appropriate, some recreational facility development would occur within this subzone. The Park Service would work cooperatively with the appropriate agency or company to accommodate any facility development. Developments could include parking and pedestrian

crossings within the road right-of-way, and trails and camping in the railroad right-of-way.

DEVELOPMENT ZONE / Administrative Facilities Subzone

Desired Future Condition: The Obed WSR is being administered from appropriate facilities in Wartburg. Visitors are being contacted and information is being provided from an easily reached, centralized facility in this city.

This zone applies to the facilities in Wartburg that are necessary for the administration and maintenance of the Obed WSR and would accommodate visitor contact.

RESOURCE MANAGEMENT

Strategies for managing the natural and cultural resources in the Obed WSR are presented in four categories: water resources, biodiversity, cultural resources, and landscape character. The current Resource Management Plan (RMP, 1993) reflects many of the following strategies.

WATER RESOURCES

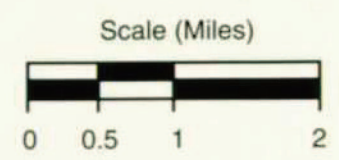
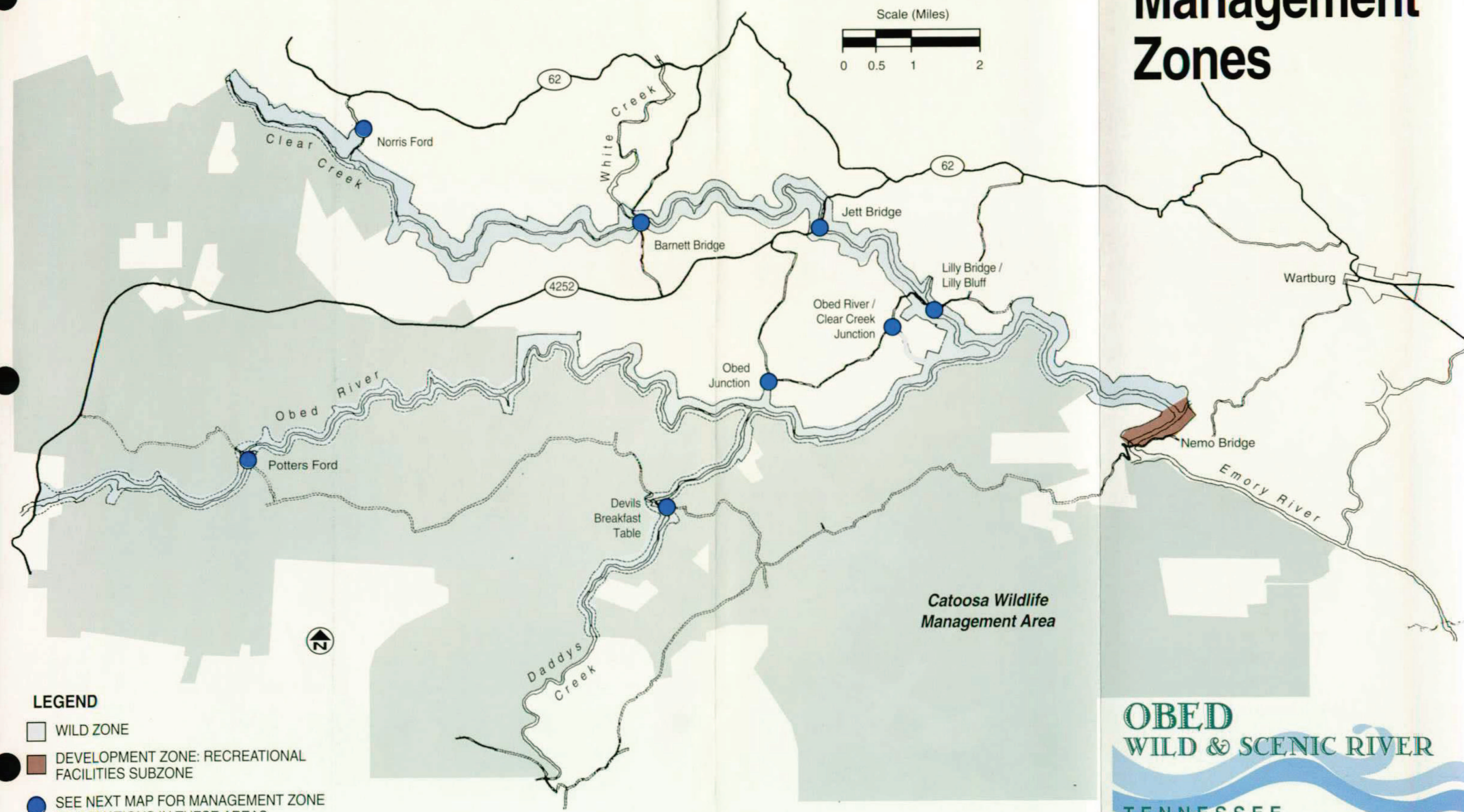
The quantity and quality of water resources are fundamental, complex, and highly dynamic resource management issues for the Obed WSR. In order to carry out the management objective--to achieve and maintain high water quality and natural stream flows that are beneficial to aquatic life and suitable for swimming--efforts would be made to address issues within the WSR boundaries as well as those within the broader scope of the watershed.

Inside WSR Boundaries

Monitoring Program. Current monitoring of Obed WSR waters does not provide sufficient information to satisfy the management objective. The existing monitoring program would be expanded to provide essential baseline data. For water quantity, this would include locating gauging stations in the Obed WSR to accurately record water levels. The number and type of upstream impoundments would be continuously monitored and their effects on stream flows documented. Based on resulting data, a strategy would then be devised to provide for and protect natural stream flows.

The expanded monitoring effort would also work to effectively document improvements in or degradation of water quality. This program is a critical first step towards managing water resources and would allow Obed WSR staff to work with the State--as they are responsible for enforcing water quality regulations--to respond quickly and appropri-

Management Zones







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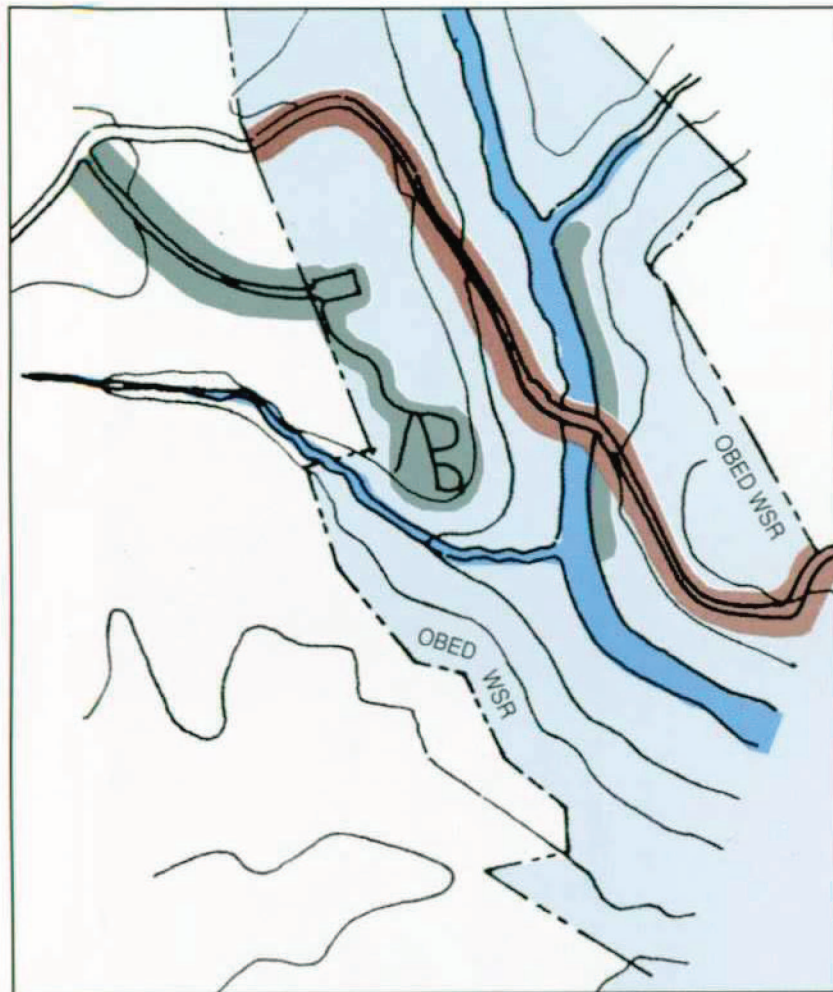
- WILD ZONE
- DEVELOPMENT ZONE: RECREATIONAL FACILITIES SUBZONE
- SEE NEXT MAP FOR MANAGEMENT ZONE DESIGNATIONS IN THESE AREAS

Management Zones

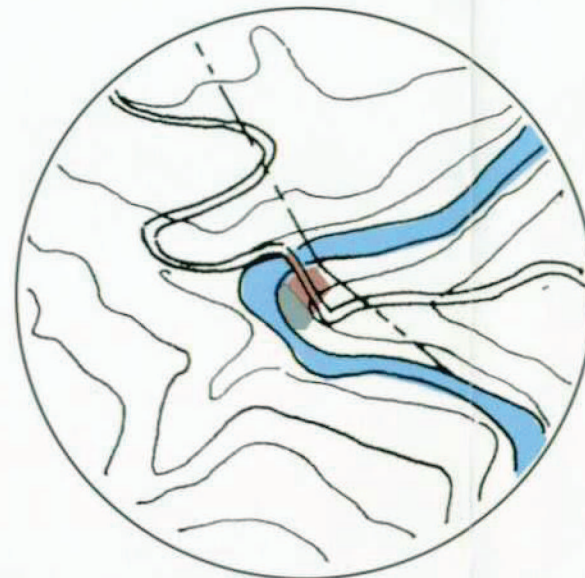
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-  RIVER
-  WILD ZONE
-  DEVELOPMENT ZONE / Recreational Facilities Subzone
-  DEVELOPMENT ZONE / Road And Railroad ROW Subzone

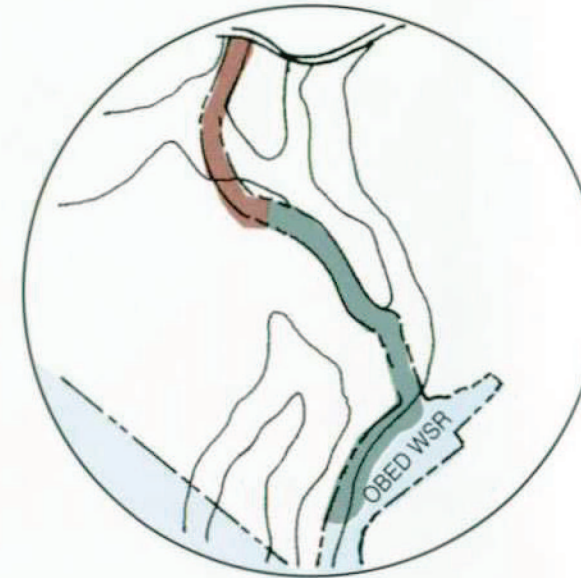
No Scale



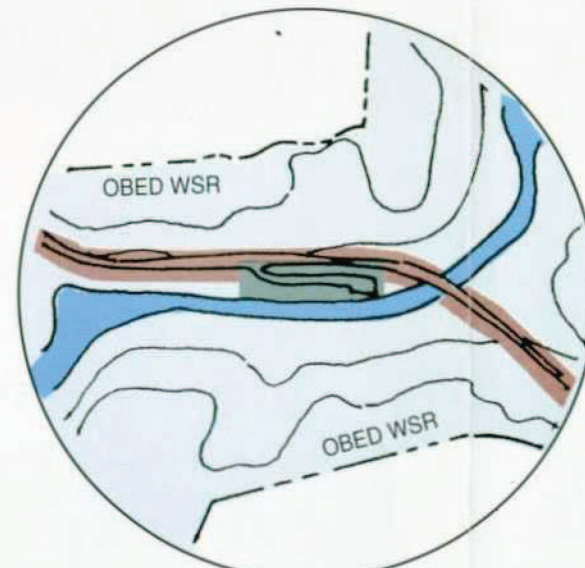
LILLY BRIDGE/ LILLY BLUFF



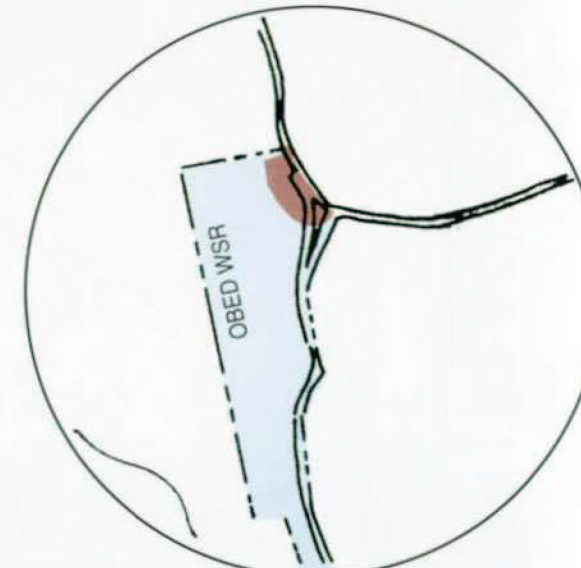
DEVILS BREAKFAST TABLE — CATOOSA WMA



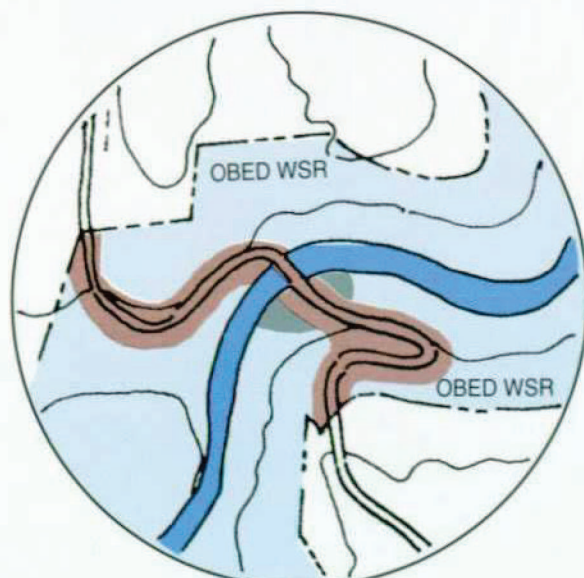
NORRIS FORD



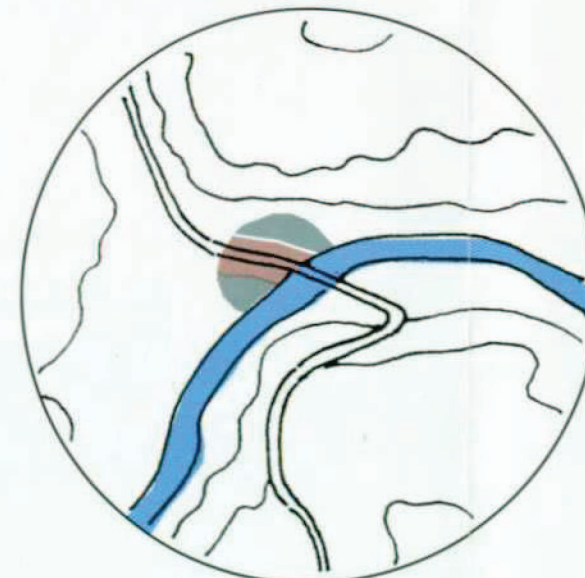
JETT BRIDGE



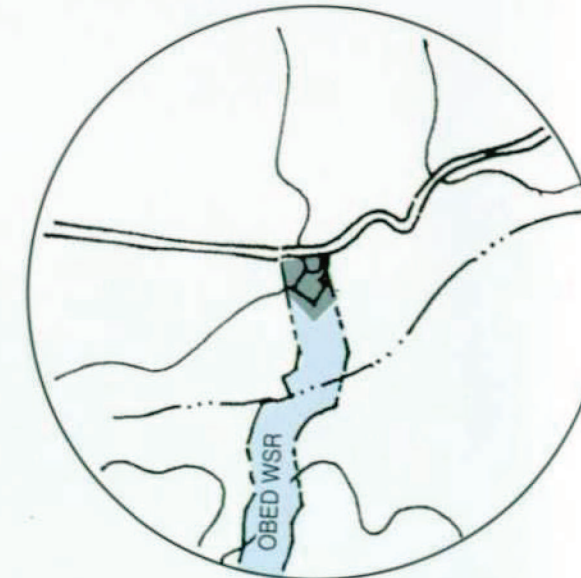
OBED JUNCTION



BARNETT BRIDGE



POTTERS FORD — CATOOSA WMA



OBED RIVER/ CLEAR CREEK JUNCTION

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ately to pollution events. Accordingly, the monitoring program must be designed in accordance with State regulations. This would include collecting and presenting data in accordance with regulations and utilizing State approved testing facilities.

Management Plan. A Water Resources Management Plan (WRMP) would be prepared for the Obed WSR to present more specific strategies to deal with the variety and complexity of water resource issues.

Other Projects. Abandoned oil and gas wells and coal mines inside the Obed WSR would be stabilized and revegetated to reduce and mitigate the impacts from acid drainage and erosion. Where appropriate, these sites would be reclaimed and the natural character of the landscape restored.

Other eroded areas throughout the Obed WSR would also be stabilized and revegetated. These areas are subsequently discussed as part of related topics regarding trails, camping, and river access.

Within the Watershed

Established State and Local Programs.

The Park Service would work with established State and local water resource protection programs to help reduce the water quantity and quality impacts occurring from development and activities outside Obed WSR boundaries. Working with existing programs has been shown to be one of the most effective tools in dealing with water resource issues outside park boundaries.

One example would involve encouraging the State to add an "Outstanding Natural Resource Waters" (ONRW) designation to their existing stream classification system and apply it to the Obed WSR.

An ONRW designation would provide the Obed WSR with a State sanctioned means to encourage sensitive development practices in the watershed and help control the type and number of permitted discharges and impoundments upstream of the Obed WSR.

Cooperative Efforts. Because the watershed encompasses approximately 500 square miles of publicly and privately owned lands, a multi-disciplinary partnership effort is needed to deal with many of the water resource issues and impacts. The NPS would promote establishment of a work group or "committee" to set goals for and guide efforts toward water resource protection in the watershed. Federal, State and local agencies, and other interested public and private entities would be encouraged to participate in developing various projects and programs that would include the following.

1. Develop and implement a watershed protection plan. This plan would identify potential water quantity and quality threats and propose management strategies for dealing with them.
2. Involve and educate the community--private individuals, businesses, and public agencies--on the purpose and benefits of managing and protecting water quantity and quality including the need for the watershed protection plan.
3. Promote implementation of Best Management Practices for forestry, agriculture, and construction.
4. Promote rehabilitation of abandoned mines that threaten water quality in the Obed WSR.
5. Work closely with the State on results of monitoring and testing programs, enforcement of regulations, and establishing an ONRW designation.

BIODIVERSITY

Insufficient data are available to adequately understand and protect the biological diversity within the Obed WSR. A proactive, comprehensive program would be established to gather baseline data on, monitor, and manage rare, threatened, and endangered species, critical habitats, exotic species, and air quality. Initial efforts would be made toward establishing a data gathering program that emphasizes an understanding and then provides a basis for protection of habitats or communities rather than individual species. Using an ecosystematic approach, such as mapping wildlife corridors and studying the interactions between species, habitats and communities, will require working outside the boundaries of the Obed WSR. As these issues are better understood, creative strategies can then be developed to provide the necessary protection and management.

CULTURAL RESOURCES MANAGEMENT

A program would be established to collect baseline data on cultural resources since little information is available regarding the location and significance of area resources. As significant cultural resources are identified, appropriate management strategies would be developed and then implemented.

It is also important to understand the special features, traditions, and use patterns that specifically relate to the history of human use and development of this area. Oral histories would continue to be compiled and the results of this effort would be incorporated into the interpretation and management of the Obed WSR. The information can be an integral part of the interpretive program and, as appropriate, traditional names for features and areas can be re-established. Recently, the Park Service has reintroduced the traditional name of "Norris Bottoms" for the campground at Nemo Bridge.

LANDSCAPE CHARACTER

The essentially primitive and inaccessible character of the natural landscape and the "solitude" associated with experiencing this landscape is a value that needs to be protected. The Park Service would conduct a study identifying existing visual and auditory intrusions in order to propose measures to mitigate significant impacts. Intrusions include visually obtrusive developments and noise from vehicular traffic, oil and gas drilling, timber cutting, and other activities. The study could provide a basis for cooperative measures regarding impacts from activities occurring on lands outside the Obed WSR boundaries.

VISITOR USE and ASSOCIATED FACILITIES

Visitors come to the Obed WSR to participate in outdoor recreational activities or to explore a unit of the National Park System. There are an array of land and water based opportunities including white water boating, hiking, camping, rock climbing, hunting, fishing, sight-seeing, picnicking, and swimming. But, it is the wild, primitive setting for these activities that make the visitor experience so special.

Interpretation, overlooks, trails, camping, and river access are proposed to provide visitors the opportunity to experience the special values of the Obed WSR. The strategies, programs, activities, and appropriate developments for each of these five areas are described below.

INTERPRETATION

Interpretation is a process of education designed to convey information to the visiting public, stimulate curiosity, and promote understanding and appreciation. This section describes the proposed interpretive program which is made up of interpretive themes and interpretive services. Interpretive themes provide the foundation for the "stories" and information to be conveyed to the visitor, and interpretive services describes how and where these stories and information would be provided.

Interpretive Themes

The values and significance of the Obed WSR provide the basis for the following four interpretive themes to be conveyed to the visitor.

Natural Values. The Obed WSR is one of the last remaining wild rivers in the Eastern United States and contains some of the highest water quality in the State. An outstanding example of a deep, sandstone gorge lines much of the river system. From the river bed to

the bluff tops, the area possesses great ecological diversity with a variety of habitats for many species of flora and fauna including a number of endangered and threatened species.

Cultural Values. The river system has served many people; from the prehistoric Indians who travelled here to hunt, fish and trade to the pioneers and "long hunters" who first settled the area. Coal mining, timbering, and oil and gas extraction have played a major role in the development of the region and have all taken place within the park boundaries.

Protection and Preservation. Because of its significant value, the Obed WSR was selected to be preserved in a free flowing condition and together with its environments, protected for the benefit and enjoyment of present and future generations. Management of the river system involves many different groups and organizations, including the TWRA, the NPS, the Tennessee Valley Authority (TVA), and private landowners. Activities both inside and outside the Obed WSR boundaries can greatly impact the values in need of protection including water quantity and quality, biodiversity, wildness, scenic characteristics, and recreational use.

Recreational Values and Safety. A wide variety of land and water based recreational opportunities are available and include fishing, hunting, boating, climbing, hiking, swimming, picnicking and camping. Generally inaccessible except by trail and a few road crossings, the river system provides boaters with a high quality white-water experience with varied levels of difficulty in a wild setting. There are many safety concerns due to the nature and difficulty of the white water, hunting, and the general remoteness and inaccessibility of most of the area.

Interpretive Services

Information and orientation, onsite, and outreach services would be provided. The focus of each of these efforts and the facilities needed to accommodate these services are discussed.

Information and Orientation Services. Due to the nature of activities occurring in the Obed WSR environment, information and orientation would be provided in several forms in various locations. Visitors need easy access to information concerning the location, accessibility, and availability of water and land based activities and associated facilities. Safety would also be a major aspect of the information and orientation program so that up-to-date information on river conditions, weather, hunting seasons, and area closures could be provided.

The Visitor Contact Station would remain in Wartburg and would continue to focus on providing information and orientation to the visitor. The facility would continue to provide and sell informational materials. Current information regarding such topics as safety, river conditions, program offerings, and regional availability of camping, lodging, and food, would be posted outside the facility when it is closed. General information would also be available at TWRA offices in Crossville. If visitor use and future demand warrant additional informational facilities, an interagency facility would be considered.

A recorded message would provide 24 hour information on river levels and weather conditions. A gauging station would be located in the park in order to provide accurate information regarding river levels. Due to the seasonal nature of activities on the river, river levels and weather conditions are critical information to river users including those fishing, swimming, camping, or white water boating.

Within the Obed WSR boundaries, information boards, sometimes referred to as "bulletin cases", would be located at heavily used river access sites, including those within Catoosa WMA, major parking areas, and along existing roads at key boundary locations. The boards would provide up-to-date information and also serve as central meeting places for onsite interpretive programs. They may have information dispensers attached for brochures or other materials.

Information boards would also be located outside the Obed WSR boundaries in conjunction with other Federal and State agencies. Boards would be placed at selected river access sites used to access or take-out of the Obed WSR and one board would be placed along I-40.

Onsite Services. The main interpretive thrust would be at reaching visitors and users at the resource. An audiovisual program and some exhibits would be located at the visitor contact station with the intent on luring visitors out to the Obed WSR to experience its special values.

A combination of interpretive waysides, information boards, trails, roving interpreters, and personally conducted interpretive programs would be used to deliver portions of the interpretive story onsite. These facilities and activities would be located at the developed overlook, along trails, and at river access sites. Information regarding the proposed location and number of these facilities is described in more detail in following sections on overlooks, trails, and river access.

Outreach Services. The existing emphasis on outreach services would be strengthened. Outreach efforts have proved to be a very effective means to reach and

inform area residents on the values of the Obed WSR and why it is so important to protect these resources. Programs would continue to reach school age children. Programs would also be designed to reach the adult population of the surrounding communities.

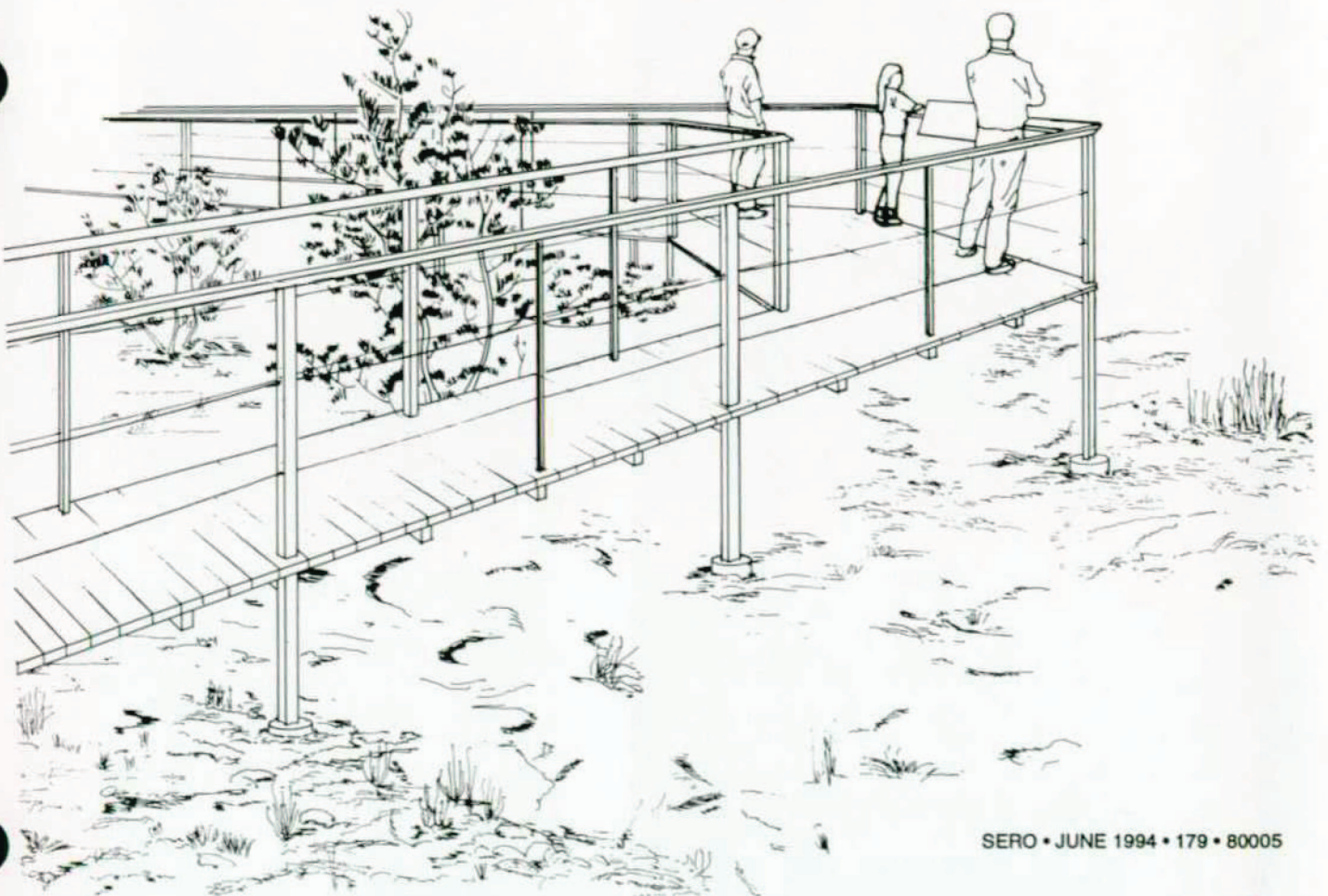
The Park Service would facilitate other agency or organization involvement in education and interpretation. This approach to outreach would help the NPS reach the greatest numbers of people with the smallest increase in staff. Park Service interpreters would train volunteers and area school teachers to present programs dealing with Obed WSR values to community clubs or organizations as well as school groups.

OVERLOOKS

Views of the gorge, river, and surrounding landscape paint a vivid picture of the character of the Obed WSR. Because of the importance of the scenic characteristics, overlook experiences would be available to both visitors with ample time to explore and those who are limited by time or disabilities. Two types of overlooks would be available: undeveloped and developed.

Undeveloped Overlooks

Undeveloped overlooks are designated viewing locations with no development beyond what is allowed for in the Wild Zone. Designation of these overlooks provide visitors with clearly marked destinations containing spectacular views of the wild river environment in a primitive setting. Each designated undeveloped over-



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look would contain, at most, the hiking trail leading to it, a sign or interpretive wayside marking its location, and may involve some clearing of vegetation.

Most of these undeveloped overlooks would be designated in conjunction with the Trail Layout Study described in the following section on Trails. Five undeveloped overlooks would be designated in the Obed River and Clear Creek Junction area and are depicted in the DCP. An approximately 0.75 mile (1206 meters) long hiking trail within the existing NPS owned right-of-way would lead visitors out to these overlooks and the confluence of the Obed River and Clear Creek. A 200 foot (70 meters) long access road would be improved leading to a 10 space gravel parking area constructed near a hemlock grove. The start of the trail, picnic tables, a sanitary facility, and trash receptacles would be placed under the canopy of the trees, creating an attractive trail head and picnic area.

Developed Overlook

A developed overlook provides the appropriate facilities to provide all visitors "visual access" to the Obed WSR; visitors would have easy access to experience a representative portion of the wild and recreational character of the river and gorge. A special effort was undertaken to identify the location and design for this overlook and is summarized in Appendix C.

A single, developed overlook would be located near Lilly Bridge at Lilly Bluff. This site was selected because the location:

- is consistent with the management objectives and management zone descriptions limiting development within the Wild Zone to existing bridge crossing areas;
- has been and continues to be severely impacted by inappropriate uses such as trampling by people and motor vehicles, campfires, litter, and vandalism; and

--satisfies objectives for a successful overlook (see Appendix C).

The Lilly Bluff Overlook DCP depicts the proposed development. A hard surfaced trail leads visitors from a 20 space parking area, out to an elevated boardwalk. The boardwalk directs visitors over the exposed bluff along two loops offering views, sounds, and interpretation of the river, exposed bluffs, steep gorge, surrounding landscape, river use, and plant and animal communities.

Visitors could also hike up to the overlook on a trail beginning at Lilly Bridge. This relatively steep trail traverses along the base of Lilly Bluff, climbs past rock shelters, and offers access to a waterfall. At the top, the trail joins a boardwalk which connects to the central boardwalk leading out to the overlook.

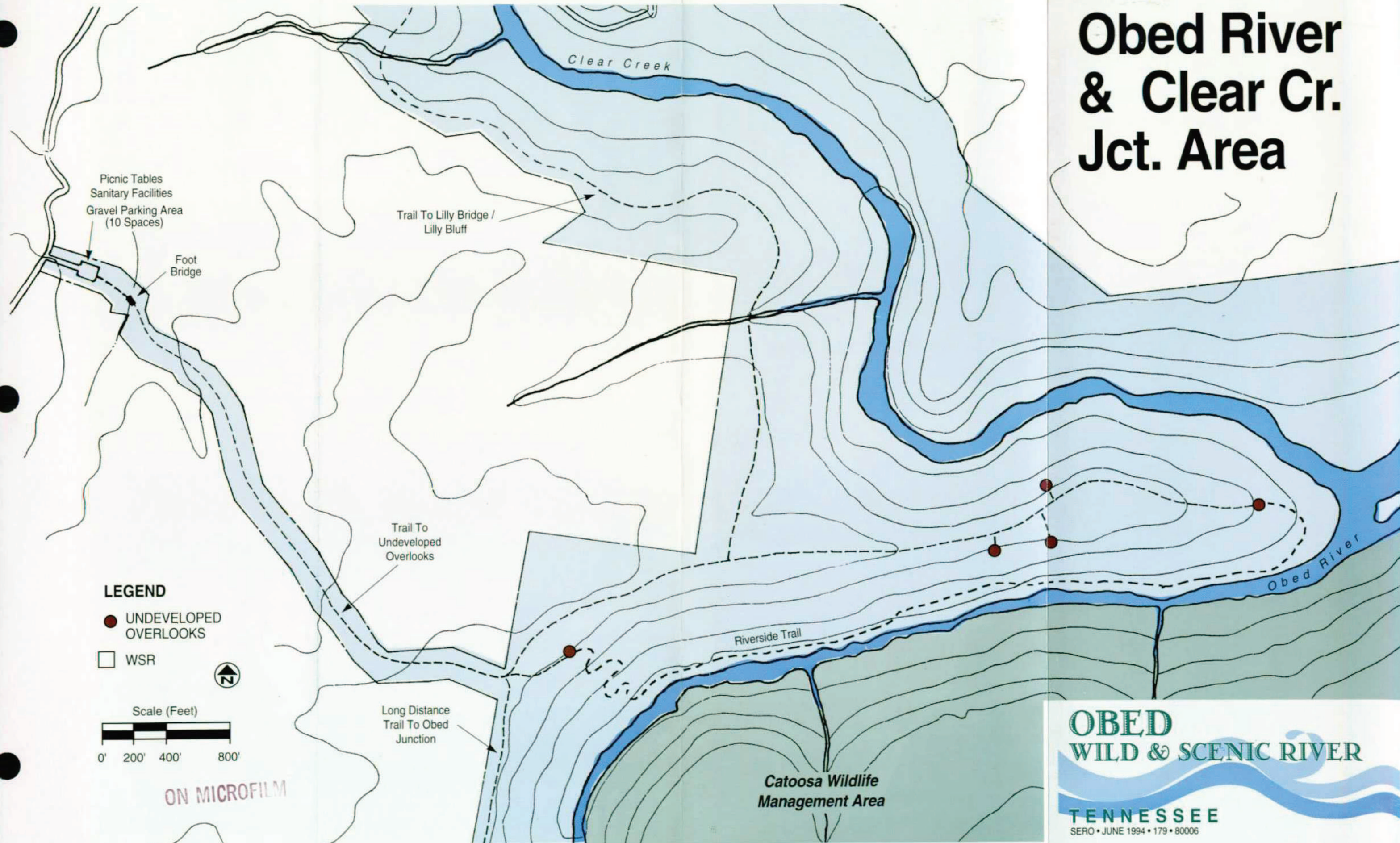
Many considerations went into the design of the Lilly Bluff Overlook. The boardwalk would be raised and railings are provided to keep visitors above the bluff to protect a large, highly developed example of a Cumberland Plateau bluff line plant community. This sensitive plant community is being heavily impacted by motor vehicles and people. The boardwalk would be carefully located on the bluff to avoid impacting the scattered pockets of sensitive plant community. Posts used to support the boardwalk would be anchored to the bluff with galvanized metal "H" brackets to minimally affect the natural drainage of water on the site.

The materials selected for the boardwalk would minimize its visual impact. A recycled polymer that resembles wood would be used for the decking and metal cables used for the railings to help the development blend into the site. The top rail would be larger providing visitors a place to lean.

The trail and boardwalk are also designed to be accessible to visitors with disabilities. A surface stabilizer would be used on the

Development Concept Plan

Obed River & Clear Cr. Jct. Area



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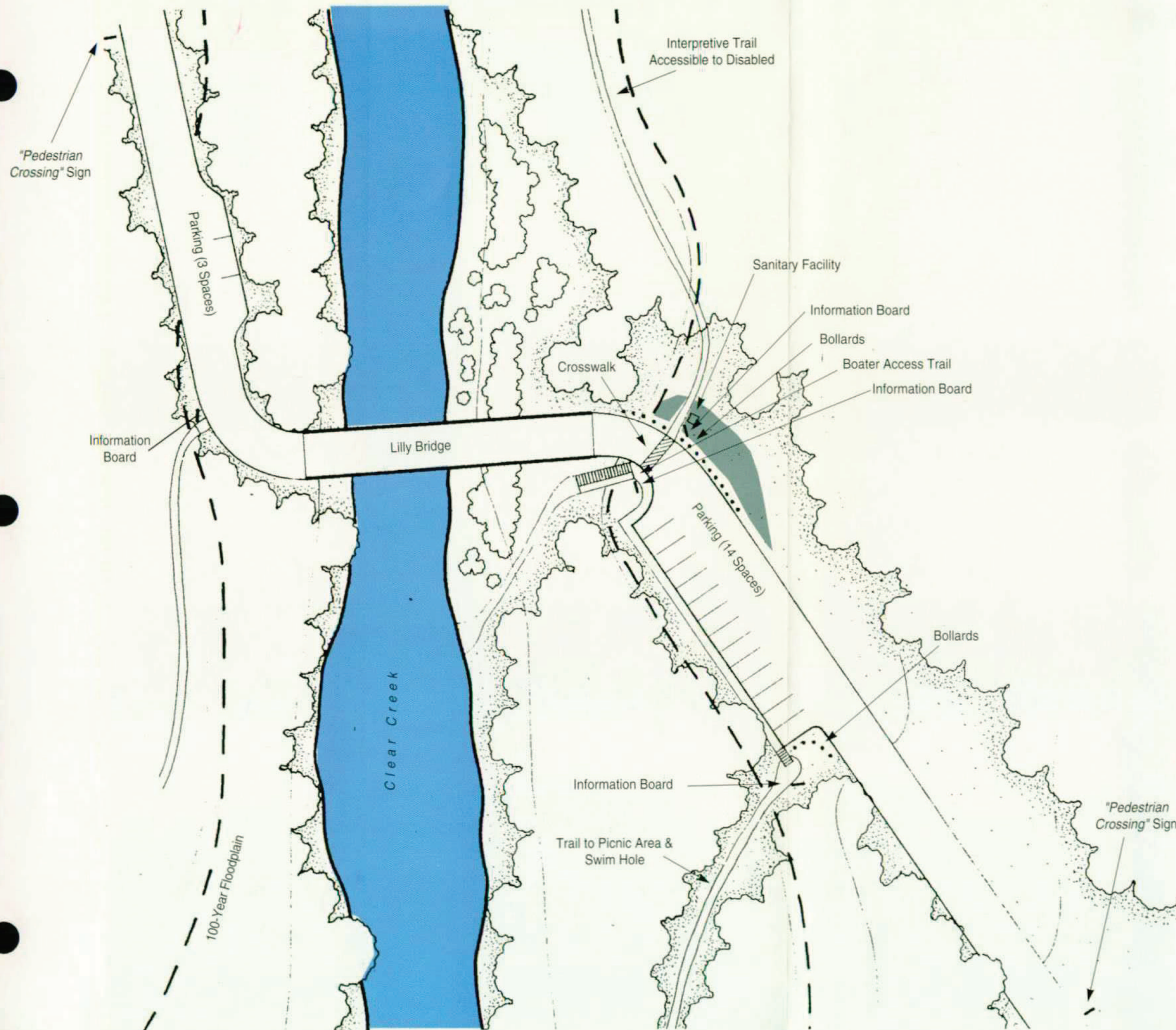
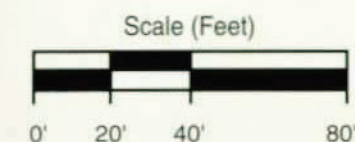
Development Concept Plan

Lilly Bridge

LEGEND

REVEGETATED AREA

100-YEAR FLOODPLAIN



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trail leading from the parking area to the boardwalk. Surface stabilizers bond native aggregates with soil stabilization agents to form durable, dust-free, permeable, hardened surfaces that retain the natural color and texture of regional soils. These agents are nontoxic, environmentally safe materials, such as pine tar derivatives and complex protein molecules. The trail and boardwalk would meet the Americans with Disabilities Act Guidelines.

A monitoring program would be established to develop information on the plant community before construction begins, monitor the success of the design once installed, and mitigate any problems. Waysides and NPS staff would be used to educate visitors on the value and need to protect the plant community.

TRAILS

A system of linear and looped trails would provide approximately 30 miles (48.3 kilometers) of hiking opportunities amidst both "wild" and "recreational" settings. The Long Distance Trail Map depicts the general location of these trails. The long distance trails connect segments of existing paths that have been created during many years of use. The Park Service would prepare a Trail Layout Study before construction of these trails. The study would delineate exact trail locations in order to accommodate visitor access to a variety of destinations along both river and bluff sections while providing for the protection of sensitive resources. Several shorter, more feature specific trails would also be developed and are described within the sections on Overlooks, Camping, and River Access.

Linear Trails

An approximately 6.5 mile (10.4 kilometer) trail would connect Nemo and Lilly Bridges. Much of this trail currently exists having been formed during years of hunting, fishing, and hiking use in the area. Areas where hikers could cross the Emory, upstream of where it joins the Obed, needs

to be identified so hikers can travel the entire route.

Loop Trail

A long distance loop trail, approximately 20.5 miles (33 kilometers), would follow the north side of the Obed River and the south side of Clear Creek. The NPS currently has fee title to much of this land. Additional interests may need to be purchased to permit public access and trail construction on lands where the NPS has only acquired easements. Along the western portion of this loop, the trail would follow a short section along the Catoosa WMA boundary, cross Genesis Road, and follow the Hawn Spring Branch back to the current Obed WSR boundary. Trail access along Hawn Spring Branch would be acquired as discussed in the section on Land Protection.

Support for Additional Trails

Based on public interest and support, the Park Service would consider developing other trails that are consistent with NPS Management Policies, regulations, and the GMP. This could include the two trails described in the *1978 Development Plan*--an extension of the existing Cumberland Trail and a trail traversing the southern portion of the Obed River between Devils Breakfast Table and (see Alternative B for further description of these trails).

Identification and support for trails on or through Catoosa Wildlife Management Area and other adjacent lands would be encouraged due to the limited, narrow land base along most of the Obed WSR. Also, significant portions of Obed WSR lands are not owned in fee by the Park Service.

CAMPING

Two types of camping are proposed: "developed" and "undeveloped". Developed camping areas would provide for camping in a natural setting with some development of facilities and would only occur in the Development Zone/Recreational Facilities Subzone. Undeveloped

campsites would provide for a more primitive camping experience and could occur within any of the management zone designations.

Because some of the camp sites would occur in the 100 year floodplain, flood information would be made available to visitors by signs and pamphlets. A contingency plan for evacuating the developed camping areas during periods of flooding would be instituted. A permit or self registration system would be established for undeveloped camping. This system would include alerting visitors about inclement weather conditions and safety precautions to take if the river begins to rise.

Developed Camping

The Park Service would continue to provide one developed camping area at Norris Bottoms. The existing campground at Norris Bottoms would be increased from 6 to 10 sites. Each site would contain parking, fire rings, and picnic tables. The campground also contains centralized garbage and sanitary facilities.

A second camping area could be developed near the existing bridge crossing at Potters Ford in Catoosa WMA lands. This area is heavily used for camping but the activity is generally uncontrolled. If requested, the Park Service would assist with design development of this campground.

Undeveloped Camping

These campsites would offer a more wild experience and could only be accessed by boat or trail. At most, each site would remain virtually undeveloped containing only a sign marking its location and a fire ring.

Additional study is required to determine the appropriate number and location of campsites.

RIVER ACCESS

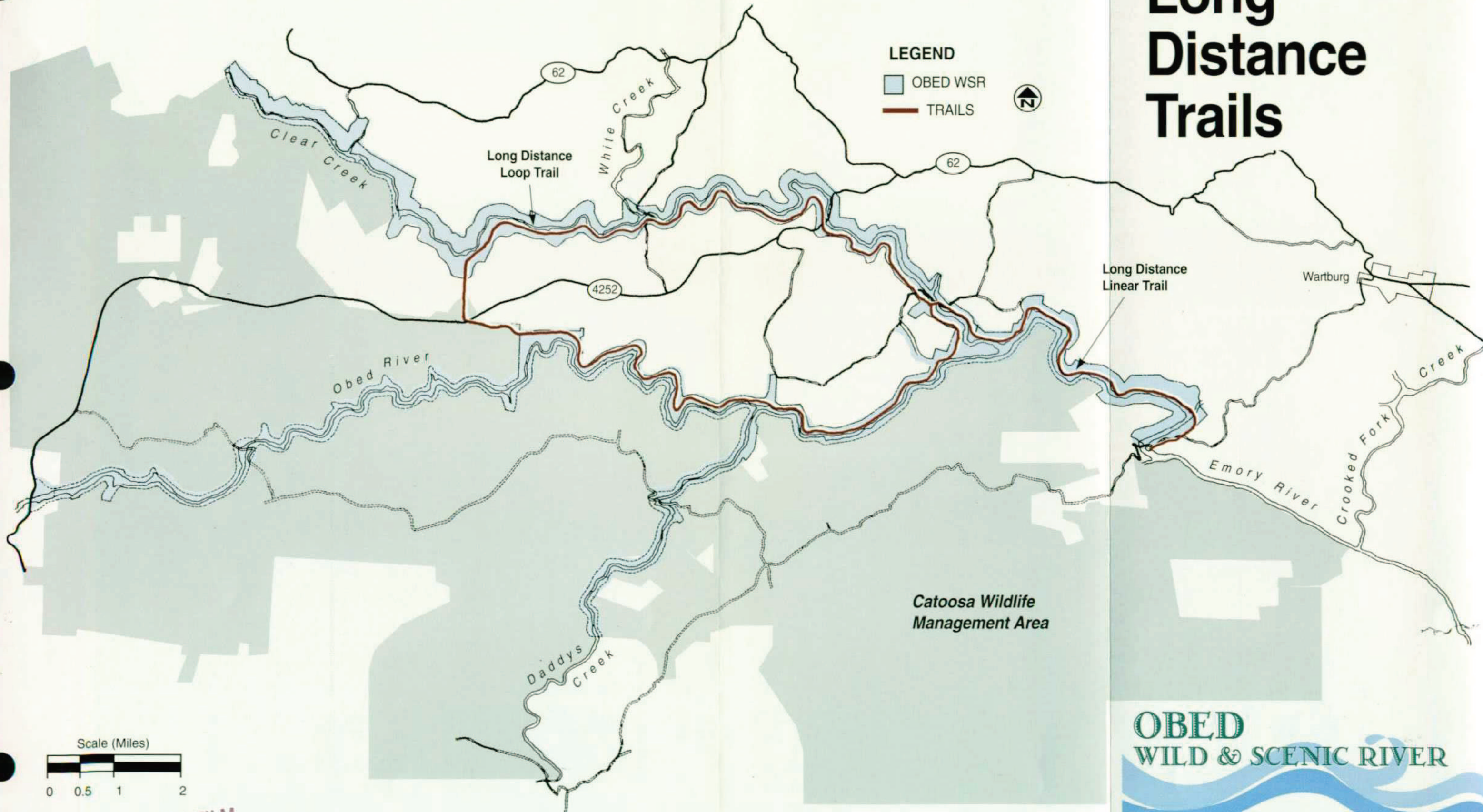
Most water and land based recreational activities require some means of access to the waters of the Obed WSR system. Boaters need places to enter (put-in) and exit (take-out) the water. Trails to the waters edge would accommodate fishing and swimming. Visitors also come to enjoy being near the water to picnic, sight-see, hike, camp, or simply rest.

Facilities for river access and associated uses would be provided in a manner consistent with management zone designations. Proposed developments are discussed below for the Wild Zone and Development Zone. Recommendations are also proposed for important, heavily used river access sites outside existing Obed WSR boundaries.

Parking for motor vehicles is one of the facilities described. Due to the steep terrain and limited land base, space to safely accommodate parking is very limited at the river access sites. The parking described in the following section, is designed to be safe while accommodating existing use patterns to the greatest extent possible. Parking has been expanded in some areas and, for safety reasons, reduced in other areas. In the future, the number of spaces proposed may be inadequate so alternative solutions for parking may need to be sought. These alternatives might include providing parking along the bluff or outside existing Obed WSR boundaries with trails leading to the river.

Where the terrain allows, trails would be made accessible to visitors with disabilities. Consistent with NPS Management Policies, fully accessible trails are located at the most developed areas--Nemo Bridge, Lilly Bridge, and Lilly Bluff.

Long Distance Trails



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Wild Zone

Hiking trails, primitive overlooks, and undeveloped camping areas would be the only improvements for river access and use within this subzone. Minimal development maintains the primitive nature of the Obed WSR experience.

There are a number of popular river access areas within the Wild Zone and typically, motorized vehicles, such as ATVs and 4x4s, are used to reach these areas. Where appropriate, these created roadways would be removed or replaced with hiking trails. Gates, fences, posts or other facilities may be required to help prohibit vehicle use in these areas. Small parking areas could be developed at these gate areas with trails leading from them and on to the river. Vehicle users would be encouraged to access the river at Development Zones.

Development Zone

The minimum facilities needed to accommodate river access would be provided. The Development Zone contains subzones that include the classified recreational river area, existing bridge crossing areas, and road and rail rights-of-way. Descriptions of proposed developments and DCPs are provided for the following: the Nemo Bridge to Turn Hole area; Barnett Bridge; Jett Bridge; Lilly Bridge including Lilly Bluff, Norris Ford, Obed Junction, the Obed River/Clear Creek Junction area, and Catoosa WMA sites.

Developments are consistent with the management zone designation and are designed to control and minimize the resource impacts currently occurring from use. Improvements for these areas could include access roads, small parking areas, put-in trails, sanitary facilities, picnic tables, garbage receptacles, interpretive trails, and information boards. The following descriptions and DCPs illustrate the general nature of the development proposed for these areas. Undeveloped camping areas are not shown on the DCPs since further

study is required to determine appropriate numbers and locations of campsites.

Nemo Bridge to Turnhole Area. This 0.95 mile (1.5 kilometer) long section of river corridor is classified as a recreational river area. Facilities would be provided to enhance opportunities for picnicking, hiking, sight-seeing, fishing, camping, boating, swimming, and other compatible uses. The Nemo Bridge Area DCP depicts the proposed developments. Morgan County is currently developing alternative locations for a new bridge at Nemo which may change the proposed DCP for this area. Downstream locations are being considered for the new bridge which may affect the existing boundaries and current use of the Nemo area. The Park Service will continue to work with the county on this issue and the DCP would be changed if necessary.

The existing parking, picnic, swimming, and campground areas would be expanded. An improved river access trail would lead from the parking area to the river and would be accessible to visitors with disabilities. Longer trails would be developed on each side of the river providing access to "Turnhole", other places along the river, and undeveloped camping areas. Both of these trails are part of long-distance trails: the Cumberland Trail which leads from Norris Bottoms Campground and the proposed linear trail connecting the Nemo area to Lilly Bridge.

Enhancements for these activities would also be made south of Nemo Bridge if the boundaries and recreational designation are expanded to Crooked Fork (see Land Protection). This area is currently outside existing boundaries and is impacted by heavy use and trash.

Vehicles and some pedestrians are currently using a narrow, dark abandoned railroad tunnel to access the

Obed WSR. The railroad company responsible for the tunnel has unsuccessfully attempted to block the entrance. Since the tunnel may be historically significant, the Park Service would work with the railroad company to determine if it is safe for use and then propose appropriate management recommendations.

Barnett Bridge. Facility enhancements would include four parallel parking spaces along the road, two trails to the river, an information board, sanitary facilities, a picnic area containing two picnic tables and trash receptacles, and undeveloped camping with trash recep-

tacles. Two signs along the road would warn motorists of pedestrian use in the area. Landscaping with native plants would also be done to prevent erosion.








Jett Bridge. TVA recently funded initial planning and development for improvements at the Jett Bridge area. The road was improved and a seven space parking lot, two picnic tables with concrete pads, and a sanitary facility were constructed. Additional enhancements are needed and include an access trail to the river and an information board to be located near the parking area. Undeveloped camping would also occur upstream from the bridge.

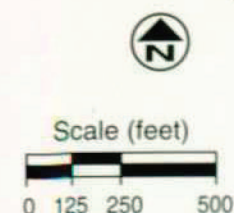
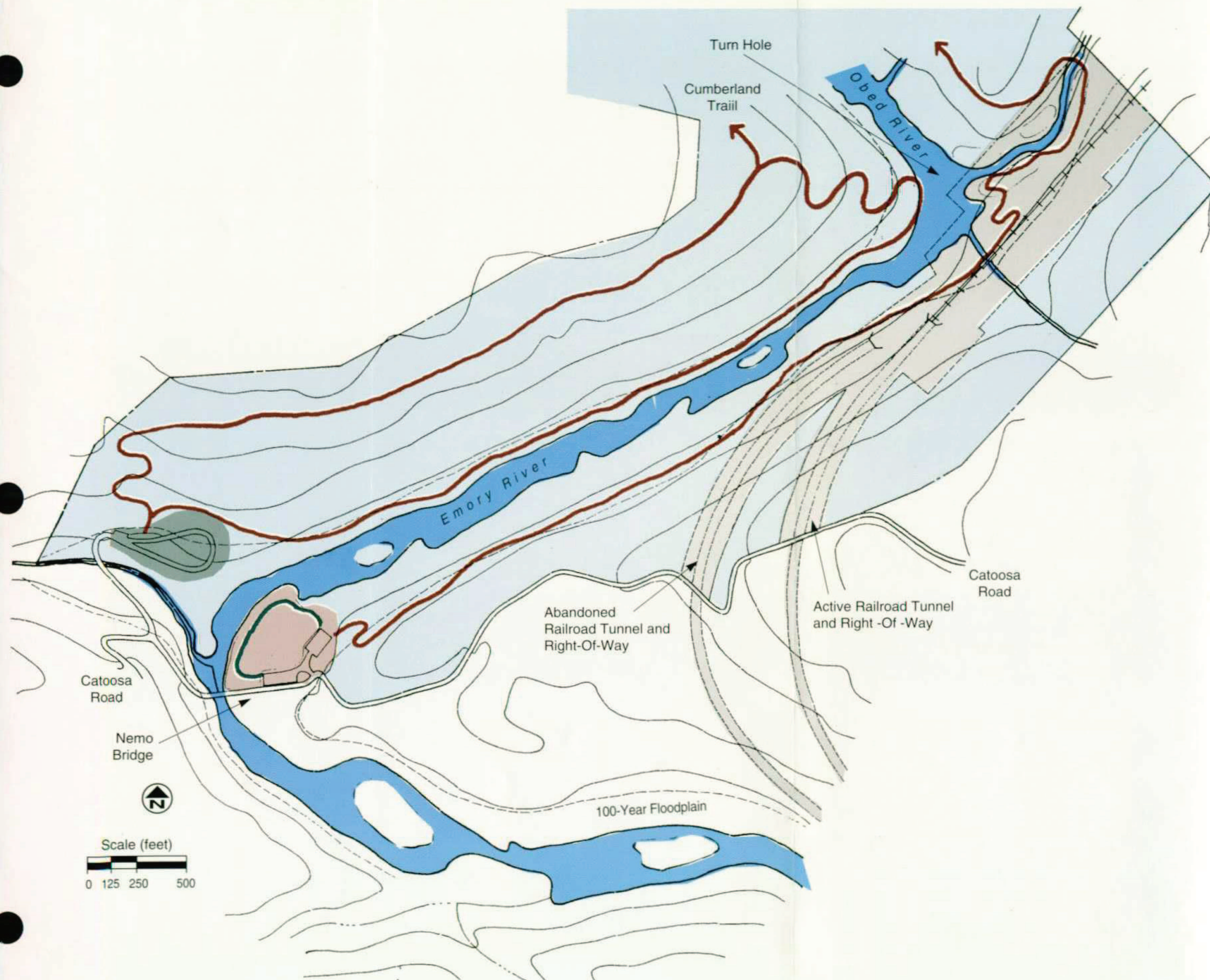


Development Concept Plan

Nemo Bridge Area

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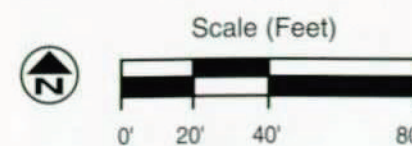
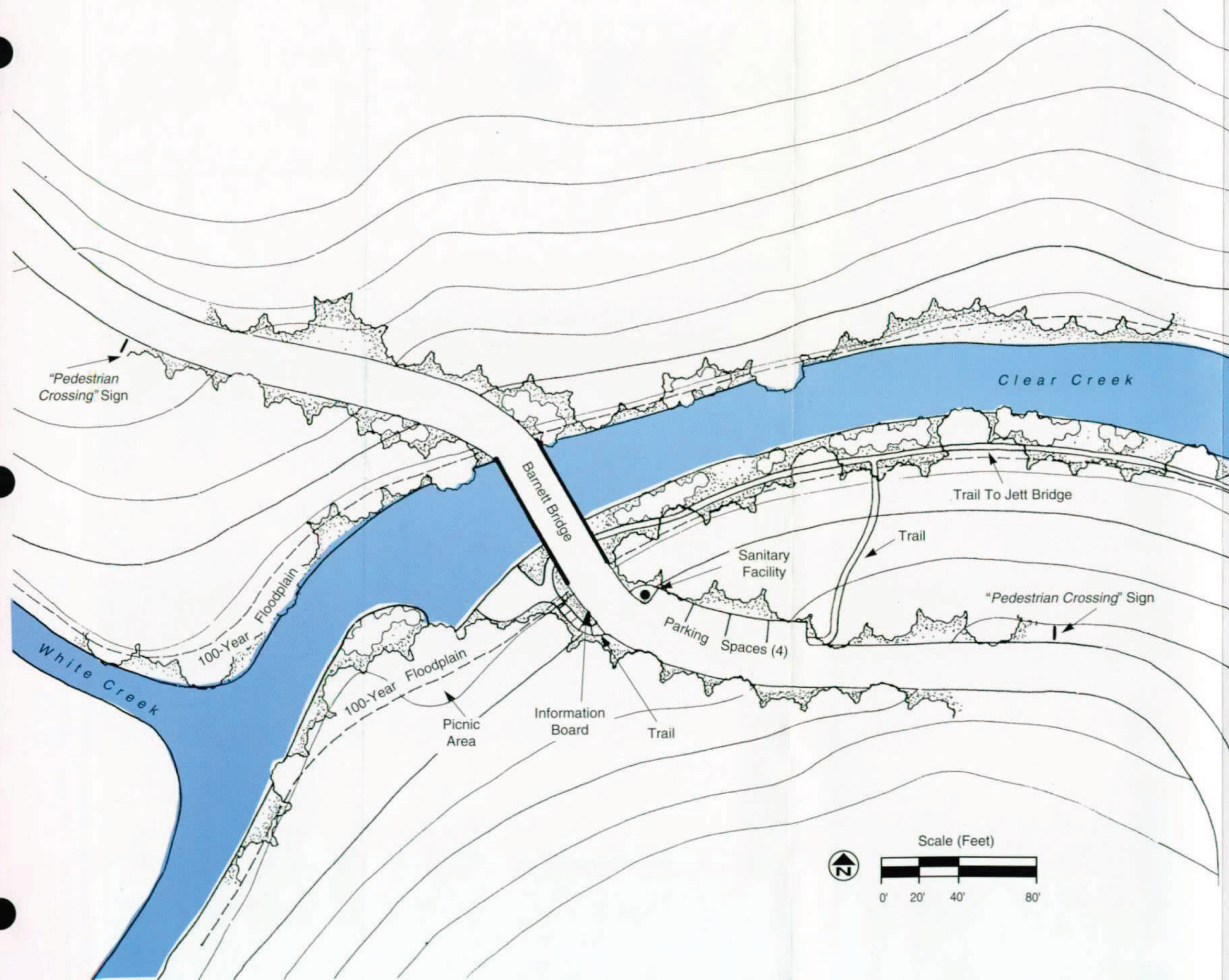
-  HIKING TRAILS
-  TRAIL ACCESSIBLE TO DISABLED
-  FLOODPLAIN BOUNDARY
-  DEVELOPED CAMPING AREA (10 SITES W/ FIRE RINGS, TABLES, & PARKING)
-  RAILROAD RIGHT-OF-WAY
-  EXPANDED PARKING, PICNIC AND SWIMMING AREA.
-  OBED WSR



OBED
WILD & SCENIC RIVER

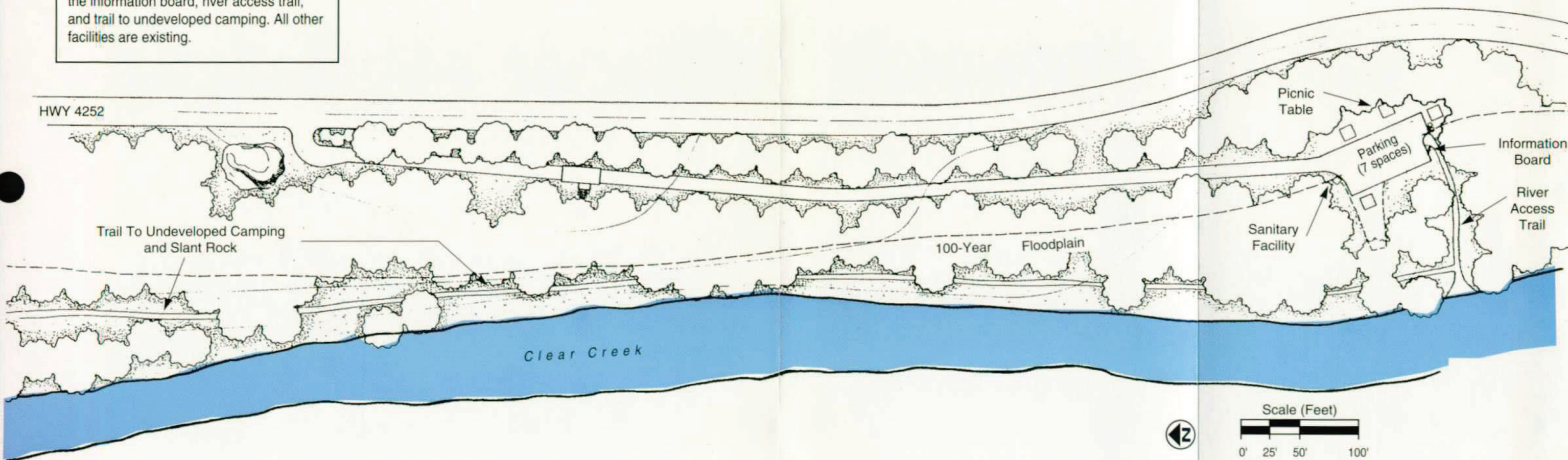
TENNESSEE ON MICROFILM
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Barnett Bridge



Jett Bridge

Note: The only new facilities proposed are the information board, river access trail, and trail to undeveloped camping. All other facilities are existing.



OBED
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Development Concept Plan

Lilly Bluff

LEGEND

- 1. ● INTERPRETIVE WAYSIDE
- BOARDWALK
- VIEWING/ SITTING AREA
- BLUFFLINE
- GROUNDCOVER VEGETATION
- MIXED HARDWOOD/ PINE TREE STANDS

INTERPRETIVE SUBJECTS

1. The River System
2. Exposed Bluffs
3. Gorge Formations
4. Surrounding Landscapes
5. Plant/Animal Communities

Hard Surfaced
Trail To Parking
Area (See Inset)

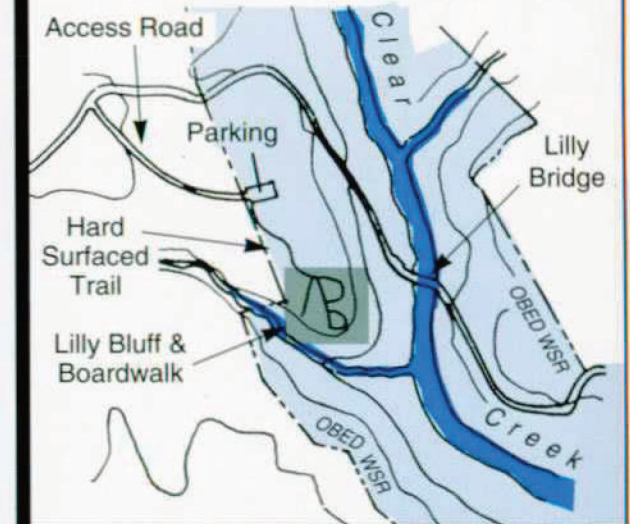
Sitting Area With
Stone Bench

Trail To
Lilly Bridge

Scale (Feet)
0' 10' 20' 40'



Lilly Bluff/ Lilly Bridge Area



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Lilly Bridge. The Lilly Bridge DCP depicts facility developments in the Lilly Bridge and Lilly Bluff area. Proposed development at Lilly Bluff is previously described and depicted in the "Overlooks" section.

Two parking areas along the road would be improved: the primary parking area just downstream of the bridge would contain 14 spaces and the second area would contain 3 spaces, primarily serving one of the trails. Overflow parking would be accommodated at Lilly Bluff. The bridge serves as the starting point for four trails: a boater access trail with steps and a ramp to slide boats on, a separate trail leading to a picnic area and swimming hole, an interpretive trail along the river that would accommodate disabled visitors, and another interpretive trail leading up to Lilly Bluff. Information boards are needed at the start of each trail and would contain up-to-date information on river conditions, orientation to the area, and interpretive exhibits.

Due to the heavy use this area receives, a sanitary facility and at least six garbage receptacles are needed. Signs would be posted warning motorists of pedestrian use in the area. The heavily used land currently used for parking is unsafe. The area would be revegetated and bollards installed to keep vehicles from parking there.

Catoosa WMA Sites. Potters Ford and Devils Breakfast Table. Development of these areas would be consistent with the management zone designations and would be similar to other existing bridge crossing areas. With TWRA permission, the Park Service would install and maintain information boards at both Potters Ford and Devils Breakfast Table to provide consistent information regarding the Obed WSR at all river access sites. If requested, the Park Service would assist TWRA in developing plans

for these sites as they are heavily used and in need of some improvements.

Norris Ford Right-Of-Way. Morgan County maintains a road and right-of-way to the Obed WSR boundary which is depicted on the Management Zone map. A parking area would be developed at the terminus of this road. The existing unimproved vehicular trail would be converted into a hiking trail leading from the parking area into the wild corridor.

Obed Junction Right-Of-Way. A developed parking area with 10 spaces would occur along the public road right-of-way near Obed Junction and is depicted on the Management Zone map. The existing unimproved vehicular trail would be converted into a hiking trail leading from the parking area to the Obed Junction area.

Obed River/Clear Creek Junction Area. An access road, parking area, picnic area, and trail head would be developed to provide access to this area. The "Overlooks" section contains a description of and DCP for this area.

External Access Sites

Lavender Bridge, Adams Bridge, Antioch Bridge and Camp Austin Bridge. Many boaters put-in at Lavender, Adams, and Antioch Bridges and take-out in the Obed WSR. It is also popular to put-in at Nemo Bridge and take-out down river at Camp Austin Bridge. TVA currently owns lands at Lavender and Adams Bridges. A cooperative agreement would be pursued whereby the TVA would improve and, where necessary, acquire sites for river access. The NPS would be responsible for maintaining these sites. Developments would be consistent with river access areas inside the Obed WSR boundaries and would include parking, trails, picnic areas, sanitary facilities, signs, and information boards.

PARK OPERATIONS and ASSOCIATED FACILITIES

STAFFING

Specific staffing requests will be addressed through an operations plan to be prepared after the general management plan is approved. A preliminary estimate follows projecting the total staff needed to fully implement this alternative. The Obed WSR currently has 5 full time equivalent (FTE) positions. An additional 11 to 13 FTEs would be required to satisfactorily administer the existing conditions as described in Alternative B. Another 2 to 3 FTEs would be needed to fully implement this alternative. The grand total of FTEs would be 18 to 21.

While there are needs in all divisions, it is recommended that at least one resource management specialist be assigned at Obed WSR due to the complexity of resource management issues and the immediate need to implement a water quality monitoring program. Strategies to augment park staff include use of volunteers to build trails, students to do studies, or area teachers to conduct interpretive programs for their students. Consideration would be given to separating the Obed WSR from Big South Fork National River and Recreation Area management as staffing and budget levels increase.

FACILITIES

The City of Wartburg would remain the location for the administrative headquarters and maintenance facilities. Additional secured "caches" of maintenance and search and rescue equipment would be placed at specific locations in the Obed WSR.

One facility would continue to house the administrative headquarters and visitor contact station. To accommodate staff and functions, approximately 3,600 square feet of building space would be optimal for the visitor contact and administrative headquarters building and approximately 3,000 square feet for the maintenance facility. The chart in Appendix E provides a more detailed breakdown of the functions and space requirements.

LAND PROTECTION

Easements and existing boundaries would be adjusted in order to carry out legislative mandates to protect Obed WSR values. These adjustments are consistent with the management objectives and would enhance resource protection, the visitor experience, and the capability to provide essential visitor services. The proposed adjustments are described below.

EASEMENT ADJUSTMENTS

Where possible, the Park Service has acquired easements, or less-than-fee title, on lands within the Obed WSR. The easements are intended to provide for the protection of values and accommodate visitor use of the river floodplains while allowing current landowners to retain ownership. Some existing easements have not been effective. Some owners of land on which the Park Service holds an easement have ignored the terms of the easement. Their developments and activities adversely affect Obed WSR values. Buildings have been constructed along the edge of the bluff, some lands have been cleared of vegetation, and roads have been built providing private, vehicular access to the river.

Additional rights would be acquired to provide for adequate protection. As easement deficiencies are realized, they can be addressed in future easements. Coordination with landowners would be enhanced to help deter threats to Obed WSR resources and values and enforcement of easements would be increased.

BOUNDARY ADJUSTMENTS

The boundaries of the Obed WSR would be adjusted to provide for the protection of specific values. Three types of boundary adjustments are proposed: administrative adjustments, adjustments requiring additional legislative authority, and adjustments requiring additional study. The lands and reasons for adjustments are described

below and the areas described are depicted on the Boundary Adjustments Map. All of the proposed adjustments meet Park Service criteria for boundary adjustments.

Administrative Adjustments

The following administrative boundary adjustments are considered to be minor and can be accomplished within existing legislative authority.

Visible Tributary Mouths. The mouths of several significant tributaries which flow into Obed River, Clear Creek, and Daddys Creek, are visible to users along portions of the "wild" section of the Obed WSR. Presently four tributary mouths are known to be visible--Muddy Branch, White Creek, Little Clear Creek, and Melton Mill Branch. Acquisition of sufficient rights in these areas--a total of approximately 25 acres (10.1 hectares)--would prevent incompatible uses that may affect the area's visual integrity, water quality, the wild character, and other Obed WSR values. These areas lie outside the Catoosa WMA and local zoning for protection is unavailable. Administratively, a boundary extension is the most effective approach to protection.

North Side of Obed River. Sufficient interest in a 200 foot (60.9 meter) wide strip of the 2.5 mile (4 kilometer) long bluff along the north side of the Obed River, between the confluences of Clear and Daddys Creeks, would be acquired to protect this area. This approximately 61 acre (27.4 hectare) parcel of land was thought to be owned by TWRA when the original boundaries were drawn. While the river corridor is within the Obed WSR boundaries, the top of the bluff is privately owned, being developed, and potentially available to additional developments. The same situation exists here as for the four tributary mouths which makes a boundary expansion appropriate.

Trail Access. Acquiring access to a 0.25 mile (0.4 kilometer) long corridor along Hawn Spring Branch, a tributary to Clear Creek, would complete a proposed 26 mile (41.8 kilometers) loop hiking trail (see "Trails"). Acquisition of sufficient interests--fee or easement--in a minimum of 6 acres (2.4 hectares) would help protect the wild character and provide hiking opportunities. While this parcel would adjoin TWRA lands, TWRA would not acquire interest in this land since wildlife management would not be a prime use.

Access to Lilly Bluff. Additional lands are needed to accommodate visitor access to the proposed overlook development at Lilly Bluff (see "Overlooks"). Sufficient interests--fee or easement--would be acquired involving up to 20 acres (8.1 hectares) providing for road access, parking, and trails.

Adjustments Requiring Legislation

The following actions would require amending the Obed WSR authorizing legislation. These actions involve detached parcels in Wartburg and several boundary extensions along the river system.

Detached Parcels in Wartburg.

The legislation would be amended to allow the Park Service to own facilities in Wartburg for administrative purposes. Steep topography, location, and river classifications rule out construction of administrative facilities within the designated river corridor. Appropriate facilities would be acquired in Wartburg to centralize and accommodate necessary maintenance, administrative, and visitor contact functions. Ownership would allow the Park Service control over the size and layout of the facilities in order to provide essential visitor services and effective park management. Facilities are currently leased in the city which prohibits the Park Service from effectively using the space to meet visitor contact and administrative needs.

Boundary Extensions along River Segments.

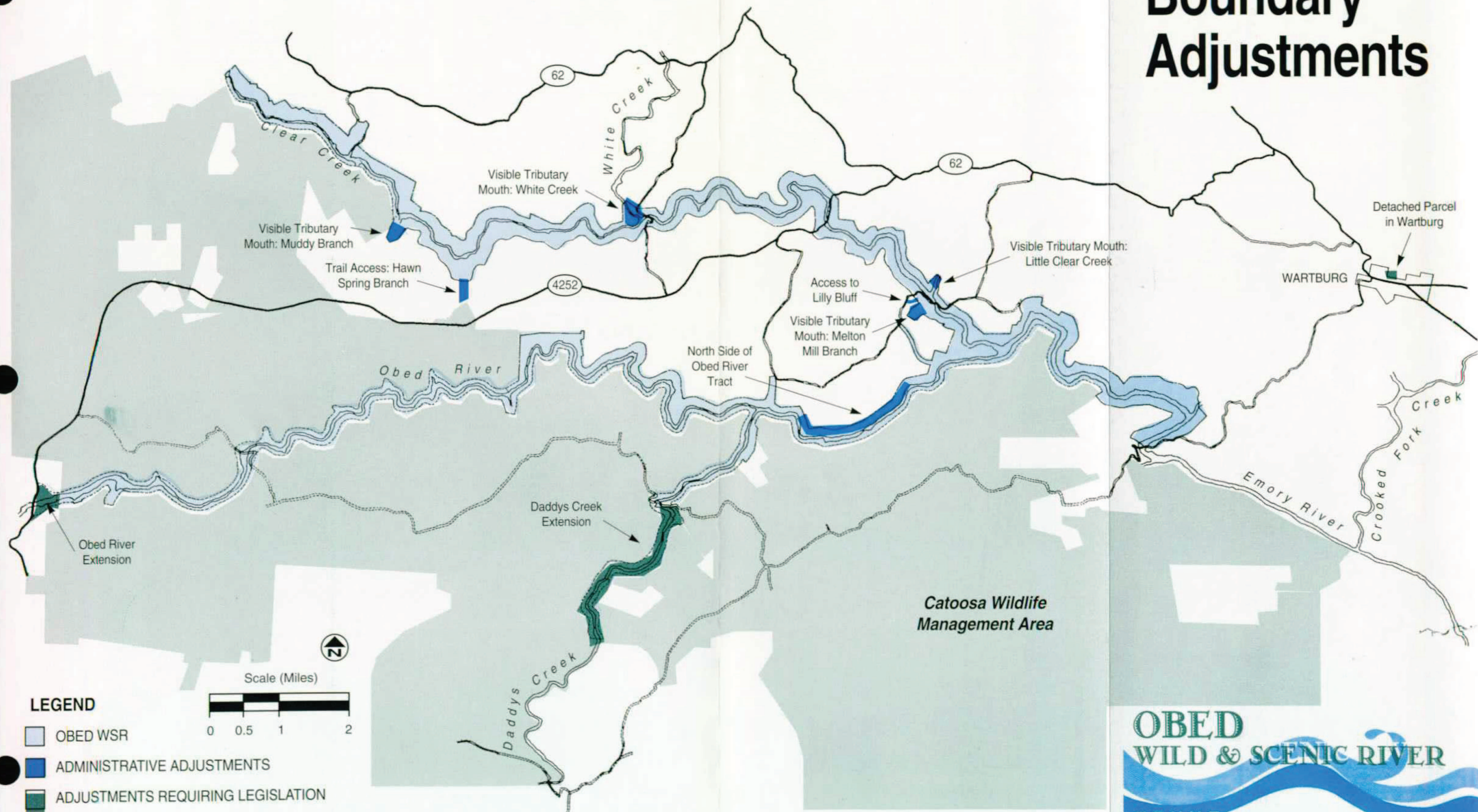
In the 1976 Final Environmental Statement, prepared as part of the original Wild and Scenic River Study, 100 miles (160.9 kilometers) of the river system met the criteria of the Wild and Scenic Rivers Act and were proposed for designation to protect the natural values of the corridor and provide outdoor recreation opportunities. Only 45.2 river miles (72.7 kilometers) were included in the establishing legislation (P.L. 94-486). Due to local objections at the time, the upstream boundaries stopped inside Catoosa WMA. The following boundary extensions are desirable because the remaining lands still contain the values necessary for inclusion and are being threatened by development or other actions. These extensions were requested by public and other agency participants during workshops and meetings held and are supported by Catoosa WMA.

Daddys Creek. The boundaries would be adjusted to include approximately 6 miles (9.6 kilometers) of river along Daddys Creek, including Daddys Gorge, in the Obed WSR and would not extend beyond Catoosa WMA boundaries. This extension would also bring the Devils Breakfast Table area, an integral, heavily used river access site, into the Obed WSR boundaries.

The river and lands lie within Catoosa WMA. TWRA supports and encourages adding this portion of Daddys Creek into the Obed WSR to increase protection for this unique area, one of the most spectacular yet inaccessible and essentially primitive areas in the watershed.

This segment would be managed in accordance with the legislation and the lands to the bluff and back 100 feet (30.4 kilometers) would be covered under the Memorandum of Understanding between TWRA and the Park Service. A Wild and Scenic River designa-

Boundary Adjustments



tion would help TWRA protect the values in this area by increasing public awareness of the resource and the need for its protection. This adjustment would also increase protection of downstream values within the existing Obed WSR boundaries. Designation would also assist with management of the recreational use of this area, which contains a challenging (Class V) section of river for boaters.

Obed River. The Obed WSR boundary would be extended about 1/3 of a mile (536 meters) from the Catoosa WMA boundary to Adams Bridge. This extension would protect lands along the Obed River by allowing for managed access in order to reduce the erosion and impact occurring from the current heavy and uncontrolled use. Sufficient interest in lands visible from the thread of the river--approximately 95 acres (38.4 hectares)--would be acquired. Because these lands are outside the Catoosa WMA and would be managed for river access and resource protection, boundary expansion is needed.

Adjustments Requiring Further Study

Studies would be prepared on the following river segments upstream and downstream of current boundaries. These areas were either not included in the original Wild and Scenic River study, or were originally studied but now have more development pressures and public support for their inclusion. Based on conclusions of the studies, the authorizing legislation may need to be amended to add these segments into the Obed WSR system. Studies would address alternative means of river corridor protection.

Emory River. The river and lands along 3.75 miles (6 kilometers) of the Emory River, between Nemo Bridge and Crooked Fork Creek (a tributary to the Emory), would be studied for potential inclusion into the Obed WSR boundaries. This extension would enhance

recreational opportunities for boaters by providing access to a relatively easy stretch (Class II/III) of river that is one of the few stretches that can be floated during low water levels. It would also provide increased opportunities for camping and swimming and would allow control of the litter and unsafe vehicular access that is occurring in this area. Lands south of the river are currently under public ownership. Land acquisition north of the Emory would involve approximately 750 acres (303.7 hectares), on which 3 miles (4.8 kilometers) of railroad tracks and right-of-way run alongside the river.

White Creek. A major tributary to Clear Creek, White Creek was not part of the original 1976 suitability study and Final Environmental Statement. Portions of White Creek are heavily used by boaters and possess scenic and natural resource values which are threatened by logging and other activities. Many boaters put-in upstream of Lavender Bridge on the right bank, at a site owned by TVA, and take-out at Barnett, Jett, or Lilly Bridges--all within the WSR boundaries.

Obed River and Clear Creek. A study would also be prepared to determine if other upstream river sections along Obed River, Clear Creek, or major tributaries should be proposed for inclusion in the Obed WSR. A recent proposal to construct a dam, lake, and water treatment plant along the headwaters of Clear Creek has received much public interest and opposition. The increased awareness for the value of Clear Creek, which may contain the cleanest water in the Obed River system, could lead to support for its inclusion into the Obed WSR system.

PLAN IMPLEMENTATION and COSTS

IMPLEMENTATION

Development and staffing additions proposed in this alternative would be implemented as funding becomes available. Some of these proposals would be implemented using cost effective strategies which could significantly lower Park Service costs. This would include the use of volunteers and existing TVA assistance programs which are described under the following sections regarding development and operational costs. The highest priority development actions are the Lilly Bluff developed overlook and the Lilly Bridge DCP.

Lands identified for acquisition would be acquired as funds become available. The existing 2,600 square foot Visitor Contact Station and Administrative Headquarters facility is leased from the City of Wartburg until 2003, under a 10 year lease. The Park Service would seek to acquire or develop a facility suited to its needs in accordance with Section 6 of the Wild and Scenic Rivers Act. The Park Service would also seek to acquire the existing 3,000 square feet Maintenance Facility which is leased from a private individual until 1997.

The Land Protection Plan (LPP) would analyze alternative protection methods for lands to be acquired, including fee and less-than-fee acquisition, and establish priorities for action. Following the conclusions of the LPP, cost estimates would be prepared.

COST ESTIMATES

The total development and operational costs for this alternative is approximately \$1,891,100 and is broken down below. (See Appendix D for more detailed figures.)

Development Costs

The following costs are based on conceptual-type, or "Class C", cost figures developed by the Denver Service Center of the NPS for long-range budgetary planning. The costs do not reflect land acquisition as discussed above in "Implementation".

Lilly Bluff Overlook. Total costs for development of the access road, parking, trails, boardwalk, seating, and information board are estimated at \$301,100.

Obed River/Clear Creek Junction Right-Of-Way. Total costs for the parking, road, trail, and picnic area developments are estimated at \$83,400.

Waysides. Total costs for development of interpretive waysides at Lilly Bluff and Lilly Bridge is \$55,000.

Long Distance Trails. Total costs for the approximately 27 mile (43.4 kilometers) long trail system are estimated at \$583,605. The use of volunteers to construct these trails would lower these costs significantly.

River Access. Total costs for developments at Nemo Bridge, Obed Junction, Jett Bridge, Lilly Bridge, Barnett Bridge, and Norris Ford, including the information boards at Devils Breakfast Table, Potters Ford and along entrance roads, are estimated at \$270,120.

TVA currently operates a program to provide for and fund public access to navigable rivers. TVA can acquire lands and construct facilities for river access as long as another group or agency accepts responsibilities for maintaining them. Through this program, TVA designed and assisted with the construction of the existing facilities at Jett Bridge. This program provides a cost effective means to get access sites improved both inside and outside the Obed WSR boundaries.

Operational Costs

Obed WSR's annual base operating budget is currently \$166,000. Annual operations and maintenance costs are expected to increase as proposed staffing and development are implemented. These and other operational costs will be addressed in the Operations Plan to be prepared after approval of the GMP. For a preliminary estimate, adding the full range of FTEs plus 20%, to cover the need for additional vehicles, supplies, materials, travel, and training, would increase the budget an additional \$476,000.

ALTERNATIVE B: CURRENT COURSE

Alternative B represents the ongoing implementation of the *1978 Development Plan* as modified and supplemented over the years by later information and specific program planning and available funding. Alternative B and Alternative A are alike or very similar in many ways. Examples include the strategies described in Park Operations and Associated Facilities and portions of many other sections. However, there are important differences between the alternatives regarding proposals such as boundary adjustments and management zones. The similarities and differences are discussed below and presented on the Alternative Summary chart at the end of this chapter.

LAND USE and MANAGEMENT

The existing management zone system is described in the 1992 LPP and is based on ownership status, suitability of the land for proposed uses, and the nature of the resources. The zones are listed and described below.

NATURAL ZONE

Land outside the Catoosa WMA with the management emphasis to protect natural and cultural resources while permitting compatible recreational activities

HISTORIC ZONE

Lands which have historic or archeological significance will receive historical zone classification and be managed to preserve, protect and interpret their associated values.

PARK DEVELOPMENT ZONE

Lands intensively developed and used to meet needs of management and visitors.

Administrative Development-Visitor Services Subzone

This subzone applies to a parcel of land outside the existing boundaries for the construction of a visitor contact station, administrative offices, and a maintenance facility

SPECIAL USE ZONES

Lands within exterior boundaries that are managed by others.

Transportation Subzone

Lands used for State and local roads and railroads that are managed primarily, or exclusively for non-park purposes.

Scenic Easement Subzone

Lands where certain rights are purchased to restrict certain uses and includes areas in which present use is compatible with

river values, but uncontrolled use could be detrimental to those values.

State-Owned Subzone

Lands owned and managed by the TWRA and covered under a MOU with the NPS.

Unmanaged Non-Federal and Non-State Owned Lands Subzone

Private lands that are not currently associated with an identifiable land use and might be used for incompatible purposes.

RESOURCE MANAGEMENT

A Resource Management Plan (RMP, 1993) has recently been completed during the GMP planning process. Most of the priorities and project statements in the RMP reflect the strategies outlined in Alternative A. These strategies are based on establishing a comprehensive program that is proactive in collecting baseline data and effective in addressing internal and external issues related to water quality, biodiversity, cultural resources, and landscape character.

Before the onset of the GMP planning effort, an overall strategy to guide resource management activities did not exist. The strategies in both alternatives provide guidance regarding the principal projects needed to protect, preserve, and perpetuate Obed WSR's natural and cultural resources.

VISITOR USE and ASSOCIATED FACILITIES

As described in Alternative A, visitors come to the Obed WSR to participate in an array of land and water based activities including white water boating, hiking, camping, hunting, fishing, sight-seeing, picnicking and swimming.

The following programs and facilities for interpretation, overlooks, trails, camping, and river access would provide visitors the opportunity to experience the special values of the Obed WSR. The activities and appropriate developments for each of these five areas are described below.

INTERPRETATION

The interpretive themes would be the same as described in Alternative A. The park would continue programs and services as outlined in the 1992 Statement for Interpretation. A description follows of the existing interpretive services and additional services that would be implemented as proposed in the *1978 Development Plan*.

Information and Orientation Services

The visitor contact station in Wartburg would continue to provide visitors with information on the area's outstanding features and recreational opportunities. The facility would continue to provide general information on the park, recreation, safety, history, and flora and fauna of the area. More in depth information is available from staff, brochures, and publications for sale. The facility would serve as a contact point for floaters and would contain displays, guidebooks, and audio visual programs.

The Park Service is in the process of creating a slide program to introduce visitors to the Obed WSR. This audiovisual program is expected to be in place in 1993. A bulletin board for information is currently located at the Nemo Bridge area. The *1978 Development Plan* calls for other

information boards to be located at river access and overlook sites.

River use and hunting safety messages would be available through radio, newspapers, pamphlets and on the information boards.

Onsite Services

Information would be provided by rangers on patrol and through interpretive devices. Currently, park rangers casually contact visitors to provide assistance and information. Interpretive devices, such as waysides, would be located at the developed overlook and several of the river access points.

Outreach Services

Interpretive programs would continue to be done on request for area schools, parks, and community groups as staff is available. Topics requested on a regular basis include: Biodiversity, DARE (Drug Abuse Resistance Education), Orientation to the Obed WSR, Pioneer/Longhunter (living history demonstration), Web of Life (the ecosystem and how things fit together), and White Water Canoe Instruction.

OVERLOOKS

Two developed overlook sites are proposed in the *1978 Development Plan*: one near the Obed and Clear Creek Junction and one at Devils Breakfast Table. A road access corridor was purchased in 1972 to provide public access to the Obed/Clear Creek Junction site but no development has occurred due to lack of funding. Just recently, the park received funding to begin development.

An approximate 1.3 mile (2.1 kilometer) access road, with a concrete bridge spanning Melton Mill Branch, would be developed and lead to a 10 space parking area. A surface stabilized trail, accessible to visitors with disabilities, would lead to an overlook platform with railing. The trail would continue on to other undeveloped

overlooks in the area but would not be surfaced. Sanitary facilities, garbage receptacles, and waysides would be added to the site, and some select and limited clearing of vegetation would occur.

Presently, there are no plans to develop the second overlook at the Devils Breakfast Table site.

TRAILS

Two linear trails would be developed providing 32.5 miles (52.3 kilometers) of hiking opportunities. A portion of the Cumberland Trail, on NPS lands, has been completed. No further progress has been made on establishing this trail as interest in the project by others has waned.

The second trail traverses the southern portion of the Obed River between Devils Breakfast Table and Adams Bridge. This trail would provide hiking opportunities when Catoosa WMA lands are open and an emergency route for boaters and hunters. To provide for wildlife management, Catoosa WMA lands are closed to all but hunters during managed hunts and to everyone in February and March.

CAMPING

Primitive camping would be available at the Norris Bottoms Campground and at river access sites. Norris Bottoms Campground, located near Nemo Bridge, contains six sites with room for some expansion, parking, picnic tables, fire rings, garbage receptacles, and sanitary facilities. Additional campsites with similar facilities would be located at the river access sites.

RIVER ACCESS

Opportunities for boating, swimming, fishing, hunting, hiking, camping, picnicking, and sight-seeing would be available at the river access sites. The following improvements to accommodate these activities would be provided at existing bridge crossings and NPS owned rights-of-way.

Existing Bridge Crossings

Proposed developments discussed in Alternative A for existing bridge crossings at Lilly, Nemo, Barnett, and Jett, would be the same for this alternative. The *1978 Development Plan* proposed facilities for these areas but allowed for them to be refined.

The *1978 Development Plan* also proposes developments for Potters Ford and Devils Breakfast Table. Improvements would include parking, put-in trails, sanitary facilities, camping, and picnicking. As in Alternative A, the Park Service would assist TWRA in developing plans for these sites as they are heavily used and in need of some improvements.

NPS Rights-Of-Way

Improvements for the rights-of-way at Obed Junction and Norris Ford would include improved roads, parking areas, and put-in trails.

PARK OPERATIONS and ASSOCIATED FACILITIES

STAFFING

Specific staffing requests would be addressed through an operations plan to be prepared after the general management plan is approved. A preliminary estimate follows projecting the total staff needed to fully implement this alternative. The Obed WSR currently has five FTEs. An additional 11 to 13 FTEs would be required to satisfactorily administer the existing conditions as described in this alternative. The grand total of FTEs would be 16 to 18.

As in Alternative A, it is recommended that at least one resource management specialist be assigned at Obed WSR and strategies to augment park staff be utilized. Consideration would be given to separating the Obed WSR from Big South Fork National River and Recreation Area management as staffing and budget levels increase.

FACILITIES

The approved *1978 Development Plan* called for two Visitor Contact Stations with exhibits and audiovisual programs. The facility in Wartburg has been established. A 2600 square foot building is currently leased and contains the administrative headquarters as well as the visitor contact function.

A second visitor contact station was proposed to be located along the I-40 corridor. The facility at Wartburg has been considered sufficient, and no plans exist to pursue a second facility.

LAND PROTECTION

The Obed WSR boundaries would remain as described in the *1978 Development Plan* and Land Protection Plan (LPP, 1992).

As identified in the LPP and discussed in Alternative A, approximately 61 acres (24.7 hectares) along the top of the 2.5 mile (4 kilometer) long bluff on the north side of the Obed River, between the confluences of Clear and Daddys Creeks, would be acquired to protect this area. Also, the current legislation would be amended to allow the Park Service to own detached parcels in the vicinity of Wartburg. An estimated 1.1 acre (0.44 hectare) of land would be acquired and would be used for administrative purposes.

As described in Alternative A, changes in the current use and management of easements would be made. These adjustments would include acquisition of additional rights, enhanced coordination with landowners, and increased enforcement.

PLAN IMPLEMENTATION and COSTS

IMPLEMENTATION

As in Alternative A, proposed development and staffing additions would be implemented as funding becomes available. When possible, cost effective strategies such as the use of volunteers and existing TVA assistance programs would be utilized as described under appropriate sections regarding development and operational costs.

Lands identified for acquisition would be acquired as funds become available. As in Alternative A, the NPS would seek to acquire or develop a Visitor Contact Station and Administrative Headquarters facility suited to its needs, in Wartburg. The NPS would also seek to acquire the existing Maintenance Facility which is currently leased from a private individual.

As discussed in Alternative A, cost estimates for the 61 acres (24.7 hectares) of proposed boundary adjustment outside of Wartburg would be based on the conclusion of the LPP which would analyze alternative protection methods, including fee and less-than-fee acquisition, and establish priorities for action.

COST ESTIMATES

The total development and operational costs for this alternative is approximately \$ 2,274,000 and is broken down below. (See Appendix D for more detailed figures.)

Development Costs

The following costs are based on conceptual-type, or "Class C", cost figures developed by the Denver Service Center of the NPS for long-range budgetary planning. The costs do not reflect land acquisition as discussed above in "Implementation".

Obed River/Clear Creek Junction Overlook.
Total costs for the access road, parking,

trails, overlook platform, and information board are estimated at \$1,068,600.

Waysides. Total costs for development of interpretive waysides at Obed River/Clear Creek Junction Overlook and Lilly Bridge is \$55,000.

Long Distance Trails. No NPS development costs are anticipated since the proposed trails would occur on Catoosa WMA.

River Access. Total costs for developments at Nemo Bridge, Obed Junction, Jett Bridge, Lilly Bridge, Barnett Bridge, and Norris Ford are \$730,920. This estimate includes the cost for improving roads at Norris Ford and Obed Junction.

As described in Alternative A, the TVA program would be utilized when possible as it provides a cost effective means to get access sites improved both inside and outside the Obed WSR boundaries.

Operational Costs

Obed WSR's annual base operating budget is currently \$166,000. Annual operations and maintenance costs are expected to increase as proposed staffing and development are implemented. These and other operational costs will be addressed in the Operations Plan to be prepared after approval of the GMP. For a preliminary estimate, adding the full range of FTEs plus 20%, to cover the need for additional vehicles, supplies, materials, travel, and training, would increase the budget an additional \$409,000.

Action Topics	Alternative A: The Proposed Action	Alternative B: The Current Course
LAND USE and MANAGEMENT	<p>The management zones represent area specific applications of the management objectives, legislation, and river classification. Desired future conditions are described and represent a future goal for each area.</p> <p>There are 2 zones and 3 subzones which are defined and depicted in the document:</p> <ul style="list-style-type: none"> -Wild Zone -Development Zone: <ul style="list-style-type: none"> -Recreational Facilities Subzone -Road and Rail Right-of-Way Subzone -Administrative Facilities Subzone 	<p>The management zones are based primarily on ownership patterns, and to a limited extent, suitability of land for proposed uses and the nature of the resources.</p> <p>Zones and Subzones:</p> <ul style="list-style-type: none"> -Natural Zone -Historic Zone -Park Development Zone: <ul style="list-style-type: none"> -Administrative Development-Visitor Services Subzone -Special Use Zone: <ul style="list-style-type: none"> -Transportation Subzone -Scenic Easement Subzone -Unmanaged Non-Federal and Non-State Owned Lands Subzone
RESOURCE MANAGEMENT	<p><i>Strategies inside Obed WSR boundaries:</i></p> <p>Expand monitoring program to document changes in water quantity and quality. Prepare a Water Resources Management Plan.</p> <p>Other projects including stabilizing and revegetating abandoned oil and gas wells and other eroded areas.</p>	<p>The 1978 Development Plan did not address resource management. The Resources Management Plan (1993) reflects many of the strategies proposed in Alternative A.</p>
Water Resources	<p><i>Within the watershed:</i></p> <p>Work with established State and local water resource protection programs. Seek "Outstanding Natural Resource Waters" designation.</p> <p>Promote establishment of a work group to set goals and guide water resource protection efforts in the watershed by: developing and implementing a watershed protection plan; involving and educating the community on purpose and benefits of watershed protection; promoting Best Management Practices and stabilization of abandoned mines and oil/gas wells; and working with the State on monitoring, testing, and enforcement.</p>	
Biodiversity	<p>Establish program to gather baseline data and monitor and manage the following: critical habitats, listed species, exotic species, and air quality. Develop protection strategies as information is gathered and resources are better understood.</p>	<p>As stated previously, the RMP reflects the need and importance of baseline data.</p>

Summary of Alternatives (Continued)

Action Topics	Alternative A: The Proposed Action	Alternative B: The Current Course
<i>Resource Management (continued)</i>		
Cultural Resource Management	Develop program to gather baseline data since little information is available. As significant cultural resources are identified, develop appropriate management recommendations as part of RMP. Continue oral history study and incorporate results as appropriate.	As stated previously, the RMP reflects the need and importance of baseline data.
Landscape Character	Protect essentially primitive and inaccessible character of the landscape and the associated "solitude" by identifying intrusions, impacts, and appropriate mitigation.	This topic is not reflected in the RMP and no efforts to address landscape character have been made to date.
VISITOR USE and FACILITIES	Programs and facilities are proposed to provide visitors the opportunity to experience the special values of the Obed WSR in natural and primitive settings, as follows:	Existing and proposed programs and facilities would be provided as identified in the 1978 <i>Development Plan</i> and 1992 Statement for Interpretation, as follows:
Interpretation	Enhanced public information and education programs are proposed based on revised interpretive themes. Services include: Enhanced information and orientation through a Visitor Contact Station in Wartburg, a recorded message on river levels and weather conditions, use of information boards at NPS and Catoosa WMA managed river access sites, the Lilly Bluff overlook, and along roads at key entrances. In the field, an emphasis on reaching visitors and users at the resource through the information boards, rangers on patrol, and interpretive programs, trails, and waysides. Expand outreach efforts.	The Visitor Contact Station in Wartburg would continue to provide limited information and orientation services. One bulletin board for information exists at the Nemo Bridge area and others are proposed for the river access sites and overlooks. Limited onsite services would continue and include contact by Park Rangers on patrol and proposed waysides at the several access sites. Continue outreach efforts.
Overlooks	One developed overlook at Lilly Bluff to include: 20 parking spaces, sanitary facilities, 0.2 total miles of trail (from parking area and Lilly Bridge), 0.2 miles of boardwalk, 3 seating areas, 5 waysides, and an information board. Five undeveloped overlooks along the trail leading to Obed River/Clear Creek Junction. Facilities would also include: 10 parking spaces, 4 picnic tables, 2 miles of trails, and 2 waysides. Additional undeveloped overlooks along other trails may also be added as appropriate.	One developed overlook near the Obed River/Clear Creek Junction to include: 10 parking spaces, picnic tables, sanitary facilities, 1.3 miles (2.1 kilometers) of improved roads, 500 feet (152.3 meters) of surface stabilized trail, a platform, and 2 waysides. An unsurfaced trail would continue from this overlook to several undeveloped overlooks in the area.

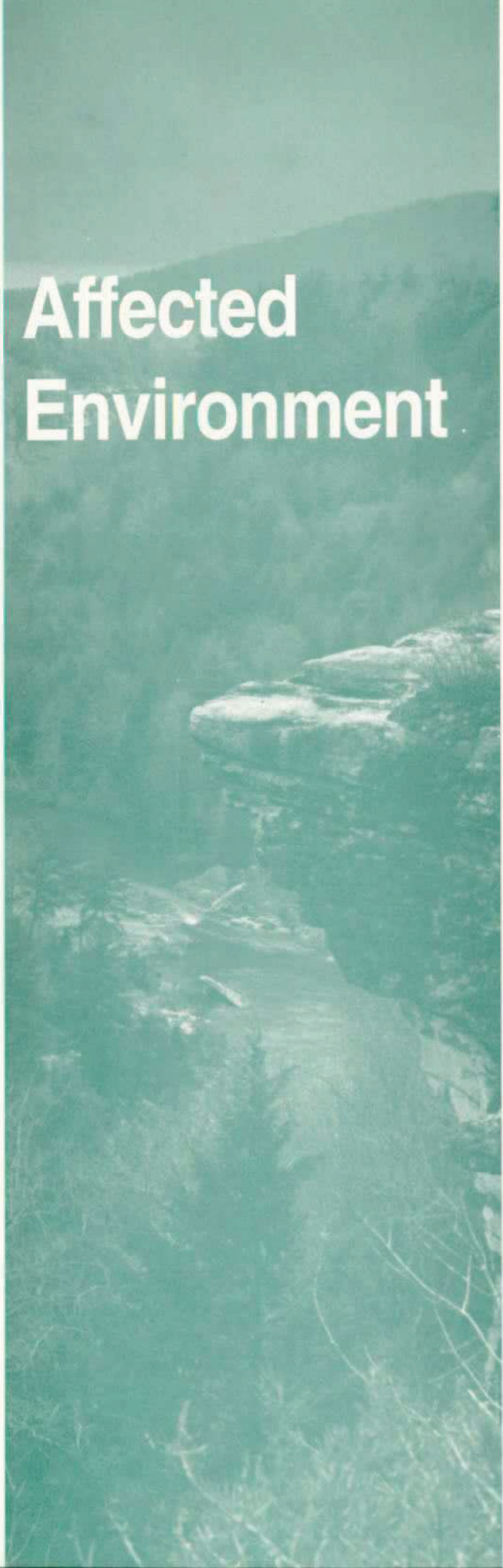
Summary of Alternatives (Continued)

Action Topics	Alternative A: The Proposed Action	Alternative B: The Current Course
Visitor Use / Facilities (continued) Trails	<p>A system of linear and looped trails is proposed primarily on NPS lands:</p> <ul style="list-style-type: none"> -a linear trail connecting Lilly and Nemo Bridges (6.5 miles) -a long distance loop trail following the north side of the Obed River and south side of Clear Creek (20.5 miles) -several shorter trails as described in the DCPs -other trails based on public interest and support and in accordance with NPS policies and the GMP. 	<p>Two linear trails are proposed on Catoosa WMA lands:</p> <ul style="list-style-type: none"> -an extension of the Cumberland Trail, a portion of which has been constructed on NPS lands starting near the Norris Bottoms Campground, -a trail paralleling the southern portion of the Obed River between Devils Breakfast Table and Adams Bridge.
Camping	<p>Developed camping at Norris Bottoms would be expanded to 10 total sites. Limited facilities would be available which, at most, would include parking, fire rings, garbage receptacles, picnic tables, and sanitary facilities. The Park Service could assist in design development of a second developed camping area at Potters ford in Catoosa WMA.</p> <p>Undeveloped sites would be designated along trails and rivers, could only be accessed by boat or trail, and at most, would contain a sign marking its location and a fire ring.</p>	<p>Norris Bottoms Campground contains 6 campsites and limited facilities as described in the Proposed Action. Room for expansion exists. An undetermined number of additional campsites with similar facilities would be located at select river access sites.</p>
River Access	<p>Access and provision for associated uses is provided consistent with appropriate management zone designation.</p> <p>Wild Zone. Improvements limited to hiking trails, undeveloped overlooks, and undeveloped campsites.</p> <p>Development Zone. Concentrates river related activities near existing bridge crossings and in the recreation designated section of the Obed WSR. Improvements could include trails, parking, sanitary facilities, picnic tables, trash receptacles, waysides and information boards.</p> <p>External Access Sites. NPS would manage sites developed for river access by TVA at Lavender, Adams, Antioch, and Camp Austin Bridges.</p>	<p>Developments proposed under Alternative A for existing bridge crossings at Lilly, Nemo, Barnett, Jett, Potters Ford, and Devils Breakfast Table are the same for this alternative.</p> <p>Improvements identified in the 1978 <i>Development Plan</i> for rights-of-way at Obed Junction and Norris Ford would include a total of 2 miles (3.2 kilometers) of improved roads, 15 parking spaces, and 1000 feet (364.7 meters) of river access trails.</p>

Summary of Alternatives (Continued)

Action Topics	Alternative A: The Proposed Action	Alternative B: The Current Course
PARK OPERATIONS		
Staffing	To fully implement Alternative A, a total of 18 to 21 "full time equivalent" employees would be required. (Note: this figure includes the number of FTEs required to fully implement the existing conditions.)	To fully implement Alternative B, 16 to 18 "full time equivalent" employees would be required.
Facilities	Administrative headquarters would remain in Wartburg. Additional secure "caches" of maintenance and emergency equipment would be stored in the field.	The same as for Alternative A.
LAND PROTECTION		
Easement Adjustments	Changes in current use and management of easements would be made to protect values and accommodate visitor access and would include: -purchasing additional rights, where needed, on existing easements, -increasing enforcement, and -enhancing coordination with landowners.	The same as for Alternative A.
Boundary Adjustments	<p><i>Minor Adjustments:</i></p> <ul style="list-style-type: none"> -Visible tributary mouths (25 acres) -North Side of Obed River (61 acres) -Trail Access (6 acres) -Access to Lilly Bluff (up to 20 acres) <p><i>Those requiring legislation:</i></p> <ul style="list-style-type: none"> -Detached Parcels in Wartburg (1.1 acre) -Extension along Daddys Creek on TWRA owned lands (6 river miles) -Extension along Obed River (95 acres) <p><i>Areas proposed to be studied for potential inclusion:</i></p> <ul style="list-style-type: none"> -Emory River from Nemo Bridge to Crooked Fork -White Creek -Other upstream segments along Daddys Creek, Obed River, and Clear Creek. 	<p><i>Minor Adjustments:</i></p> <ul style="list-style-type: none"> -North Side of Obed (61 acres) <p><i>Those requiring legislation:</i></p> <ul style="list-style-type: none"> -Detached Parcels in Wartburg (1.1 acre)
IMPLEMENTATION and COSTS		
Implementation Strategy	Actions would be implemented as funding becomes available. Cost effective strategies such as use of volunteers and the existing TVA assistance program would be utilized as appropriate.	The same as for Alternative A.
Total Costs	<p>Proposed Development: \$ 1,415,100</p> <p>Operations Increase: \$ 476,000</p> <p>(Note: The operations figures represents a preliminary estimate that would be addressed in an Operations Plan.)</p>	<p>Proposed Development: \$1,865,020</p> <p>Operations Increase: \$ 409,000</p> <p>(Note: The operations figures represents a preliminary estimate that would be addressed in an Operations Plan.)</p>

Affected Environment



NATURAL ENVIRONMENT

Water is the principal resource of the Obed Wild and Scenic River (Obed WSR). Without it and ensuing processes, the resources for which the park is valued would not exist. Lands drained by the Obed River, Daddys Creek, Clear Creek, and the upper Emory River form the watershed for the Obed WSR. It is important to examine the entire watershed since most factors affecting the Obed WSR's water resources occur outside of Obed WSR's boundaries. Physiography, soil and bedrock geology, climate, and other factors affecting water flows and water quality are described.

PHYSIOGRAPHY

CUMBERLAND PLATEAU

The watershed of Obed WSR is located on part of Tennessee's Cumberland Plateau. The Plateau is distinguished by its flat to rolling upland areas (less than 10 percent slope), deeply incised river gorges, and a long line of cliffs that separate it from the lower elevations of the Ridge and Valley Province.

WATERSHED

The four principal streams of the watershed, the Obed River, Clear Creek, Daddys Creek, and the upper Emory River drain approximately 615 square miles (1,593 square kilometers) in Cumberland, Morgan, and Fentress Counties.

Elevations in the watershed range from about 1,600 feet (485 meters) in headwater uplands to approximately 860 feet (261 meters) at the downstream end. Some gorge sections are quite narrow, only 800 feet (242 meters) across, and have near vertical sides, up to 400 feet (121 meters) high.

These high gradient streams are similar to most other streams on the Cumberland

Plateau and are considered geologically to be quite young. Stream gradients, with drops averaging 19 feet (5.7 meters) to 21 feet (6.4 meters) per mile, are steepest in downstream sections.

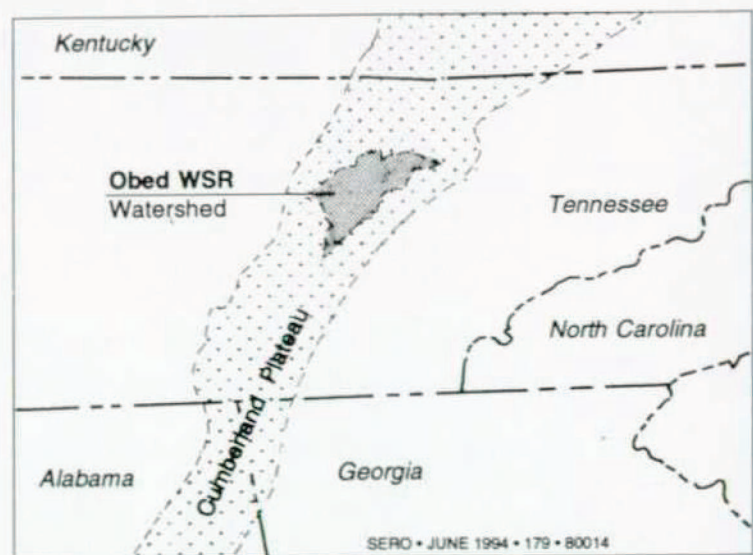
SOIL and BEDROCK GEOLOGY

BEDROCK

Exposed bedrock in the watershed is of the underlying Pennsylvanian (280 to 320 million years old) and Mississippian (320 to 345 million years old) formations. The Pennsylvanian sandstone, shale, coal, and conglomerates form the broad, flat to rolling areas of the northwest Cumberland Plateau. Boulders deposited in the stream corridors were once part of the sandstone rimrock which break away from the bluff by effects of erosion from wind, water, and temperature. Mississippian calcareous shale and siltstones are exposed along the upper reaches of Daddys Creek.

SOILS

Soils are derived from the sandstone, shale, and siltstone bedrock and are typically



Cumberland Plateau and the Obed WSR Watershed.

shallow, loamy, and generally low in fertility. Upland soils, found on varying slopes (from 5 to 50 percent), tend to be highly permeable and well drained, are shallow to bedrock (0.6 to 1.2 meters), acidic (pH of 3.6 to 6.0), and low in fertility.

Erosion potential is high for the steep slopes of the escarpments and river gorges if vegetation is removed. The soils on the rest of the plateau have slight to moderate erosion potential.

A soil survey was completed for Cumberland County in 1938. No completed soil survey exists for Morgan or Fentress Counties; however, the same soil types and their locations as in Cumberland County are thought to occur along streams in Fentress and Morgan Counties.

There are no known prime or unique farmlands in the Obed WSR boundaries.

CLIMATE

The climate in the region is humid with moderate temperatures. A frost-free season from late April to late October lasts about 180 days. Temperatures reach or exceed 90° F (32° C) about 75 days per year and winter temperatures seldom drop below -5° F (-21° C). Yearly, the Cumberland Plateau receives about 52 inches (132 centimeters) of precipitation (Gaydos et al. 1982).

Most of the precipitation occurs in the winter and early spring. Rainfall associated with severe summer thunderstorms can be heavy and tornadoes occasionally occur on the plateau (Dickson 1960).

Evaporation and water loss from biological activities and processes on the plateau is less than in adjacent areas (Sifley and Parks 1974). Short summer droughts occur but severe droughts are rare (Vaiksnoras and Palmer 1973). The driest periods occur in the autumn from September through November (U.S. Dept. of Commerce 1942, 1965).

WATER RESOURCES

WATER QUANTITY

The Obed River originates in Cumberland County, southwest of the city of Crossville (Sulkin 1988). The Obed River and Daddys Creek generally flow north and east from Cumberland County into Morgan County. Clear Creek originates in Cumberland County, flows north into Fentress County and then east and south into Morgan County before joining the Obed River. The Obed River then flows into the Emory which joins the Clinch River at Watts Bar Lake near Harriman, and thus is part of the Tennessee River drainage which flows into the Ohio River and on into the Gulf of Mexico.

Wetlands within the watershed were inventoried and mapped by the Fish and Wildlife Service in 1987. The majority of wetlands in the Obed WSR are located in the river channel and along the stream banks. These wetlands are maintained by seasonal flooding. The most common wetlands outside the river gorge are farm ponds and other impoundments on small streams.

The quantity of water flows within the streams are determined by rainfall and runoff patterns, groundwater recharge, and flow alterations occurring in the watershed. Like other streams on the plateau, the Obed River and its tributaries have their highest flows during the winter and spring of the year. However, during low flow periods in summer and early autumn, upper reaches of the river system resemble intermittent streams in which pools form with little or no flow between them.

Rapid surface runoff and little groundwater storage create a wide range of water flows in watershed streams. Stream flows of the Emory River at Oakdale, Tennessee, have been measured from 10 cubic feet/second (cfs) to more than 189,000 cfs, recorded in December of 1991. Flows of 45,900 cfs

can be expected to occur every 2 years. Ten floods with peak flows over 70,000 cfs were recorded at the Oakdale gauging station between 1929 and 1977.

Flooding is frequent because:

- long, wet periods in the winter and spring create high water levels in the rivers; 79 percent of floods have occurred between December and April; and
- summer downpours result in flash floods during this low flow period.

It is a generally accepted fact that stream regulation reduces natural physical and biological variability and promotes conditions of constancy within a stream system. Regulation of flow may create discontinuities in the natural physical and biological conditions of a stream system. Within the Obed River watershed, there exist numerous ponds and water supply impoundments on several tributaries upstream of the Obed WSR. It is possible that natural streamflows within the Obed WSR have been altered due to the individual and/or cumulative effects of streamflow impoundment in the watershed. Impoundments on smaller stream tributaries provide for recreational use and agricultural water supplies however, they intercept and retain runoff and thus alter flow regimes. Since the designation of the Obed WSR, there has been concern that the construction of water supply and recreational use reservoirs on the Obed River and its principal tributaries may significantly reduce the natural variability of streamflows in the Obed WSR and impair water-related resource attributes. Although a systematic survey of the Obed WSR has not been completed, 42 reservoirs larger than 2 acres (0.8 hectares) in surface area have been identified. According to the NPS's 1993 Dams Inventory Report, 14 of these impoundments are more than 50 acre feet in size (Appendix I).

The issue of proliferating impoundments in the Obed River watershed is made more complex by the lack of basinwide/regional



Water Flow: from the Obed WSR to the Gulf of Mexico.

comprehensive water resource planning and the NPS's mandate to preserve the free-flowing condition and outstandingly remarkable values of the Obed WSR as provided in the Wild and Scenic Rivers Act (16 U.S.C. 1271-1287) (WSRA). The NPS also has a responsibility to take action against unreasonable injury to its rights as a riparian landowner. Water rights for Obed WSR have not been determined. Information is needed to determine water rights for the Obed WSR and the potential for injury to these rights from water development.

Water Quantity Impacts

Water impoundments constructed to meet growing municipal and industrial demands alter water quantity of the Obed WSR. Although minimum flow releases are required from some reservoirs, the practice of seasonal storage and consumptive withdrawals impact the stream flows. There is concern that these impoundments are having significant negative impacts on the outstandingly remarkable values for which the Obed WSR was designated. The

effects on natural and recreational resources has not been fully evaluated or even determined at this time.

Since 1932, six studies examining the possibility of damming streams in the watershed have been prepared by the Corps of Engineers or TVA. None were constructed because they were cost prohibitive, offered poor recreational opportunities, provided only minimal flood storage, or would destroy aesthetic resources. At this time, there are no known plans to proceed with any of these projects.

However, a 100 acre (40.4 hectare) lake and 1.5 MGD water treatment plant have been proposed for construction on Clear Creek by the Catoosa Utility District and Farmers Home Administration. The site is at RM 44, approximately 26 miles (41.8 kilometers) upstream of the Obed WSR, and will have a 5.89 square mile (1,525.5 hectares) watershed. Other similar projects may be proposed as development pressures around the Crossville area increase posing a serious threat to the water quality and quantity in the Obed WSR. Currently, four impoundments over 100 acres (40.4 hectares) have been constructed by others than the Corps of Engineers and TVA: Lake Tansi and Brown Creek Lake on tributaries of Daddys Creek; and Fox Creek Lake and Lake Holiday on the Obed River and its tributaries.

Dams and water withdrawal activities of this type slow and reduce flows in the upper reaches of the Obed River and therefore reduce the quantity, frequency, and duration of water flows in downstream sections of the Obed River. For example, the headwaters of the Obed River are dammed at river mile (RM) 40.2 to impound Lake Holiday. The river then flows without restriction and merges with the Emory River at Emory River, RM 28.5. The impounding of Lake Holiday has altered flow rates, water temperature, and other stream conditions (Sulkin 1988, Wojtowicz and Clark 1989).

From Lake Holiday, the city of Crossville operates a 3 million gallon per day (3 MGD) intake for its water treatment plant (Sulkin 1988). This water source currently meets the city's domestic needs. However, a 1973 engineering report indicated that at then current growth levels, the withdrawals would drain the city's water supplies by 2020 (Wayne L. Smith and Associates, Inc. 1973).

When water is withdrawn from Lake Holiday the amount of water flowing out of the reservoir during late spring, summer, and early fall greatly decreases. During these periods, the only flows into the Obed River come from the water plant filter's backwash, meager groundwater supplies, limited flows from small tributary streams, and sewage treatment plant discharges (Wojtowicz and Clark 1989, TN Dept. of Health and Environment 1990).

During these low flow periods, groundwater, which has higher concentrations of total dissolved solids than surface runoff, makes up a greater percentage of the stream flow. Thus, water quality parameters based on levels of total dissolved solids, such as conductivity, hardness and alkalinity, are higher than those taken during wetter periods. Of these factors, alkalinity directly affects aquatic systems.

Impounded flows on the Cumberland Plateau generally suffer from minimal aeration and exhibit temperature elevation and stratification. Impoundments located in areas with high human and livestock populations possess greater biological activity due to nutrient overloading. Thus, impoundments not only restrict stream flows, but also can be expected to alter water quality in those flows.

WATER QUALITY

Water quality in the streams that make up the Obed WSR is generally better than in other areas of the State although the most recent data suggest water quality is not as high as previously believed (Tennessee

Department of Health and Environment 1990).

The Tennessee Water Quality Control Board designates water uses for major stream stretches, lakes, and groundwater resources in the State. The Board sets Water Quality Index Standards that are used to maintain the designated uses.

Water uses for all of Daddys Creek, Clear Creek, and sections of the Obed River within the Obed WSR are designated for:

- recreation uses;
- fish and aquatic life;
- livestock and wildlife watering; and
- irrigation.

Water in the Obed River from RM 40.1, located in Crossville, to its origin are also designated for:

- domestic water supplies; and
- industrial water supplies.

The two uses with the most stringent water quality requirements are recreation and to support fish and aquatic life.

The Emory River partially supports the uses for which it was designated but is impacted by pollution from agricultural activities, surface mining, and urban/storm water runoff. Although water quality in Daddys Creek is listed as fully supporting recreational activities and aquatic life, it is threatened by agricultural pollution. The Obed River is listed as only partially supporting uses because of impacts from municipal discharges, construction activities, and urban runoff (TN Dept. of Health and Environment 1990). Waters in Clear Creek currently support all designated uses.

Water Quality Monitoring

Water quality surveys of the upper Emory and Obed River watershed were initiated by the NPS in cooperation with Tennessee Technological University in 1979 and 1980. The NPS implemented a water quality monitoring program in November 1982. This program begins to document existing

water conditions in Obed WSR (Rikard 1985). Water samples are collected and analyzed once every month. Data are collected to monitor pollution from development, agricultural, and coal mining activities. In addition, tests for bacteria (*Fecal coliform* and *Fecal streptococcus*) are done to document the fluctuations in sewage levels of both humans and livestock, respectively.

Water Quality Impacts From Activities Outside Obed WSR

The Obed WSR's land base is relatively small considering the size of its watershed. Therefore, water quality of each stream is greatly affected by activities occurring outside of the Obed WSR's boundaries.

The principal impacts on the water quality of the Obed WSR are:

- high levels of siltation and suspended solids;
- fecal bacteria contamination;
- low dissolved oxygen content;
- high nutrient levels;
- oil and gas spills; and
- disturbance of acidic strata.

The major contributors of these impacts are municipal discharges, surface drainage from mineral extracting operations, and runoff from silviculture, agriculture, and construction activities. Each of these impacts is discussed below and depicted on the Water Quality Impacts Map.

Downstream of Lake Holiday is the Crossville Sewage Treatment Plant. This is a 2.4 MGD activated sludge treatment plant that utilizes an aerated nitrification tank, sand filters, and a cascade aeration process before discharging into the Obed River at RM 38.6 (Sulkin 1988, Wojtowicz and Clark 1989). Since the Obed River flows are lowest during summer and early autumn, upper reaches of the river are primarily fed by flows from the water plant filter's backwash, meager groundwater supplies, limited flows from small tributary streams, and sewage treatment plant discharges

(Wojtowicz and Clark 1989, Tennessee Department of Health and Environment 1990).

Impacts from sewage have been documented on Clear Creek, White Creek, and Obed River (Rikard 1985). NPS tests indicate that *F. coliform* levels are increasing in Daddys Creek and Clear Creek. High bacterial levels appear to be related to rainfall amounts and the possible illegal dumping of septic tank pumpers, or honey wagons

Coal Mining. Although there are no permitted coal mines now operating in the Obed River watershed, runoff from old coal mining sites and its associated activities, have reduced water quality in the Obed WSR. The areas with concentrations of coal mines are shown on the Water Quality Impacts map.

Coal was commonly mined by stripping earth away along the contours of a hill. Sometimes, more coal was extracted by augering as far back into the hill as economically possible (Gaydos *et al.* 1982). Erosion from mine spoils, bare earth areas, and unimproved roads increase sediment loads entering the river system. Stream beds can fill with sediment which alter the aquatic ecosystem and reduce aesthetic and recreational values. Mining activities unearthed several chemicals which react with air and water to form solutions known as acid mine drainage (Rikard 1985). Rainwater runoff and small streams carry these solutions from abandoned mines to the rivers. Acid mine drainage raises sulfate, iron, manganese and aluminum levels and destroys stream ecosystems.

Raised sulfate levels indicate acid runoff from mines are entering Clear Creek, Emory River, and the Obed River. Daddys Creek and White Creek appear to have no mining impacts (Rikard 1985). However, the 1990 305(b) Report: The

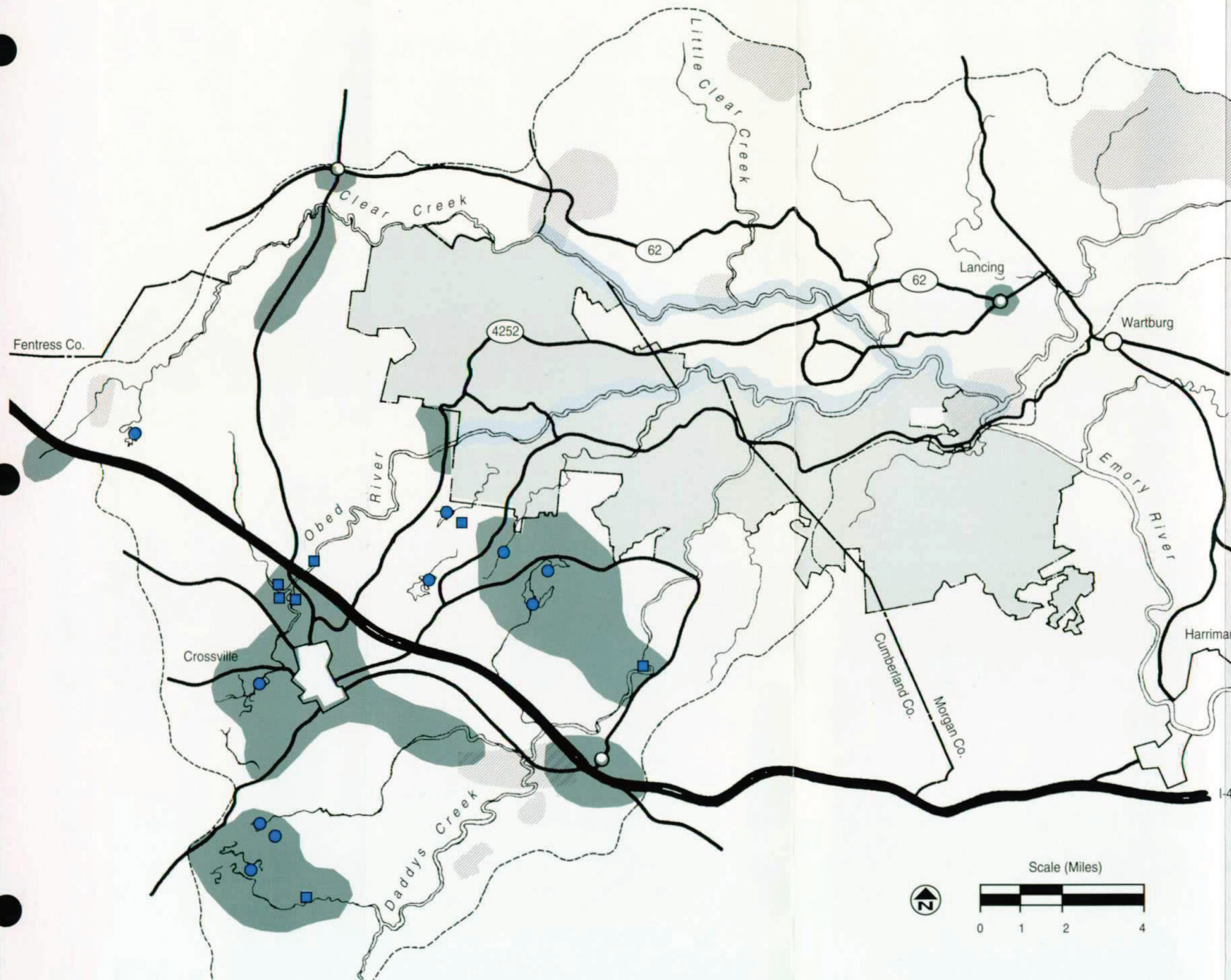
Status of Water Quality in Tennessee, lists Daddys Creek water quality as being threatened by mining sources.

To reduce the erosion and acid mine runoff, the Surface Mining Control and Reclamation Act of 1977 (SMCRA) requires that abandoned mines on both private and public lands be reclaimed. Any future coal mining in and adjacent to Obed WSR would be subject to the permitting, operating, and reclamation requirements of SMCRA.

Within the Obed WSR there is one deep mine and portions of two strip mines. The deep mine is located on the eastern side of the Emory River about 0.5 mile (0.9 kilometer) upstream of Nemo Bridge and less than 1000 feet (305 meters) upslope from the river. The mine shaft has filled with 12 to 18 inches (0.3 to 0.46 meters) water and its two openings are gated. The Office of Surface Mines (OSM) has suggested that the entrances be blasted to close the shafts. No other mitigation measures have been proposed. There is a strip mine on the south side of the Obed River near Obed River RM1. The area has revegetated itself with scrub vegetation and efforts have been made to establish cattails in the ponds on site. The strip mine was never reclaimed topographically and OSM has stated to do so now may do more harm than good. The other strip mine is located across the river on property in the Obed WSR's proposed boundary area. This site has also revegetated itself naturally but has never been reclaimed.

Rock Creek, a tributary to the Emory River and upstream of Nemo Bridge, has severely degraded water quality. The stream's mouth is within Obed WSR boundaries and the creek is the dividing line between Catoosa WMA and Obed WSR. The stream drains some reclaimed deep mines and a strip mine and

Water Quality Impacts



LEGEND

- WATERSHED BOUNDARY
- OBED WSR
- MAJOR CONSTRUCTION & DEVELOPMENT AREAS
- MAJOR OIL/ GAS DRILLING AREAS
- MAJOR COAL MINING AREAS
- MAJOR IMPOUNDMENTS
- MAJOR DISCHARGES
- CATOOSA WILDLIFE MANAGEMENT AREA

probably supports no aquatic life (Rikard 1985). OSM plans to reclaim this area and NPS will seek money for reclamation through funds set up under SMCRA for sites abandoned prior to 1977.

Oil and Gas Operations. Oil and gas operations use brine solutions, oil, acids, sudsing agents, and other chemicals during the drilling and production processes. These chemicals often enter tributaries of the WSR through spills, releases, and overflows. Such pollution events are difficult to locate and document as they are sporadic and isolated incidents. The erosion and subsequent sedimentation from the land clearing and road construction associated with mining activities also reduce water quality (Rikard 1985).

There is a need to test for other operation by-products in the water due to active oil and gas sites within and adjacent to the Obed WSR. There are two operations within the Obed WSR; a site near Lilly Bluff and a site 1 mile downstream of Barnett Bridge. Three other operations are located on lands not yet acquired but within the current boundary. The State is responsible for testing water but does not have a program in place in the Obed WSR and it has no monitoring program for gas and oil operations after the initial installation inspection. Within the Obed WSR, NPS staff routinely monitor oil and gas production sites and transport lines for leaks that could cause resource damage.

Most accidents involving oil spills are associated with transportation activities and, if small, are cleaned up relatively fast. When a spill occurs, the Tennessee Emergency Management Agency (TEMA) is notified by the county sheriff. EPA may also be called in to assist in the cleanup. In responding to a spill, a TEMA representative oversees emergency management, implements

cleanup, assesses impacts, and handles enforcement. Since there are no cleanup crews near Obed WSR (the closest are in Nashville and Johnson City), the response time to the accident scene and subsequent cleanup initiation is substantial.

Silviculture and Agriculture. Forestry and farming operations occur on most of the land in the watershed. Over 90 percent of the watershed is forested and many of these acres are managed for wood production. Approximately 5 percent of the area is in agricultural production.

Elevated conductivity and *F. streptococcus* levels obtained from Clear, White, and Daddys Creeks indicate possible runoff impacts from agriculture and forestry operations (Rikard 1985). The 1990 305(b) Report found Daddys Creek to be threatened by runoff from livestock operations.

The NPS monitoring program has found all streams, except Rock Creek, to have elevated levels of *F. streptococcus* during warmer months. Most likely, this comes from runoff from farm and pasture land adjacent to these waters.

Construction. Increased sediment in water samples from streams in the Obed WSR indicate construction and earth moving activities are taking place in the watershed. Otter Creek, a tributary of the Obed River, has suffered severe siltation from construction activities in the Fairfield Glades development. The Obed River contains silt from development in the Crossville area (305(b) Report 1990).

BIOLOGICAL RESOURCES

The Cumberland Plateau possesses a variety of environmental conditions and the Obed WSR exhibits this diversity.

VEGETATION

A variety of plant communities occurs in the Obed WSR. Depending on specific natural conditions, they have evolved over the centuries and vary from those dependent on frequent flooding along river gravel bars to those tolerant of the driest conditions on exposed rock outcrops.

Human activities on the plateau have also altered the composition of many plant communities. Prehistoric Americans once frequently burned upland areas to attract grazing wildlife species. Later, logging activities and range burning altered the vegetation over large areas. Presently, mid-to-late successional plant regrowth comprises most of the vegetation. Mature, old growth forest remain in only the most inaccessible gorges.

Based on plant surveys by the Tennessee Department of Conservation and University of Tennessee, at least 734 taxa have been identified. Plant surveys of the Cumberland Plateau have also been published and provide additional information on species, growth habits, and locations.

Various plant communities have been identified and are described below.

Aquatic. Submerged and emergent aquatic vegetation can be found in pools and riffle areas although few plants can be found in the main stream channel where flows are stronger.

Riparian. Riparian shrub/herb communities inhabit gravel and sand bars adjacent to the streams. These shrub-thickets and perennial grasses depend upon periodic flooding. Seasonal flooding creates

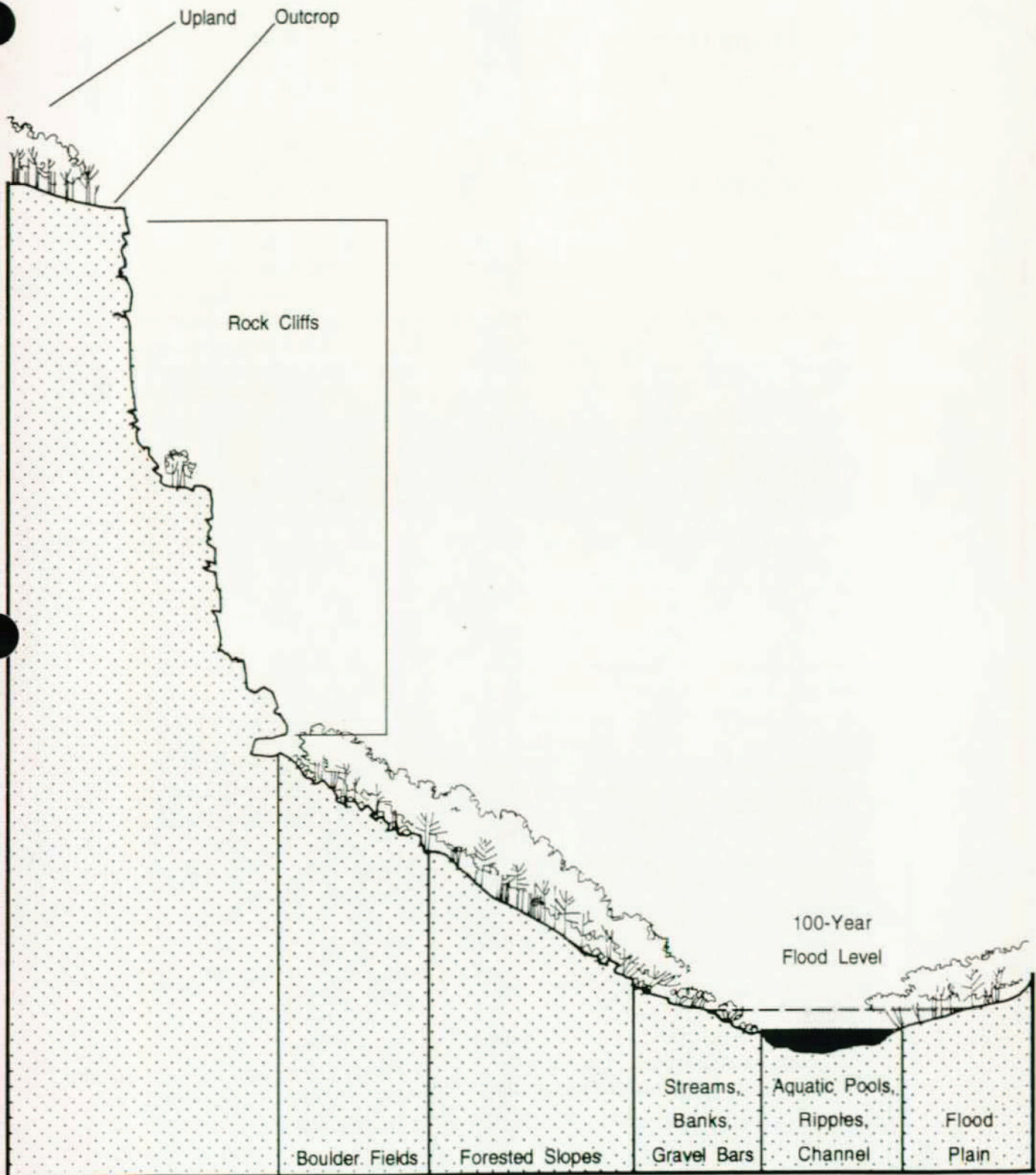
conditions necessary for these species to grow and prevents the establishment of flood-intolerant species.

The most continuous, best developed and most extensive area of riparian shrub-herb communities in the Obed WSR occur on gravel and sand bars on the Obed River from below the confluence of Daddys Creek to the Emory River. Other gravel bars that support good examples of the riparian shrub-herb community are found in the Lilly Bridge area and downstream to the junction of Clear Creek and the Obed River.

Other less-developed and smaller riparian shrub-herb communities occur along the Obed WSR: on Daddys Creek from the bridge at the Morgan/Cumberland County line downstream to the Obed River junction; on the Obed River from Huse Potter Ford downstream to Obed River Junction; and on Clear Creek from RM 7 downstream to Lilly Bridge.

Most gravel bar habitats are in good condition as human impacts have been minimal. However, gravel bar habitats around Obed Junction and other local access points are frequently used to fish from. The gravel bars around Lilly Bridge and downstream on the northeast side of Clear Creek have received some impact from road construction and recreational use. Gravel bars farther away from the bridge have been impacted the least.

Floodplain Forests. Riverine associations of floodplain forests include sycamore, birch, elm, and ash associations. A solid stand of river birch is located in the floodplain at the junction of Fox Creek and the Obed River. This prime example of a river birch forest appears to be an early successional community that originated from human or natural disturbances.



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Representational cross-section of the Obed WSR depicting the typical location of major plant communities.

Other Forests. Hardwood and mixed forest dominate upland areas. Primary species include oaks, hickories, pines, and common understory species include rhododendrons, azaleas, mountain laurel, and numerous forbs, grasses, ferns, and mosses.

Typical forest communities of the Cumberland Plateau and Obed WSR include:

--oak and oak-pine forest associations near the gorges that occupy the uplands of the plateau;

--oak forests with poplar, beech, and hemlock communities that occupy middle and upper slopes of coves, gorges, and slopes; and

--mesophytic forests which are restricted to lower slopes, north-facing slopes, and draws or other protected sites (Hinkle 1978).

A particularly good example of mesic deciduous forest occurs on the fairly remote, north-facing slope of Clear Creek about 0.5 miles (0.8 kilometers) downstream from old Hall Ford. Although once logged, a rich herbaceous layer can be found beneath the sugar maple, basswood, tulip poplar, and beech canopy.

Another mesic deciduous forest of beech, sugar maple, and tulip poplar occurs in the draw and on the slopes along Sugarcamp Branch. This site is downstream Adams Bridge on the Obed River and extends down the north-facing slope about 0.25 miles (0.4 kilometers).

Boulder Fields. Massive sandstone boulder fields occur intermittently along the slopes on the north side of the Obed River between RM 8 and the junction of Clear Creek and Obed River. These slopes, logged in the past, are now forested with chestnut oak, white oak, and white pine.

Outcroppings. Plant communities have adapted to shallow soils covering the bedrock and in scattered depressions on sandstone outcroppings. Such areas support fragile plant communities adapted to the intense light levels and soils that drain rapidly.

The largest sandstone outcropping within Obed WSR, is located along the edge of the cliffs on the southwest side of Clear Creek above Lilly Bridge at Lilly Bluff. The sandstone feature consists of two exposed outcroppings separated by a narrow fissure. Patches of mosses and lichens cover the sandstone. Depressions in the stone collect soil and support drought tolerant herb and shrub species and dwarf Virginia pine. Farther back from the cliff, the outcrop grades into Virginia pine and mixed oak-pine forest. A vegetation survey of Lilly Bluff was conducted in May 1993 and is included in Appendix G (Risk 1993).

Trampling, vehicle use, litter, vandalism, and camp fires on the northern outcropping have destroyed much of the vegetation on this portion of the site. The southern portion still exists as a relatively undisturbed "plateau bluffline" community. Other outcrops of this community occur along Clear Creek at about RM 7, which is known to be relatively undisturbed, and other places within the Obed WSR.

Rock Cliffs. Sandstone cliffs rim the river gorges for much of their length and contain plant communities that have generally not been disturbed. Besides supporting moss and lichens, shrubs, grasses, and ferns root in cracks on the vertical cliffs.

Wet shale cliffs, associated with two small waterfalls, occur along Melton Mill Branch near its junction with Clear Creek. The cliffs support mosses and liverworts restricted to this type of habitat.

WILDLIFE

Numerous wildlife species native to eastern North America occur in the Obed WSR. The streams contain smallmouth, rock, and largemouth bass, longear sunfish, flathead catfish, and carp. The Obed River and Daddys Creek are habitat for the southernmost population of native muskellunge in the United States.

Forty-one mammal and 138 bird species have been observed in the Obed WSR. Common game species include white-tailed deer, both gray and red fox, gray squirrel, raccoon, cottontail rabbit, wood duck, mallard, and turkey. Nongame species frequently seen are skunks, numerous songbirds, and raptors.

Endangered and Threatened Species

Federal and State endangered and threatened plant and animal species are generally described below. A full listing can be found in Appendix F.

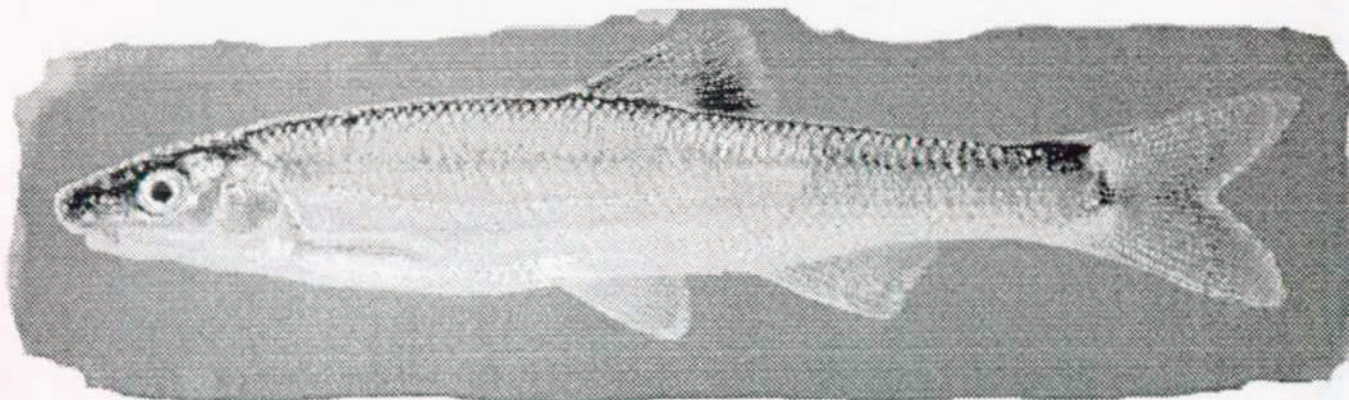
Plants. There are four federally-listed Endangered or Threatened Plant species that may be found in the Obed WSR: Cumberland rosemary; Cumberland sandwort; American chaffseed; and Virginia spiraea. Although listed, no populations of the Cumberland sandwort have been identified as occurring in the Obed WSR. Seven plant species that may occur in the Obed WSR are being

considered for listing. However, these species are not legally protected by the Endangered Species Act and the Fish and Wildlife Service is mandated to monitor populations of these species so that steps can be taken to prevent their formal listing.

Sixteen plant species found within the Obed WSR are listed by the State of Tennessee as endangered, threatened, or of special concern. Nine of these species are found on gravel and sand bars along the streams.

No areas in Tennessee have been federally listed as "Critical Habitat" for a plant species.

Wildlife. The red-cockaded woodpecker, spotfin chub, and Alabama lamp pearly mussel are on the Federal list of Endangered or Threatened Wildlife Species of species known to inhabit the Obed WSR. The Obed WSR has no known nesting colonies of the red-cockaded woodpecker and the Alabama lamp pearly mussel has not been found in the streams for over 20 years. In addition, there are six candidate species for listing that may occur in the Obed WSR. The State of Tennessee lists one other animal found in the Obed WSR, the tangerine darter, as being threatened.



The spotfin chub (*Cyprinella monacha*) is a federally-listed Endangered species found in the Obed WSR. The typical size of a mature adult is 8.5 cm / 3.3 inches in length, about half the size shown above.

All portions of the Emory and Obed Rivers and Clear and Daddys Creeks within the Obed WSR are designated by the US Fish and Wildlife Service as "Critical Habitat" for the spotfin chub. The Federal government considers that sections of these streams contain significant populations of the species or provide habitat critical for their survival.

Exotic Species

Plant surveys indicate there are 59 nonnative plant species in the Obed WSR. These represent 8 percent of the 734 plant species in the Obed WSR. Most exotic species tend to be species associated with early successional stages and primarily occur on disturbed sites. At present, none of the species is known to pose a long-term threat to native plant communities.

The primary exotic animal is the European wild boar (feral hog). Small populations of wild boar are found in the Obed WSR and boar hunting is allowed during designated seasons.

Zebra mussels do not exist within the watershed but represent a potential threat to the Obed WSR.

CULTURAL ENVIRONMENT

HISTORIC BACKGROUND

Prehistoric Native American cultures may have inhabited the gorges and bluffs along the Obed WSR as early as 12,000 B.C. (Lewis and Kneberg 1958, Chapman and Shea 1981). The gorges appear to have been used as a hunting ground and not a permanent dwelling place throughout this period. Native American influences on the vegetation do not appear to have been great, although they may have set ground fires for hunting.

Seasonal occupation of lands now in Obed WSR began approximately 9,000 years ago during the Early Archaic Period. Hunting and gathering groups lived in this area and existed on the abundant flora and fauna. This type of subsistence continued even into the primarily agricultural Mississippian Period of 1,000 to 400 years ago. After the Mississippian period, Native American groups of the Historic Period claimed the Upper Cumberland Plateau as tribal territory. However, historic accounts state that only infrequent hunting parties were encountered in this area and no full-time occupation site of any group has been identified.

European settlement on the Cumberland Plateau began around 1800 (Raulston and Livingood 1974, Bullard and Kreshniak 1956). The remoteness of the Obed region from major settlements and railroad lines, coupled with its wilderness environment, caused the area to be bypassed and of little significance during the Civil War.

Early settlers cleared land for subsistence agriculture and set fires to improve grazing for cattle (Hacker 1849 in O'Connell 1970). Land clearing for agriculture increased from the 1880s until the end of World War II. Range fires were set frequently and burned over much of the land (Jones 1940, Bullard and Kreshniak 1956). In 1952, woods arson

fires consumed 17 percent of the forested lands in Cumberland County (Bullard and Kreshniak 1956).

County agents and agricultural experiment station workers worked actively in the early 1900s to improve agricultural practices and to make the Plateau soils productive. The Cumberland Plateau gradually evolved a marginal agrarian economy that has largely remained to date.

Major logging of this area began in 1879 after construction of railroads (Bullard and Kreshniak 1956). The Tennessee Mineral and Lumber Company acquired the Obed River area, along with other large tracts of land, and began large scale logging around 1910. Its main operation was at Catoosa which, at its height, was a settlement with 330 buildings. The company also mined coal and shipped both lumber and coal by a branch railroad to Nemo. The 1929 flood destroyed the branch railroad and operations were not resumed on a large scale.

By the end of World War II, all of the old-growth forests were cut or burned (TVA 1934, 1935; Jones 1940, Bullard and Kreshniak 1956). The State of Tennessee began acquiring lands from the Tennessee Mineral and Lumber Company, along with abandoned farms and burned over range, in 1942 for incorporation in the Catoosa WMA (Bullard and Kreshniak 1956, TVA 1968). The forests have generally been in a period of regrowth since then.

Coal mining increased with the coming of the railroads, although small mines had been in local use since 1847. Iron furnaces around Rockwood created a need for coal since 1868. Many small and some larger mines were developed after the 1880s. Coal was mined at Nemo and Catoosa within the Obed area (Jones 1940). Strip mining did not become important until after World War II (Bullard and Kreshniak 1956).

Structures associated with coal mining include: extraction sites and an 1880s railroad tunnel within Obed WSR and mining camp ruins.

Other developments in this period include oil and gas development and sandstone quarrying for building stone. Although there are numerous oil and gas wells within the Obed WSR's watershed, little historical information is available on the extent or locations of abandoned operations within the Obed WSR's boundaries.

CULTURAL RESOURCES

Partially because of its remoteness and rugged landscape, there have been few archeological investigations in the Obed WSR. One archeological and two cultural resource surveys have been done but they were of limited scope and only examined a few sites (Thomas 1979, Des Jean 1991). The Archeological Appraisal Section of the NPS has described most of the Obed WSR area as "unknown country".

Thirteen culturally significant sites were identified in the surveys: ten prehistoric rock shelter sites and three sites associated with 19th and 20th Century farmsteads and industries including one site that shows evidence of multiple periods of human occupation in both historic and prehistoric times. None of these sites have been evaluated to determine if they are eligible for listing on the National Register of Historic Places.

Based on similar physiographical features and archeological investigations at nearby Big South Fork National River and Recreation Area, there may be as many as 340 rock shelters within Obed WSR. Unconfirmed accounts of other historic sites within Obed WSR include subsistence farms, liquor still sites, timbering sites, coal strip and deep mine coal sites, and oil and gas exploration sites. However, no historic

structures have been identified with any of these sites. The Nemo bridge and abandoned railroad tunnel are over 50 years old and may have historical significance.

Human activities threaten the cultural resources within the Obed WSR's boundaries. Vandalism of archeological sites has occurred throughout the region. Less than ten percent of the prehistorically occupied rock shelters remain intact anywhere on the Upper Cumberland Plateau. Cultural resources within the Obed WSR are also threatened by unauthorized off-road vehicle use. Minimal onsite monitoring occurs due to limited staff.

THE SOCIOECONOMIC ENVIRONMENT

REGIONAL LAND USE

Historically, agriculture, timbering, and mining activities have supported the economy in Morgan, Cumberland, and Fentress Counties. Outside of the rugged stream corridors, level lands are suitable for growing corn and soybeans and raising livestock. Soils are generally poor so most commercial agriculture is limited to the western portions of the watershed area. Coal mining, once a viable business, has ceased and there are now no permitted operations within the watershed.

Forestry and farming operations occur on most of the land in the watershed. Over 90 percent of the watershed is forested and large land tracts are managed for wood production. Approximately 5 percent of the area is in agricultural production.

Oil and natural gas extraction still occur in the watershed. Both active and abandoned wells are located in the Obed WSR boundaries and the watershed.

Economic growth in the region has generally lagged behind other areas of the State. However, the growth of tourism and the influx of retirees into retirement communities is becoming an important factor in the growth of the local and regional economy.

The major road through Wartburg is US 27 which runs from Chattanooga north to the Tennessee/Kentucky border. Interstate 40 intersects US 27 in Harriman, about 20 miles (32.2 kilometers) south of Wartburg. The interstate runs east/west connecting Memphis, Nashville, Crossville, and Knoxville.

POPULATION

Morgan, Cumberland, and Fentress Counties cover approximately 1,702 square miles (4408.2 square kilometers) and have a population of 222,405. Populations are most dense in Cumberland County. There are 51 persons per square mile in Cumberland County as compared to 29 persons per square mile in Morgan and Fentress Counties (US Dept. of Commerce 1991).

Wartburg has a population of 3,976. Crossville contains the largest population in the watershed with 14,926 inhabitants. Regionally, the largest commercial and population centers are in Oak Ridge and Knoxville, about 20 miles (32.2 kilometers) and 42 miles (67.5 kilometers) east of Wartburg, respectively.

VISITOR USE

VISITOR PROFILE

Generally, there are three major types of visitors to the Obed WSR. The groupings are based on similar patterns of use.

Area Resident Visitors. Area Resident Visitors live in Morgan and surrounding counties. They primarily come to fish, swim, picnic, hunt, and camp during the warmer months. Some also come to party and drive all-terrain-vehicles (ATVs).

These visitors have used the area for years. They know the area well and go directly to desired locations. The Nemo Bridge area is heavily used by this visitor group. Areas adjacent to existing bridge crossings and fishing and swimming holes are also popular.

Some areas, such as Canoe Hole and Turn Hole, are difficult to get to and almost exclusively used by area residents. These areas are not designated on maps and can be reached only by travelling undeveloped and unmaintained roads.

The number of visitors to the Obed WSR from this group remains the most constant

Specific-Use Visitors. These visitors come to the Obed WSR to participate in a specific activity; such as white water boating, rock climbing, and hiking. Other specific activities that occur in the Obed WSR and areas outside the boundaries include horseback riding, mountain bicycling, hunting, and fishing. Like the Area Resident Visitor, these visitors generally know the area and stop at the visitor contact station in Wartburg to obtain specific information such as water levels. While some visitors from this group reside in the local community,

many come from great distances. Grouped together, they represent a significant and steadily increasing type of visitor.

National Park Visitors. The third visitor type includes those who visit the Obed WSR because it is a unit of the National Park System. Typically, the Obed WSR is not a final destination for this visitor. They tend to have limited time and typically come first to the Visitor Contact Station in Wartburg to obtain information. Depending on available time and interests, these people are generally directed to the Lilly Bridge area. Presently, few facilities accommodate these visitors. At this time, this group comprises the smallest number of visitors to Obed WSR.

VISITOR ACTIVITIES

Stream flows, water and air temperatures, and site conditions are largely responsible for determining how and when visitors use the streams and land within Obed WSR. Average stream flow and monthly visitation are shown on page 83.

While the water and air temperatures can be quite low, high stream flows in the winter and spring facilitate white water boating.

Warm air and water temperatures and low stream flows, typical of summer months (June through September), are preferred for water based activities, other than boating, and shoreline use. Many people flock to the waters edge to swim, fish, camp, picnic, sunbathe, and generally enjoy the area's natural beauty. Over time, summer use of the Nemo Bridge area has increased dramatically. Between 300 to 500 people occasionally congregate in the area on weekends.

Other activities occurring in the Obed WSR include: hunting, hiking, rock climbing, sight-seeing, horseback riding, and mountain bicycling. Inappropriate and illegal activities such as off-road vehicle use and marijuana cultivation also occur within the boundaries. The Obed WSR staff also offers various interpretive services at several locations in the Obed WSR and the local area. The activities and associated facilities are discussed and have been grouped into water based activities, land based activities and interpretive services.

Water Based Activities

There are a limited number of places where the river can easily be reached. These areas are depicted on the River Access Sites map. State and county maintained roads lead to river access sites at Nemo Bridge, Potters Ford, Devils Breakfast Table, Barnett Bridge, Jett Bridge, and Lilly Bridge. Several undesignated and unimproved roads lead to other fishing, camping and swimming areas at Alley Ford, Fox Creek, Norris Ford, Huse Potter Ford, Turn Hole, Canoe Hole, and Obed Junction.

The primary water based activities are swimming, white water boating and fishing. The participation in these activities is affected by water quality, flow, and temperatures. During peak eriods, such as summer holidays and under ideal white water boating conditions, river use reaches high levels and the park's facilities are inadequate to meet visitor demands.

Swimming. Swimming holes are very popular and are primarily used by area residents. The favorite holes are at Nemo Bridge, Lilly Bridge, Devils Breakfast Table and Slant Rock near Jett Bridge. Low flows in the summer expose sandy beaches in these areas. Other swimming holes occur throughout the Obed WSR but are difficult to get to and, therefore, receive minimal use.

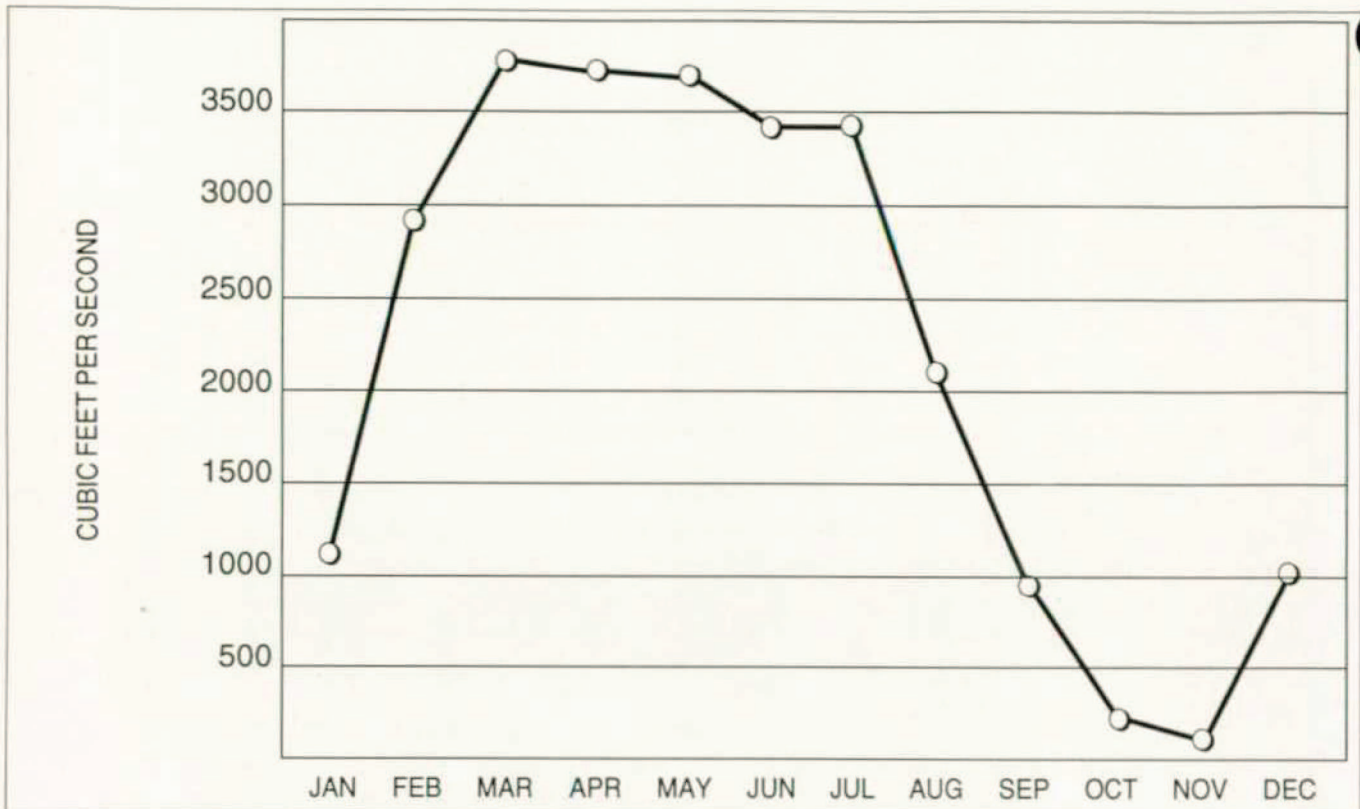
The only facilities to accommodate swimming are at Nemo which has a beach area, parking, picnic tables, grills, trash receptacles, and sanitary facilities.

White Water Boating. The Obed WSR has numerous Class II, III, and IV rapids and is one of the finest pool and drop white water rivers in the eastern United States. Although a good rain will bring boaters out any time of year, most boaters come to the park during the winter and early spring when water flows are the highest. Generally, white water conditions are best from February until mid or late May.

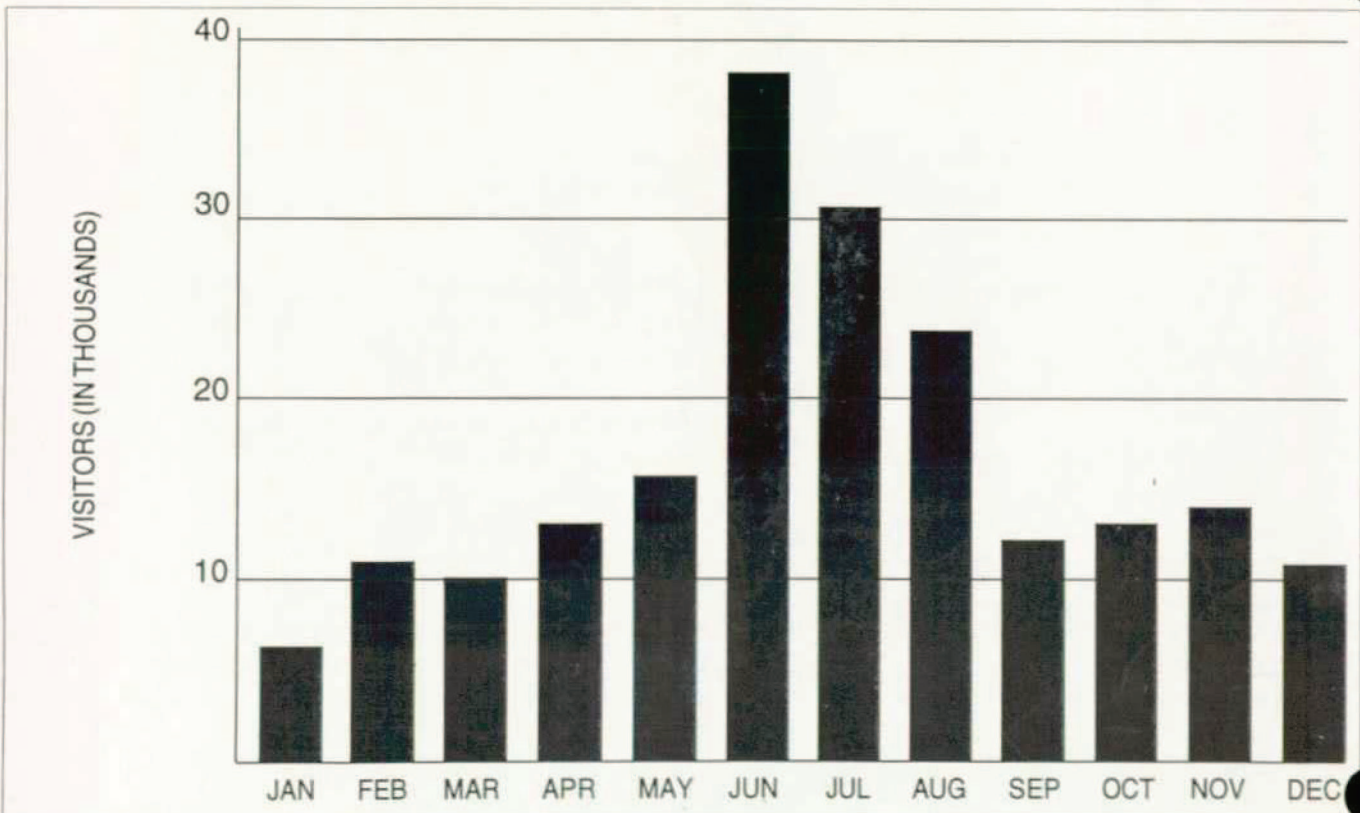
Retail sales indicate white water boating is one of the fastest growing outdoor activities in the United States. During boat season, over 100 boaters visit Obed WSR on the average weekend and more than 400 boaters on the busiest weekends. Park staff predict over 200 boaters will use the river on the average weekend during the 1993/94 boating season.

Boaters often travel considerable distance to get to Obed WSR. Most come from nearby Nashville, Chattanooga, Knoxville, Oak Ridge, and Lexington (Kentucky), but some also come from other states including Georgia, North Carolina, Missouri, Ohio, and Michigan. Boaters typically spend 6 to 8 hours per day at the Obed WSR and often return for additional boating trips.

Minimal facilities exist at Obed WSR to accommodate boaters. The heaviest used river access sites include Obed Junction, Jett Bridge, Barnett Bridge, Lilly Bridge, the 127 Bridge, and Nemo Bridge. Nemo and Jett Bridge have small parking areas and on busy weekends the areas overflow and vehicles are parked along the roads. No parking areas exist at the other sites so vehicles are parked along the road or where they can find room.



10-Year Average Stream Flow for the Emory River.



Visitation levels for the 1992 Calendar Year.

Several sites outside Obed WSR boundaries are used by boaters to reach river sections in the Obed WSR. These include Lavender Bridge, Antioch Bridge, Montgomery Bridge, and Adams Bridge and are depicted on the River Access Sites map. Boaters who put-in their boats within the Obed WSR at Nemo takeout downstream at Camp Austin Bridge.

Big South Fork National River and Recreation Area handles commercial use licensing for the Obed WSR. Three river outfitters have a commercial use license to operate in the Obed WSR but only one is actively providing these services. Services offered include equipment rentals, guided trips and shuttles.

Fishing. Fishing is a popular sport near all river access sites. Most fishing occurs by "area resident visitors" who tend to have a favorite fishing hole and use the same area year after year. This activity has caused the formation of many

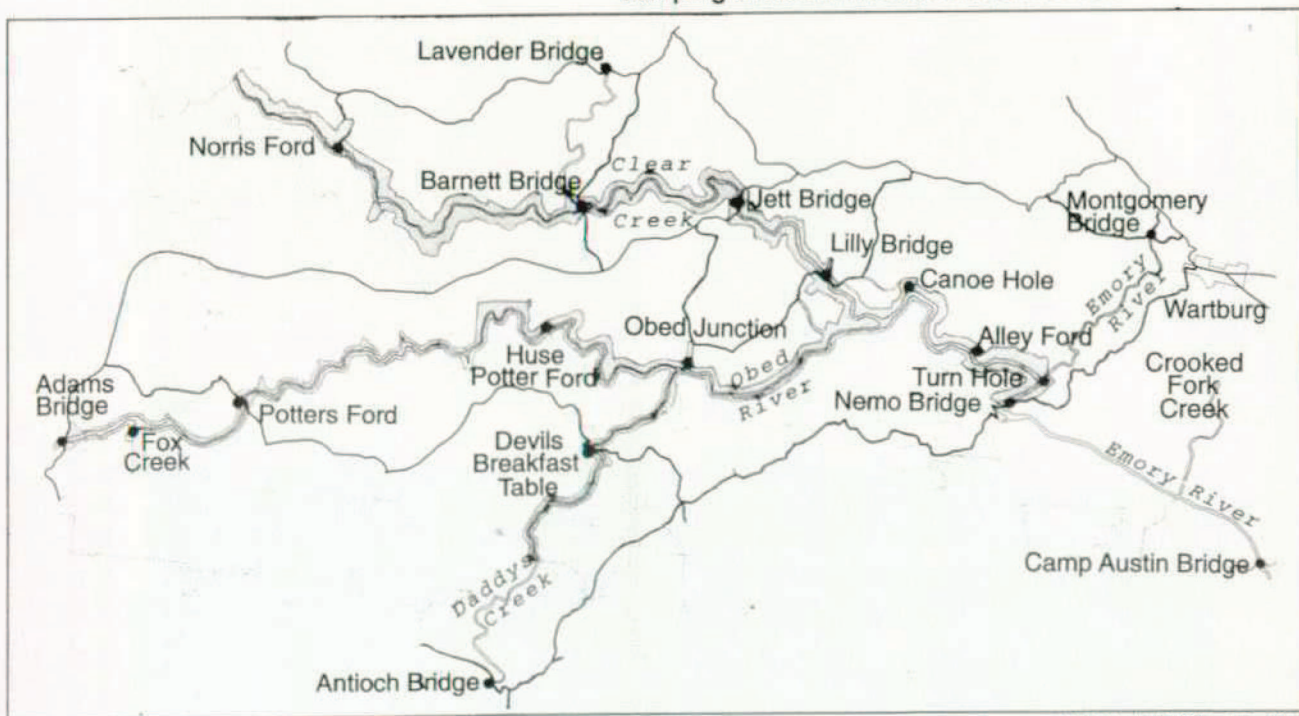
undesigned trails that lead to the fishing holes. The Obed WSR is in the process of becoming more known for its river-type sport fishing and is beginning to attract more specific-use visitors from outside the surrounding communities.

A Tennessee fishing license is required to fish in the Obed WSR.

Land Based Activities

Land based activities include camping, picnicking, hiking, sight-seeing, hunting, rock climbing, horseback riding, mountain bicycling, ATV use, and drug cultivation and consumption. Most of these activities occur at or in conjunction with the river access sites as described under Water Based Activities.

Camping. Since camping typically occurs in association with other activities such as swimming, fishing, hunting, and boating, it is a year round activity. Camping takes place at river access points and in isolated clearings along the rivers and creeks. The only designated camping area with facilities is located at



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River Access Sites both inside and outside Obed Wild and Scenic River.

Norris Bottoms which contains six campsites, parking, and sanitary facilities. Potters Ford, Huse Potter Ford, Barnett Bridge, and Fox Creek are also popular camping areas but have no facilities.

Picnicking. Visitors picnic throughout the Obed WSR but use is concentrated at river access sites and near popular swimming holes. Picnic tables and trash receptacles are located at Nemo Bridge and Jett Bridge.

Hiking. The most popular hiking routes follow fishing trails, old road beds, and old fire lines and include Lilly Bridge to Canoe Hole, Lilly Bridge to Lilly Bluff, the Obed River/Clear Creek Junction area, and Obed River/Clear Creek Junction to Obed Junction. Many of these routes contain spectacular views of the Obed WSR or lead to interesting geologic formations. Some hiking also occurs around the Nemo Bridge area, from the bridge to Turn Hole. The only designated trail within Obed WSR is a portion of the Cumberland Trail. This trail is not a popular route as it does not overlook the Obed WSR or lead to a specific destination.

Sight-Seeing. A variety of sight-seeing opportunities exists in and near the Obed WSR. Visitors come to the Obed WSR and Catoosa WMA to see the streams, gorges, and other geological features, wildlife, white water boating, and the fall vegetation colors. No specific facilities currently exist to provide visitors views of the Obed WSR. As discussed under hiking, the most popular trails tend to lead to areas where spectacular views are available. Two of the most popular areas are around Lilly Bluff and Obed River/Clear Creek Junction.

Hunting. The relatively small land base and narrow corridor limit the amount of hunting that actually occurs within Obed

WSR. Most hunting occurs on the adjoining Catoosa WMA and private lands.

Deer, boar, turkey and small game may be hunted in season with a permit from TWRA. Wild boar and deer hunting seasons coincide during scheduled periods from September through December.

Catoosa WMA and roads through it are closed from February 1 to March 28. This area is also closed to nonhunters during deer season in the fall and turkey season in the spring.

Rock Climbing. Climbing and rappelling are year-round activities and participation is increasing at Obed WSR. Two years ago, rock climbers only visited Obed WSR about once every 3 or 4 months. Presently, 10 to 15 climbers are expected on a weekend day.

Climbers use old road beds, old fire lines, and fishing trails to access climbing areas. The most popular rock faces to climb are located on:

- the north side of Clear Creek between Lilly Bridge and Canoe Hole;
- the north side of the Obed River just upstream from Obed River/Clear Creek Junction; and
- the south side of Clear Creek between Lilly Bridge and Obed River/Clear Creek Junction.

Climbers construct trails and clear vegetation along the bluff where climbing is taking place. Ladders and fixed routes are periodically installed by climbers as are holes in the bluff for permanent anchor points. It is not known if any significant resource damage is occurring from present use.

Horseback Riding. Horseback riding is occurring in a few areas of the Obed WSR but there are no trails designated for this purpose. Several trails exist in the Obed River/Clear Creek area and a previous landowner has constructed a trail out along the narrow ridge to the streams' confluence. Another popular riding area begins near Norris Bottoms Campground and goes over Catoosa WMA lands to Alley Ford. The rugged terrain, limited land base, and lack of trails, provide few horseback riding opportunities within the Obed WSR.

Mountain Bicycling. For the same reasons as stated for horseback riding, mountain bicycling is minimal in the WSR. Some use occurs on the trails and old road beds used by hikers and horseback riders. Use is increasing on old logging roads in Catoosa WMA and other adjacent lands.

All-Terrain-Vehicles. There are many heavily used, undesignated four-wheel-drive roads in the Obed WSR. Continuous use, especially by 4x4s has created and maintained most of these routes and has caused heavy resource damage. These routes usually begin on private land and cross into the Obed WSR's boundaries. They are primarily used by area resident visitors and boaters to access the river at: Fox Creek; Huse Potter Ford; Norris Ford; Obed Junction; Canoe Hole; and Turn Hole. A new route has been created this year just upstream of Huse Potter Ford. The NPS is in the process of purchasing land rights along the routes leading to Norris Ford and Obed Junction.

Four-wheelers and dirt bikes are smaller ATVs, accommodating one or two persons, and are illegal within the Obed WSR boundaries. Attempts by Park Service staff to restrict their use have been unsuccessful and resources are

being damaged at Lilly Bluff and many other sites.

Drug Cultivation and Consumption. Rangers have discovered several crops of marijuana cultivated within Obed WSR boundaries. Crops range from a few to several hundred plants. Cultivation methods can be quite intensive and involve clearing land of native vegetation, planting, weeding, protecting young plants from animals, and supplemental watering. Along with natural resource impacts, this activity also poses threats to visitors. Growers have been known to carry firearms and knives when cultivating areas and sometimes, traps are set to keep people away from crops.

Heavy consumption of alcohol and drugs by visitors is frequent at areas like Nemo, Lilly, and Barnett Bridges. Vandalism, offensive behavior, and damage to park property and resources are often associated with this activity. These activities have historically been a problem at Obed WSR. Facility development and patrolling, as time and staff permit, have had little impact on curtailing these activities.

Interpretive Services

A visitor contact station is operated in Wartburg. Open daily, it offers information and orientation to NPS visitors and serves as a contact point for specific-use visitors such as boaters. There are a few exhibits and an automated slide program will soon be in operation.

Interpretative services offered in the Obed WSR's boundaries are limited. Rangers on patrol and the maintenance staff working in the field, are the primary providers of information and assistance to area resident and specific-use visitors. Additional information regarding boundaries, area closures, and other pertinent topics are posted on an information board at Nemo Bridge. Park ranger led programs are sometimes offered

at river access sites to organized groups including Scout programs, canoe clubs, and school classes.

Outreach interpretive programs are popular and are presented at area schools, parks, and community meeting places. In the last 5 years, programs have been presented in all schools in Morgan County with the majority presented at Wartburg Central Elementary School. All first through sixth grade classes in Morgan County received programs as part of the Take Pride in America initiative during the 1990 and 1991 school years. Limited staff and expanding duties have prevented this type of outreach for the past 2 years.

Interpretive programs cover a wide range of topics. Those requested regularly include: Biodiversity, DARE (Drug Abuse Resistance Education), Orientation to the Obed WSR, Pioneer/Longhunter (living history demonstration), Web of Life (the ecosystem and how things fit together), and White Water Canoe Instruction.

REGIONAL RECREATIONAL OPPORTUNITIES

Other major recreational, educational, and visitor-use areas in proximity to Obed WSR are shown on the Regional Recreational Opportunities map and discussed below. The variety of recreation opportunities available in the region continue to have a bearing on those available at the Obed WSR.

Catoosa Wildlife Management Area. Managed by Tennessee Wildlife Resources Agency, Catoosa WMA contains more than 90,000 acres (36,422 hectares) of which more than 98 percent are forested. The lands are primarily managed for wildlife and timber production. Lands currently within the Obed WSR that are part of Catoosa WMA will continue to be owned and managed by the TWRA in

accordance with Public Law 94-486, the Wild and Scenic Rivers Act.

Catoosa WMA contains few improved facilities except for roads. Besides hunting, there are opportunities for primitive camping, sight-seeing, hiking, boating, horseback riding, and mountain bicycling when the area is not closed. Catoosa WMA and roads through it are closed from February 1 to March 28. This area is also closed to nonhunters during deer season in the fall and turkey season in the spring.

Royal Blue Wildlife Management Area.

Also managed by TWRA, this relatively new area comprises more than 43,000 acres (17,401 hectares) and is located along I-75 near La Follette, Tennessee. The area will be managed and offer opportunities similar to Catoosa WMA.

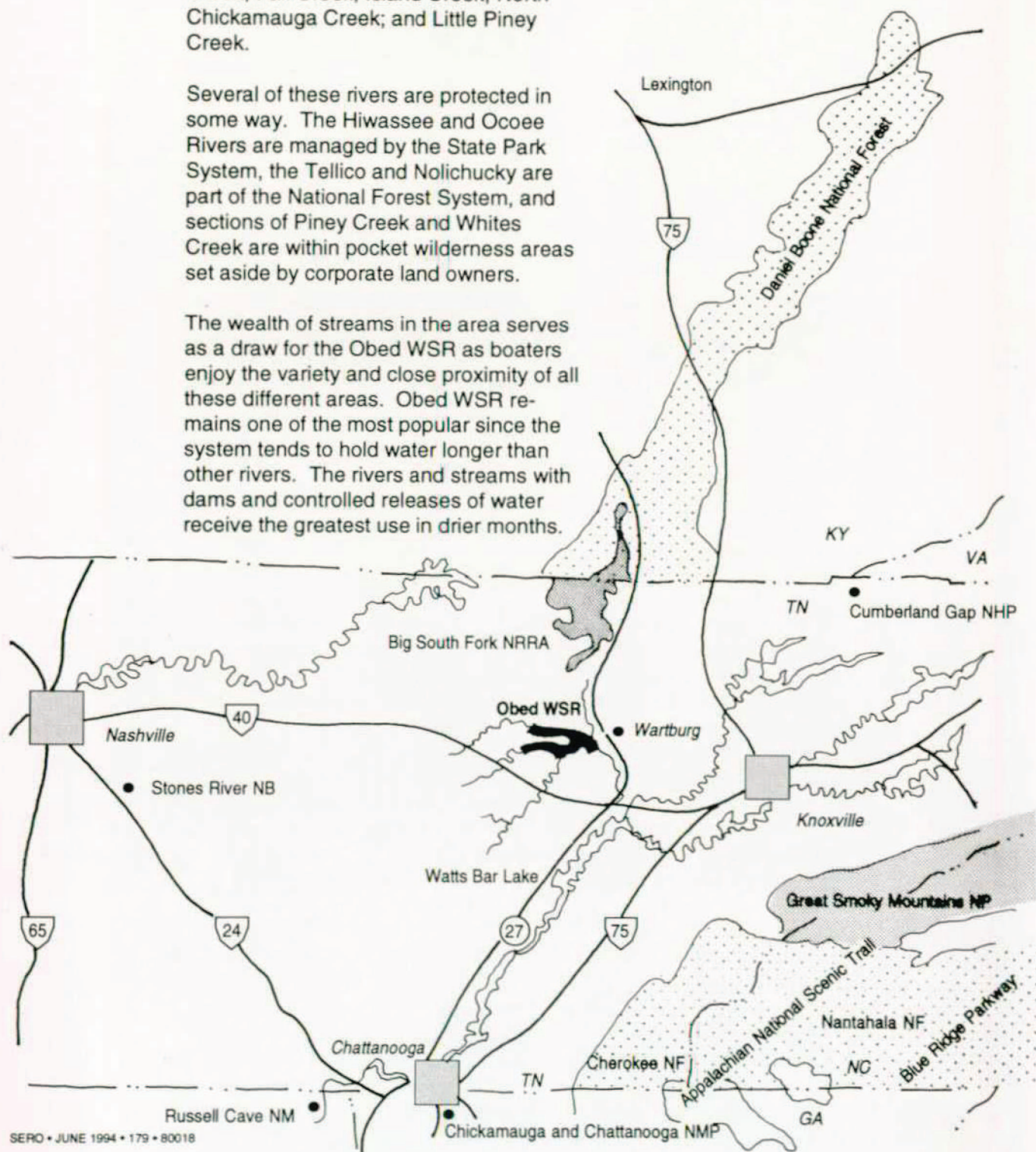
Frozen Head State Natural Area. Located 7 miles (11.3 kilometers) from Wartburg, this State park contains facilities for a wide range of activities including: camping (with rest rooms and showers), playgrounds, picnicking (with some shelters), volleyball, horseshoe, trout fishing. A visitor center provides information and audio visual programs and an amphitheater is used for interpretive programs. NPS and State park staff frequently conduct outreach programs together and often recommend each other to conduct programs.

Lone Mountain State Forest. This State forest is managed for wildlife and forest production and is located in Morgan County, 2 miles (3.22 kilometers) south of Wartburg. Recreational opportunities include: hunting; 12 miles (19.3 kilometers) of hiking and horseback riding trails (a horse camp and corral are available); backcountry camping; picnicking; and mountain bicycling. Currently, no interpretive programs are provided.

ate to advanced boaters. Steep creeks in the area include: Yellow Creek; Piney Creek; Whites Creek; Crab Orchard Creek; Fall Creek; Island Creek; North Chickamauga Creek; and Little Piney Creek.

Several of these rivers are protected in some way. The Hiwassee and Ocoee Rivers are managed by the State Park System, the Tellico and Nolichucky are part of the National Forest System, and sections of Piney Creek and Whites Creek are within pocket wilderness areas set aside by corporate land owners.

The wealth of streams in the area serves as a draw for the Obed WSR as boaters enjoy the variety and close proximity of all these different areas. Obed WSR remains one of the most popular since the system tends to hold water longer than other rivers. The rivers and streams with dams and controlled releases of water receive the greatest use in drier months.



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Regional recreational opportunities.

Cumberland Trail. The route of the Cumberland Trail starts at Highway 27, approximately 7 miles (11.27 kilometers) south of Wartburg, and goes through Morgan, Campbell, and Anderson Counties and on north to Cumberland Gap National Historical Park. Only portions of the trail for hiking and backpacking have been developed, mostly on private property. Originally, the trail was organized and maintained by the Department of Conservation, Division of Parks and Recreation, however, the project had been abandoned. More recently, the Tennessee Trails Association has adopted this trail and is actively seeking an extension of the trail. Hiking, backpacking, and camping opportunities exist along portions of the trail route.

Big South Fork National River and Recreational Area. The southern entrance to Big South Fork National River and Recreation Area (NRRA) lies about 45 miles (72.4 kilometers) north of Wartburg. Recreational opportunities are similar to those in the Obed WSR although Big South Fork NRRA has a much larger land base. Opportunities and facilities are available for backcountry and primitive camping, hiking, swimming (a pool is located in the campground), white water boating, horseback riding, and mountain bicycling. Hunting is allowed in season.

Cumberland Mountain State Park. Located in Cumberland County, 5 miles (8 kilometers) from Crossville, Cumberland Mountain State Park contains camping (with rest rooms and showers), lodging, hiking trails, playgrounds, picnicking, and a lake for swimming and boating.

Tennessee Valley Authority (TVA). The TVA manages numerous water projects in central and eastern Tennessee. The closest TVA reservoir is Watts Bar Lake on the Tennessee River which is located about 20 miles (32.2 kilometers) south of Wartburg. Also within the 50-mile

radius (80 kilometer) are Melton Hill, Norris, Fort Loudoun, and Tellico Reservoirs offering a variety of recreation opportunities. Opportunities available include motorized boating, swimming, fishing, and picnicking.

The TVA also operates a program to provide for public access to navigable rivers. Through this program, The TVA designed and paid for construction of the facilities at Jett Bridge. TVA owns properties at the following sites that provide access to river sections inside the Obed WSR: Adams Bridge on the Obed River; Center and Meridian Bridges on Daddys Creek; and Twin and Lavender Bridges on White Creek (a tributary of Clear Creek).

Pickett State Park. This State park is located in Fentress County, about 60 miles (96.5 kilometer) north of Wartburg. There are opportunities for camping and picnicking.

Great Smoky Mountains National Park. This popular national park is about a 2-hour drive and about 90 miles (145 kilometer) southeast of Wartburg. The park provides opportunities for many outdoor recreational activities including camping and hiking.

Cherokee National Forest. Adjacent to the Great Smoky Mountains NP, Cherokee National Forest contains hiking trails and campgrounds.

White Water Rivers. Many rivers in East Tennessee offer a wide variety of white water boating experiences. Some of the most heavily used rivers include: Tellico River; Little River; Little Pigeon River; Doe River; Watauga River; French Broad River; Big South Fork; Nolichucky River; Ocoee River; and Hiwassee River. Other streams, known to boaters as "steep creeks", can only be run after a good rain as their water levels drop quickly and are usually run by intermedi-

PARK OPERATIONS

STAFFING and FACILITIES

The Superintendent for Big South Fork National River and Recreation Area (NRRA) is also responsible for managing the Obed WSR. Resource management functions at Obed WSR are the responsibility of the Resource Management staff at Big South Fork NRRA, and to a lesser degree, other Big South Fork NRRA divisions also support the Obed WSR.

At present, five full-time employees comprise the staff stationed at Obed WSR which is considered to be insufficient to effectively administer the area. Staff functions include Unit Management, Administrative Assistant, Interpretation, Law Enforcement, and Maintenance. Park Ranger duties are geared primarily toward visitor and resource protection, and visitor service.

Administrative offices are combined with the visitor contact station in Wartburg. The building was previously a bank. The City of Wartburg purchased the building and currently leases the building to the NPS.

A maintenance facility containing office space, equipment storage, and work areas, is located about 2 blocks from the administrative offices. Some Park Ranger equipment is also stored in this facility including boats and search and rescue gear. At this time, the maintenance staff is adequately equipped to do minor road work within the park and to do general maintenance of the rest of the Obed WSR, including the river access sites. Periodically, Big South Fork National River and Recreation Area lends assistance and equipment for large scale projects.

Major equipment at the Obed WSR includes:

- 3 motorized vehicles (2 patrol and 1 maintenance);
- 13 boats (2 rafts, 1 inflatable kayak, 5 kayaks, 5 canoes); and
- 1 tractor.

LAND OWNERSHIP AND MANAGEMENT

OWNERSHIP

The Wild and Scenic Rivers Act of October 1968 authorized 320 acres (129.5 hectares) of adjacent lands per river mile to be included within the boundaries of units of the National Wild and Scenic Rivers system. The total authorized acreage for the 45.2 mile Obed WSR is 14,464 acres (5853.5 hectares).

The Act limits public ownership in fee to 100 acres (40.4 hectares) per river mile which equates to 4,520 acres (1829.2 hectares) for the Obed WSR. Once 50 percent or more of a wild and scenic river is publicly owned in fee, the use of condemnation to acquire fee title is prohibited. There are no restrictions regarding acquisition of easements.

Based on the boundaries depicted in the LPP (1992), the current total acreage within the Obed WSR boundary is approximately 5,057 acres (2046.5 hectares). The Park Service presently owns approximately 2,085 acres (843.7 hectares) in fee and 1,066 acres (431.4 hectares) in easements and the State of Tennessee owns 57.5 acres (23.2 hectares) in fee. The remaining acreage is still under private ownership.

The State of Tennessee owns 3 tracts totally 57.5 acres (23.3 hectares) in fee. These lands are managed by TWRA and the Department of Transportation and are being managed in a manner compatible with the purposes outlined in the Wild and Scenic Rivers Act, as amended.

The remaining 1,621.57 acres (656.2 hectares) are in 48 tracts under private ownership. Twenty-nine tracts have river frontage and 30 tracts have either trail or vehicular access on or across the property. These lands are frequently used for recreational activities such as hiking, camping, off-road vehicle driving, swimming, fishing,

and hunting (approximately 24 tracts are used only for hunting).

Almost all of the tracts were logged at some time in the past and most have since revegetated naturally. However, some areas back from the rim of the gorge are being converted from mixed hardwood-pine forests to pine monoculture or are being cleared for pasture and cropland. Other uses and activities occurring on privately owned lands, include: the cutting of firewood; the dumping of untreated sewage or wastes, and trash; the construction of second homes or livestock facilities and other structures; and mineral extraction.

Easements allow for continued private ownership and use subject to specific restrictions and are tailored to a specific property. Generally, the existing easements in the Obed WSR:

- provide protection for the existing landscape character;
- restrict advertising, dumping trash, and developing lands and new structures;
- provide for public use along the river and floodplain;
- prohibit road construction;
- permit limited agriculture and timber practices on the rim while prohibiting these activities in the gorge; and
- prohibit animal operations with large populations.

MANAGEMENT

At this time, the waters of the Obed WSR are considered to be navigable under the Rivers and Harbors Act of 1899. Section 10 of the Rivers and Harbors Act prohibits the alteration or obstruction of any navigable waters of the United States unless authorized by the Secretary of the Army acting through the Chief of Engineers. The State of Tennessee exercises regulatory jurisdiction over navigable waters in the State. Under the authority of Section 404 of the Clean Water Act of 1977, the U.S. Army Corps of Engineers controls the discharge of dredge or fill material to restore and maintain the chemical, physical, and biological integrity of waters of the United States. Section 26a of the TVA Act requires that no dam, appurtenant work, or other obstruction affecting navigation, flood control, or public lands or reservations be constructed and thereafter operated or maintained across, along, or in the Tennessee River or any of its tributaries until plans for such construction, operation, and maintenance have been submitted to and approved by TVA.

Part of the Obed WSR flows through Catoosa WMA. The Wild and Scenic Rivers Act states that lands within the Obed WSR boundary that are currently part of the Catoosa WMA shall continue to be owned and managed by the TWRA in such a way as:

"to protect the wildlife resources and the primitive character of the area and without further development of roads, campsites, or associated recreational facilities unless deemed necessary by that agency for wildlife management purposes".

In accordance with the Act, a MOU has been established in which the TWRA agrees to:

--manage and administer Obed WSR lands, from the thread of the river to 100 feet back (30.46 meters) from the bluff, in accordance with the Wild and Scenic Rivers Act;

--keep the NPS informed of planning, development and administrative policies and needs, and to consult with the NPS before implementation;

--provide professional advice and assistance;

--improve river access points;

--not cut timber within the gorge except when necessary and after prior consultation with the NPS; and

--allow access to the river over existing roads except when Catoosa WMA is closed.

The current MOU also permits the NPS to construct and maintain a hiking trail on Catoosa WMA lands with the TWRA approval and consistent with their mandate related to wildlife management. The current MOU was signed in 1992 and is updated every 5 years.

MANAGEMENT ZONES

The NPS has a management zone system for managing the lands in the Obed WSR. The existing management zone system is described in the 1992 LPP and is based on ownership status, suitability of the land for proposed uses, and the nature of the resources. The zones are listed and described below.

Natural Zone

Land outside Catoosa WMA that is managed with an emphasis on protecting natural and cultural resources while permitting compatible recreational activities.

Historic Zone

Lands which have historic or archeological significance will receive historical zone classification and be managed to preserve, protect and interpret their associated values.

Park Development Zone

Lands intensively developed and used to meet needs of management and visitors.

Administrative Development-Visitor Services Subzone. Applied to a parcel of land outside the existing boundaries for the construction of a visitor contact station, administrative offices and a maintenance facility.

Special Use Zones

Lands within exterior boundaries that are managed by others.

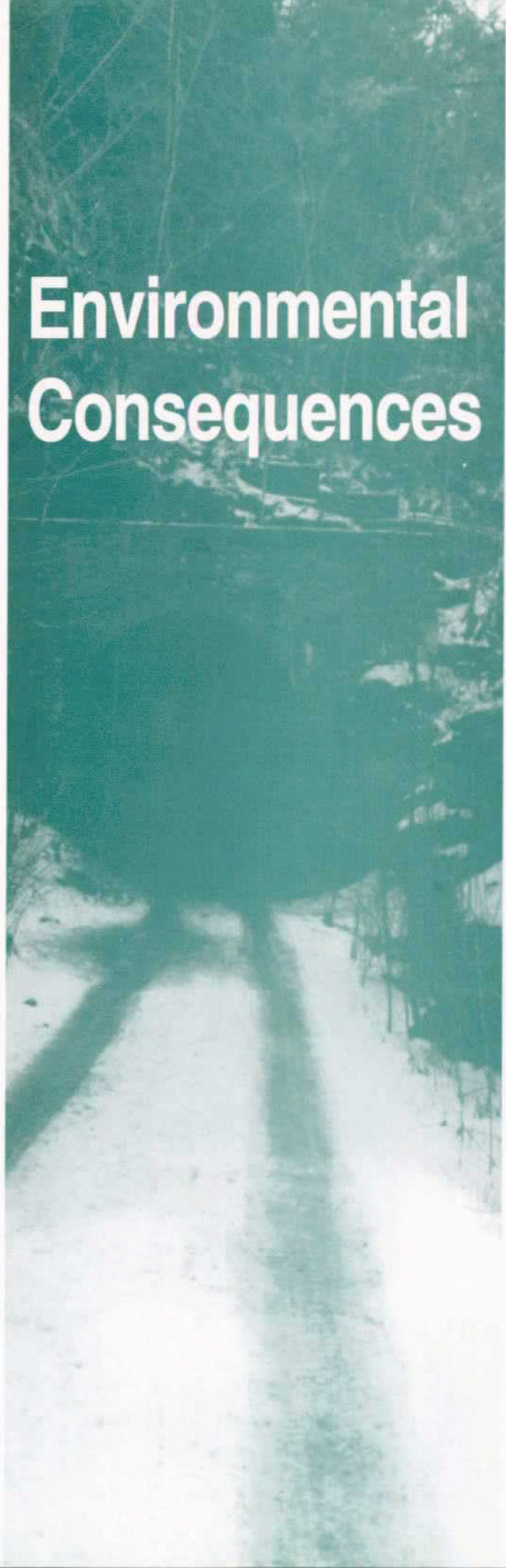
Transportation Subzone. Lands used for State and local roads and railroads that are managed primarily or exclusively for nonpark purposes.

Scenic Easement Subzone. Lands where certain rights are purchased to restrict certain uses and includes areas in which present use is compatible with river values, but uncontrolled use could be detrimental to those values.

State-Owned Subzone. Lands owned and managed by the TWRA and covered under a MOU with the NPS.

Unmanaged Non-Federal and Non-State Owned Lands Subzone. Private lands that are not currently associated with an identifiable land use and might be used for incompatible purposes.

Environmental Consequences





INTRODUCTION

As required by the National Environmental Policy Act of 1969 (NEPA), the potential consequences of both alternatives are discussed. The consequence discussion addresses all significant adverse and beneficial impacts--past, present, future, direct, indirect, cumulative, irreversible, and irretrievable--on the human environment that would occur from implementation of either alternative.

Topic headings are organized by resources and are based on the affected environment, legislative requirements, and public and other agency concerns. The impacts of implementing each alternative are discussed for each resource topic to help the reader draw comparisons. A description of associated Federal and State laws that the alternatives comply with are highlighted alongside each appropriate impact topic.

Many of the impacts are similar for both alternatives. The difference primarily deals with the recognition for and methods used to protect the values and unique visitor experience of the Obed WSR. A chart

summarizing the environmental consequences can be found at the end of this chapter.

The analysis of environmental consequences assumes full implementation of alternatives. It is important to note that the rate of initiating programs and developments largely depends on funding and staffing levels. If funding permits the addition of two to three FTE employees per year, it would take at least 4 years to reach the minimum number of employees needed under current conditions. Under this assumption, it would take an additional 2 years to reach the minimum number of employees needed to fully implement the proposed action. If funding and staffing levels see only modest growth over the next decade, the Obed WSR would still continue to develop, but at a much slower rate. However, if funding and/or staffing levels were to stabilize or be reduced due to budgetary or other considerations beyond the control of the Park Service, implementation of either alternative as currently envisioned would not be possible.

CONSEQUENCES

EFFECTS ON WATER RESOURCES

Alternative A: The Proposed Action

Implementation of this alternative would document the quantity and quality of the waters, reduce water resource impacts over the long-term, and provide for greater recognition of the need to achieve and maintain natural stream flows and the highest water quality standards.

Enhancing the existing water resources

The **Federal Water Pollution Control Act Amendments of 1972** (Public Law 92-500, sec. 313) and the **Clean Water Act of 1977** (33 USC) directs the NPS to comply with State laws for water quality management and to meet certain water quality standards, regardless of jurisdictional status or land ownership. Based on the Federal requirements, the proposed actions comply with the **State of Tennessee's Water Control Act** [Tennessee Code 69-3-102(b)] and **Water Quality Control Act of 1971**, [9CA 70-324 through 70-342). These acts aim to protect water quality through regulation of pollution sources, monitoring of streams and lakes, and public education. The Acts contain an antidegradation policy which applies to the Obed WSR stating that no degradation of high quality, natural resource waters of recreational and ecological significance is allowable.

monitoring effort would serve to better document existing conditions as well as improvements in and degradation to water quantity and quality. A reduction of water resource impacts, such as erosion and sedimentation, would occur from:

--acquisition and therefore greater control of approximately 156 acres (63.1 hectares) where these impacts are occurring;

--reducing the number of vehicles accessing the river between existing bridge crossings through application and enforcement of

the management zone system;

--where appropriate, locating developments on previously disturbed areas and using erosion control measures during site development;

--the use of paving for proposed parking areas on currently disturbed lands; and

--revegetation or reclamation of abandoned mine sites and oil and gas operations in the Obed WSR boundaries.

Some limited, short-term impact to water resources would occur from development of the visitor use facilities. Approximately 0.75 acre (0.3 hectare) of land would be cleared of existing vegetation, primarily early successional forest. Less than 1 acre (0.4 hectare) would require grading or fill which could result in some short-term sedimentation impacts. About 3,500 square feet (315 square meters) of land would be paved for parking. Increasing the amount of paving increases the amount of surface runoff. The use of asphalt or petroleum based products for paved surfaces can also impact water quality as these products tend to break down and can be carried by runoff into streams.

Enhanced facility development and concentration of use at river access areas within the Development Zone/Recreational Facilities Subzone may lead to increased visitor use. More visitors would generally mean that more vehicles, trash, and human wastes would have to be addressed. To reduce the impacts from development of the facilities and increased visitor use on water resources, the following would be accomplished:

--institute erosion control measures during site development and adhere to all State and local erosion and sedimentation control measures;

--sensitively locate trails and backcountry campsites and where possible, locate proposed trails along existing social trails and campsites in currently used camping areas;

--provide adequate sanitary facilities for visitor use;

- remove the three sanitary toilet facilities, that are or would be located in the 100-year flood zone, during flood periods to reduce the potential for spills of human wastes;
- use vegetative filters or other devices alongside paved parking areas to minimize impacts from surface runoff;
- where feasible, use alternatives to asphalt for paved surfaces, such as porous concrete, soil stabilization agents, or gravel;
- after facilities are in place, continue monitoring to detect any additional water resources impacts; and
- apply additional management controls, including the preparation and implementation of a River Management Plan, if water quality impacts from increased visitor use are detected through monitoring.

Greater recognition of the need for protection of water resources would occur from:

- the existence of a group or "committee" who would address watershed-wide water resource protection measures,
- enhancing interpretive programs and services to educate and make visitors aware of the importance of water resources and their protection; and
- stationing a resource management specialist at the Obed WSR to increase the ability of the Park Service to initiate and manage proposed resource management strategies.

Alternative B: The Current Course

Knowledge of existing water resources would increase as in Alternative A, how-

ever, the reduction of water resource impacts would not be as great because:

- only 62 acres (25 hectares) are proposed to be added into the Obed WSR boundaries which would mean less direct protection of lands within the stream corridor; and
- increased water resource impacts would occur from the construction and maintenance of approximately additional 3.3 miles (5.3 kilometers) of road at Obed River/Clear Creek Junction right-of-way, Norris Ford, and Obed Junction. An additional 8 acres (3.2 hectares) of land would be cleared of vegetation and 4 acres (1.6 hectares) would require a significant amount of grading for these developments.

EFFECTS ON FLOODPLAINS AND WETLANDS

Alternative A: The Proposed Action

No adverse impacts to floodplains are expected. Proposed developments are excepted from agency floodplain management guidelines.

Because of the steep terrain, the following facilities are located inside the designated 100-year flood zone:

- trails, picnic areas, sanitary facilities, parking areas, and a developed camping area; and
- portions of the long distance trails and undeveloped campsites located throughout the Obed WSR.

Executive Order 11988 "Floodplain Management" and Executive Order 11990 "Protection of Wetlands" requires all Federal agencies to enhance floodplain and wetland values, to avoid development in floodplain and wetlands when practicable alternatives exist, and to avoid creating adverse impacts if a floodplain or wetland will be occupied or modified.

These facilities are integral to the recreational experience. The proposed contingency plan will allow for the safe evacuation of the Norris Bottoms campground during periods of flooding. For the more remote undeveloped camping areas, the registration system together with signs and pamphlets containing flood information, would serve to warn visitors of potential hazards and precautions to take.

Enhanced protection for wetlands would result from implementing the Proposed Action. This would occur as a result of:

- acquiring 126 acres (50.9 hectares) of lands, with their associated shorelines and wetlands, where impacts are occurring, and reducing vehicle access to the river corridor between existing bridge crossings to reduce erosion, sedimentation, compaction, and pollution impacts from off-road vehicles;
- implementation of resource data collection, monitoring, and protection programs to document the location, types, and conditions of wetlands; and
- enhanced interpretive programs and services to educate and make visitors aware of the importance of wetlands.

Alternative B: The Current Course

As in Alternative A, no adverse impacts to floodplains would occur; however, protection for wetlands would not be as great because no new wetland areas would be acquired through the boundary adjustments proposed in this Alternative.

EFFECTS ON VEGETATION and WILDLIFE

Alternative A: The Proposed Action

Implementing Alternative A would serve to directly and indirectly increase protection of the vegetation and wildlife in the Obed WSR. No impacts to State or federal listed species or critical habitats are expected. This would occur because:

- protection of the critical habitat and listed species in the riverine environment would be enhanced by application of the resource management strategies and adding approximately 6.5 river miles (10.46 kilometers) and more than 190 acres (76.8 hectares) of lands adjacent to streams and tributaries to the Obed WSR boundaries;
- identification and protection efforts would increase under the direction of a resource management specialist stationed at the Obed WSR;
- proposed facility developments would be located primarily in previously disturbed areas; and
- visitors would be made more aware of sensitive species and the need for protection.

Clearing about 0.75 acre (0.3 hectare) of vegetation for parking, trails, and use areas would displace some small wildlife species. Siltation and sedimentation control measures would be used to protect vegetation and wildlife species that live in the river and streams.

No significant impacts to riverine species are expected from fishing and swimming during low water levels. If negative impacts are documented, a River Management Plan would be developed and implemented to control use and mitigate impacts.

The proposed developed overlook at Lilly Bluff would enhance protection of the plant community on the bluff which contains the fameflower (*Talinum mengesii*) a State-listed threatened species. While increased visitor use is expected, it would be of a different type and more controlled by the use of trails, boardwalks, interpretive waysides, and the increased presence of NPS staff. Impacts that would occur from construction would be mitigated by:

- first establishing sufficient baseline data on the location and environmental needs of the plant community;
- use of the baseline data to help determine specific design and layout details to avoid destruction of plants or important attributes of the site;
- use of appropriate materials and construction methods to minimize impacts on drainage and shade patterns; and
- use of interpretive waysides to help inform visitors of the need to protect and enhance the rare plants on the bluff.

Continued monitoring would occur to document the effects of development and visitor use on the plant community. Negative impacts would be mitigated while long-term effects, including regeneration of the plant in areas where it has been severely impacted, would be recorded.

Alternative B: The Current Course

Protection for vegetation and wildlife would not be as great as a result from implementation of Alternative B because no additional lands adjacent to the river, streams, or tributaries would be added to the boundaries.

No known endangered or threatened species occur on the proposed site for the overlooks near Obed River/Clear Creek Junction. Greater impacts would result from the increased 3.3 miles (5.3 kilometers)

of roads at Obed River/Clear Creek Junction right-of-way, Norris Ford, and Obed Junction. An additional 8 acres (3.2 hectares) of land would be cleared and 4 acres (1.6 hectares) would require a significant amount of grading for these developments. Strict control measures for siltation and sedimentation will be an important part of all construction activities to protect the many species of concern in the river corridors of the Obed WSR.

No development is proposed at Lilly Bluff; however, the existing impacts from use would probably increase and would need to be mitigated through area closure, increased enforcement, or other strategy.

Endangered Species Act of 1973, as amended (16 USC 1531 et seq.), sets up a process to identify and protect endangered and threatened species and their habitats, and requires all Federal agencies to coordinate with the U.S. Fish and Wildlife Service to determine their existence and to evaluate the impacts of a project on any listed species and their habitat.

EFFECTS ON AIR QUALITY

Alternative A: The Proposed Action

No significant impact on air quality would occur as the result of implementation of this alternative and this proposal is consistent with the State Air

Quality Implementation Plan. Increased vehicular emissions at the Visitor Contact Station and within the Development Zone/ Recreational Facility Subzone may be expected due to increased use at these areas; however, this would have a negligible impact on the air quality in the Obed WSR.

Obed WSR is designated as a Class II Clean Air area under the **Clean Air Act**, as amended (42 USC 7401 et seq.). Section 118 of the Clean Air Act requires all Federal facilities to comply with State laws. The Tennessee Department of Environment and Conservation, Office of Pollution Control, is responsible for ensuring that all activities within the Obed WSR comply with existing Federal, State, and local air pollution control laws and regulations.

Alternative B: The Current Course

The same air quality impacts would occur as described above.

EFFECTS ON CULTURAL RESOURCES

Alternative A: The Proposed Action

Implementation of this alternative provides for enhanced protection and appreciation of cultural resources. This would occur as a result of:

--identifying, studying, and monitoring cultural resources;

--most proposed development would occur in previously disturbed areas;

--acquisition of additional lands that are likely to contain cultural resources;

--enhanced interpretive services and the use and continuance of oral history studies to convey local cultural identity to visitors; and

--increased staffing for additional monitoring and enforcement capabilities.

The National Parks Act of August 25, 1916, the Antiquities Act of 1906, National Environmental Policy Act of 1969, and the National Historic Preservation Act of 1966, mandates the preservation and protection of cultural resources. Section 106 of the National Historic Preservation Act, as amended (16 USC 470, et seq.) requires Federal agencies take into account the effect of actions on cultural or archeological resources. Executive Order 11593 "Protection and Enhancement of the Cultural Environment", further directs the Park Service to have all areas that are proposed for development tested and cleared by an archeologist to ensure that such resources are not inadvertently damaged. Potentially significant sites are evaluated in consultation with the State Historic Preservation Officer to determine their eligibility for listing on the National Register of Historic Places.

The development of long distance trails may make some cultural resources more accessible to visitors and potential vandalism. Archeological and resource surveys would be done before construction is to begin to allow for:

--trail relocation if appropriate;

--enhanced interpretation if appropriate; and

--mitigation of potential impacts.

Surveys have been completed at some of the existing bridge crossings where proposed development would occur.

Alternative B: The Current Course

The impacts of implementing this alternative are the same as described for the Proposed Action.

EFFECTS ON PRIME and UNIQUE AGRICULTURAL LANDS

No prime or unique farmlands have been identified within the existing or proposed boundaries of the Obed WSR.

Federal agencies are required to analyze the impacts of Federal actions on prime and unique agricultural lands, in accordance with the Farmland Protection Policy (45 F 59189).

EFFECTS ON VISITOR USE

Alternative A: the Proposed Action

Implementing the proposed action would impact visitor use in three ways:

--use patterns, including the methods and locations of access, would change for some current visitors;

--inappropriate use at some areas would decrease; and

--total use of the Obed WSR would increase.

Change in traditional use patterns would occur for the following:

--visitors who currently use vehicles to access riverside areas between existing bridge crossings. For resource protec-

tion and a quality visitor experience, roads would not be designated within the Wild Zone, and NPS policies and regulations regarding off-road vehicles in these areas would be enforced. (Park Service use of vehicles for emergency or administrative use would be allowed.) Instead, visitors are expected to use other areas where vehicles are allowed to access the river or other means of transportation such as hiking;

--hunters who would have less land base (generally 0.5 mile from 0.24 mile) available for hunting due to the increased safety zones around Recreational Facility Subzones. However, this decrease would be offset by proposed land acquisition which would increase the acres of land available for hunting, and the development of trails which would enhance access throughout the Obed WSR. Increased visitor safety would also result;

--the horseback riders and mountain bicyclers who would not be provided opportunity for these activities. In the future, designated trails for these groups may be developed in appropriate areas and with Park Service assistance; and

--users who may encounter change in order to provide the necessary protection for significant resources. An example might be to eliminate camping on sand or gravel bars to protect habitat for Endangered and Threatened Plants.

The reduction in inappropriate use at some areas would result from enhanced enforcement of off-road vehicle use, marijuana cultivation, and consumption of drugs and alcohol.

An increase in total use is expected due to the enhancement of the visitor experience which would occur as a result of:

- improved water quality;
- enhanced resource management;
- increased quantity and quality of visitor facilities; and
- protection of the landscape character.

Alternative B: The Current Course

The same impacts to visitor use--changes in use patterns, decreased illegal activities, and increased total visitation--would be similar to Alternative A. In addition to these impacts, a developed overlook at the junction of Clear Creek and the Obed River would impact views from the river corridor in an area that is presently undeveloped.

EFFECTS ON ACCESSIBILITY

Alternative A: The Proposed Action

The Obed WSR would be more accessible to visitors with disabilities. The visitor contact station in

Wartburg, the developed overlook at Lilly Bluff, and river access trails at Nemo Bridge would be fully accessible. To a lesser degree, trails at river access sites and the right-of-way leading to Obed River/Clear Creek Junction would be accessible to many visitors, but due to the elevation changes would be more challenging.

Under the mandates of the **Architectural Barriers Act of 1968** (42 USC 4151 et seq.), the **Rehabilitation Act of 1973** (29 USC 701 et seq.), and the **Americans with Disabilities Act of 1990** (Public Law 101-336, 104 Stat. 327), facilities, services, and programs would be as accessible to disabled visitors as feasible. Per NPS management policies, the degree of accessibility of any area would be proportionate to the extent it has been developed and its visitation levels allowing for resources to be protected and a high quality visitor experience to be maintained.

Alternative B: The Current Course

Enhanced accessibility would also occur from implementation of Alternative B.

EFFECTS ON SOCIOECONOMY

Alternative A: the Proposed Action

Increased tourism and a possible reduction of county tax income would be the primary impacts on the socioeconomy of the surrounding three county area.

Increased tourism would occur as a result of several factors:

- several resource management and visitor use strategies are proposed that would help distinguish the uniqueness of the area; any action that helps to distinguish the unique values of the Obed WSR would enhance its ability to attract visitors;
- maintaining high water quality will continue to draw visitors who use the waters in the Obed WSR to swim, fish, or boat in; and
- all visitor related programs and facilities proposed would enhance opportunities available and increase visitation as evidenced by recently implemented developments at Nemo and Jett Bridges.

Since implementation of this alternative would lead to increased visitation, it is likely that some private lands in the surrounding area would be developed to provide additional facilities and services to visitors. This type of development would affect land use patterns outside the Obed WSR boundaries.

Implementation of this alternative would have no significant additional impact on Federal or federally-assisted projects that may affect the Obed WSR because of the protection afforded by the Wild and Scenic Rivers Act.

While the Wild and Scenic Rivers Act and NEPA provide for full consideration and protection of the values of Obed WSR from

effects of Federal or federally-assisted projects, it is expected the educational aspect of this alternative would influence land uses by private individuals and others. Hopefully, this would result in greater protection for the Obed WSR.

If any of the boundary adjustments proposed resulted in the acquisition of fee title by the NPS, a loss in tax revenues would result. These revenues would be replaced in part through payments in lieu of taxes. Since many of these lands would be purchased as less-than-fee (easements), taxes would continue to be paid on these lands however, at a reduced rate which would affect county income. At this time, it is not possible to estimate an impact on county revenues.

An increase in staff would lead to an increase in spending in the area through additional purchases of supplies, food, housing, and utilities.

Alternative B: the Current Course

The same impacts as listed above would result from implementing Alternative B. Fewer acres of boundary adjustments are proposed. It is not possible to identify the effect of acquisition of these lands on county income since a determination has not been made as to the method of acquisition (fee or less-than-fee).

EFFECTS ON CATOOSA WILDLIFE MANAGEMENT AREA

Alternative A: The Proposed Action

No significant impact would occur on the Catoosa WMA from implementation of this Alternative. Designation of 6 additional river miles of the Obed WSR, currently owned by TWRA, and application of the management zone system would not affect current use patterns. TWRA would need to devote a minimal amount of space in their Crossville office to display and store informational materials on the Obed WSR.

Alternative B: The Current Course

No significant impacts would occur from implementation of this alternative. The existing MOU currently addresses provisions for the proposed 32.5 miles (52.2 kilometers) of trails to occur on Catoosa WMA lands.

CUMULATIVE IMPACTS

No specific cumulative impacts have been identified resulting from implementation of either of the alternatives. Generally, recognition of the Obed WSR's presence and, therefore, the need to protect its values and visitor experience, is expected to increase over time.

Summary of Environmental Consequences

Resource Topics	Alternative A: The Proposed Action	Alternative B: The Current Course
Effects on Water Resources	Documents the existing quality of waters. Reduces water resource impacts over the long-term. Short-term sedimentation impacts due to facility construction.	Water resource impacts would not be reduced as much as in Alternative A. All other consequences are the same.
Effects on Floodplains and Wetlands	No adverse impacts to floodplains. Enhanced protection for wetlands.	Wetland protection would not be as enhanced as in Alternative A.
Effects on Vegetation and Wildlife	Increased protection for vegetation and wildlife. Impacts expected from facility development to include loss of some vegetation and displacement of small wildlife species.	Vegetation and wildlife protection would not increase as much as in Alternative A. Greater amounts of vegetation lost and wildlife species displaced because of additional roads and different location of developed overlook.
Effects on Air Quality	No significant positive or negative impacts.	No significant positive or negative impacts.
Effects on Cultural Resources	Enhanced protection and appreciation for cultural resources.	Enhanced protection and appreciation for cultural resources.
Effects on Prime and Unique Agricultural Lands	No such lands have been identified.	No such lands have been identified.
Effects on Visitor Use	Use patterns would change for some current visitors. Illegal activities would decrease. Total use would increase.	Use patterns would change for some current visitors. Illegal activities would decrease. Total use would increase.
Effects on Accessibility	Enhanced accessibility for visitors with disabilities.	Developed Overlook would be accessible to visitors with disabilities.
Effects on Socioeconomics	Tourism would increase. County tax income may be reduced if boundary adjustments are acquired in fee.	Same as Alternative A except that fewer acres of boundary adjustments are involved.
Effects On Catoosa WMA	No significant impacts.	No significant impacts.
Cumulative Impacts	Increased recognition over time for Obed WSR and need to protect its values and visitor experience.	Increased recognition over time for Obed WSR and need to protect its values and visitor experience.



Lists and Appendixes

PREPARERS AND CONTRIBUTORS

PLANNING TEAM

Bill Anderson, Landscape Architect, SERO
 Steve Bakaletz, Natural Resource Specialist, Big South Fork NRRRA
 Tom DesJean, Archeologist, Big South Fork NRRRA
 William K. Dickinson, Superintendent, Big South Fork NRRRA
 Frank Doughman, Chief of Interpretation, Obed WSR
 Robert Emmott, Biologist, Big South Fork NRRRA
 John Fischer, Park Planner and Co-Team Captain, SERO
 Don Forester, Land Planner, Little River National Preserve,
 (former Unit Manager Obed WSR)
 Chris Furqueron, Landscape Architect, SERO
 Joe Kelley, Unit Manager, Obed WSR
 John Quillen, Associate Regional Director, TWRA
 Charles Scroggins, Facility Manager, Obed WSR
 Steve Seven, Chief of Interpretation, Big South Fork NRRRA
 Patricia S. Trap, Landscape Architect and Team Captain, SERO
 Robert Turan, Chief Ranger, Obed WSR

CONTRIBUTORS

During the planning process, contributions were made by the following individuals. These individuals, who represented various agencies, organizations, or themselves, were called upon to guide development of alternatives, discuss issues, review draft documents, comment on proposals, and provide professional information and guidance.

Bill Allen, Tennessee Citizens for Wilderness Planning
 Bob Allen, Tennessee Department of Environment and Conservation
 D. Kelly Amonett, Extension Agent, Morgan County Resource Development Council
 Don Barger, Regional Director, National Parks and Conservation Association
 Verle Barnes, Representative, Roane State Community College
 Ron Cornelius, Chief of Resource Management, Big South Fork NRRRA
 Maureen Cunningham, Ecologist
 Greg Denton, Tennessee Department of Environment and Conservation
 Dale Durham, Regional Curator, SERO
 Chuck Estes, East Tennessee Whitewater Club
 Dawson H. Howard, Citizen, Morgan County
 Larry H. Hultquist, Landscape Architect, SERO
 Charles M. Kittrell, Morgan Co. Resource Development Council
 Stonney R. Lane, County Executive, Morgan County
 J.W. Luna, Commissioner, Tennessee Department of Environment and Conservation
 Walter Mayer, Fort Donelson National Battlefield
 Fred Kelly, Chief of Maintenance, Big South Fork NRRRA

Brant Miller, Tennessee Division of Forestry
Patricia B. Miller, Volunteer, Obed WSR
Bill Murray, Roane State Community College
Chris O'Bara, Tennessee Technical University
Barbara Olmstead, Secretary, Obed WSR
Laurie S. Pearl, Recreation Planner, Tennessee Valley Authority
Steve Price, Environmental Specialist, SERO
Wesley Pemberton, former Park Ranger, Obed WSR
Allen Risk, University of Tennessee, Botanist
Jim Rule, Representative, Morgan County
Dr. Bill Russell, Tennessee Citizens for Wilderness Planning
Dr. Liane B. Russell, Tennessee Citizens for Wilderness Planning
Dave Sharrow, Hydrologist, Water Resources Division, Washington Office, NPS
Donald Todd, Historian, Morgan County
Martha Wallus, Administrative Assistant for Congresswoman Marilyn Lloyd
Bob Wheeley, Cumberland Rapid Transit
Jim Wiggins, Assistant Superintendent, Big South Fork NRRRA
Ron Wilson, Management Assistant, Big South Fork NRRRA

SCOPING PROCESS

The Park Service announced its intention to prepare a General Management Plan and Development Concept Plan for the Obed WSR on October 21, 1992. A "Notice of Intent" indicating that the NPS would prepare an Environmental Impact Statement for the plan and to begin scoping for that process was published in the Federal Register on Friday, October 30, 1992.

Public workshops and an "open house" were conducted during the scoping and planning process. Their purpose was to identify all issues, alternatives, and impact topics that should be considered in planning and to keep the public informed throughout plan formulation.

The first discussions with public involvement were held at a Management Objectives Workshop in Wartburg, Tennessee, on May 27 and 28, 1992. A nominal group process was used to develop the management objectives. These objectives are a series of clear statements which will guide the management of the Obed WSR as well as this GMP. The process involved reviewing the legislation, developing a statement of purpose, developing statements of significance, listing issues currently affecting the area, and the drafting of management objectives based on the aforementioned factors.

A second workshop was held in Wartburg during September of 1992. This workshop used the results of the Management Objective Workshop to guide development of preliminary alternatives. Results from this Alternatives Development Workshop were used by the planning team to provide direction and serve as the foundation for the alternatives contained in this document.

An "Open House" was held on Tuesday, October 27th, 1992, from 4:00 to 8:00 p.m. at the Obed Administration and Visitor

Contact Center in Wartburg, Tennessee. The purpose of this open house was to make as many people as possible aware of this planning effort and give them a chance to become a part of the effort. Attendees were asked to discuss their ideas and concerns about issues and to submit written questions or comments regarding their view of how the Obed Wild and Scenic River should be managed and developed.

Throughout the planning process, members of the planning team have been in contact with local, State, and Federal government agencies, special interest groups, interested persons, and other members of the public to gather information. The following agencies and organizations were contacted in addition to those previously listed.

Federal Agencies

U.S. Environmental Protection Agency
Region IV, Water Management Division: Water Quality Standards Section,
Morris Flexnor

Tennessee Valley Authority

U. S. Department of the Interior:

Fish and Wildlife Service:

Cookeville Field Office - Jim Widlak

Asheville Field Office - Dick Biggins

National Park Service, Denver Service Center:

Mining and Minerals Branch

Water Resources Division

U.S. Department of Agriculture, Soil Conservation Service:

Resource & Conservation District
Coordinator

Cumberland County Extension Agent

Fentress County Extension Agent

Morgan County Extension Agent

State Agencies

Tennessee Department of Environment and Conservation:

Division of Water Pollution Enforcement, Manager, Sim Crownover:
Storm Water Runoff
Non-point Source Discharge
Industrial Discharge

Office of Surface Mines:

Oil Reclamation and Permitting
Mining related water pollution,
Don Owen

Resource Alteration Program

State Heritage Program, Andrea Shea

State Naturalist, Mack Pritchard

Tennessee Wildlife Resources Agency

Local Agencies and Organizations

Emory River Watershed Development Association

**LIST OF AGENCIES,
ORGANIZATIONS, AND
INDIVIDUALS TO WHOM COPIES
OF THE DRAFT
ENVIRONMENTAL IMPACT
STATEMENT ARE BEING SENT**

Federal Agencies

Advisory Council on Historic Preservation
Department of Agriculture
 Forest Service
 Soil Conservation Service
Department of Defense
 Army Corp of Engineers
Department of the Interior
 Bureau of Indian Affairs
 Fish and Wildlife Service
 Geological Survey
 Minerals Management Division
Environmental Protection Agency
Tennessee Valley Authority

State Agencies and Officials

Office of the Governor
Representative Marilyn Lloyd
Roane State Community College
 Department of Environmental
 Studies
 Library
Tennessee Department of Environment
 and Conservation - Others
 Division of Forestry
 Division of Water Pollution
Tennessee Emergency Management
 Agency
Tennessee Technical University
 Water Center
 Library
Tennessee Wildlife Resources Agency

County and Local Governments

Cumberland County
 Chamber of Commerce
 Commission
 Manager
 Planning Commission
 Public Library
East Tennessee Development Association
Emory River Watershed Development
 Association
Fentress County
 Commission
 Public Library
Morgan County
 Historian
 Public Library
 Public Schools
 Resource Development Council
Upper Cumberland Development Associa-
 tion

Organizations

American Rivers, Inc.
East Tennessee Whitewater Club
National Parks & Conservation Association
Tennessee Citizens for Wilderness Plan-
 ning
Tennessee Conservation League
Tennessee Scenic Rivers Association

APPENDIX A: Legislation



Public Law 90-542
90th Congress, S. 119
October 2, 1968

An Act

To provide for a National Wild and Scenic Rivers System, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That (a) this Act may be cited as the "Wild and Scenic Rivers Act".

Wild and Scenic
Rivers Act.

(b) 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.

(c) The purpose of this Act is to implement this policy by instituting a national wild and scenic rivers system, by designating the initial components of that system, and by prescribing the methods by which and standards according to which additional components may be added to the system from time to time.

Sec. 2. (a) The national wild and scenic rivers system shall comprise rivers (i) that are authorized for inclusion therein by Act of Congress, or (ii) that are designated as wild, scenic or recreational rivers by or pursuant to an act of the legislature of the State or States through which they flow, that are to be permanently administered as wild, scenic or recreational rivers by an agency or political subdivision of the State or States concerned without expense to the United States, that are found by the Secretary of the Interior, upon application of the Governor of the State or the Governors of the States concerned, or a person or persons thereunto duly appointed by him or them, to meet the criteria established in this Act and such criteria supplementary thereto as he may prescribe, and that are approved by him for inclusion in the system, including, upon application of the Governor of the State concerned, the Allagash Wilderness Waterway, Maine, and that segment of the Wolf River, Wisconsin, which flows through Langlade County.

National wild
and scenic
rivers system.

82 STAT. 906
82 STAT. 907

(b) A wild, scenic or recreational river area eligible to be included in the system is a free-flowing stream and the related adjacent land area that possesses one or more of the values referred to in section 1, subsection (b) of this Act. Every wild, scenic or recreational river in its free-flowing condition, or upon restoration to this condition, shall be considered eligible for inclusion in the national wild and scenic rivers system and, if included, shall be classified, designated, and administered as one of the following:

Eligibility
for inclusion.

(1) Wild river areas—Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.

(2) Scenic river areas—Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.

(3) Recreational river areas—Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some

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development along their shorelines, and that may have undergone some impoundment or diversion in the past.

SEC. 3 (a) The following rivers and the land adjacent thereto are hereby designated as components of the national wild and scenic rivers system:

(1) CLEARWATER, MIDDLE FORK, IDAHO.—The Middle Fork from the town of Kooskia upstream to the town of Lowell; the Lochsa River from its junction with the Selway at Lowell forming the Middle Fork, upstream to the Powell Ranger Station; and the Selway River from Lowell upstream to its origin; to be administered by the Secretary of Agriculture.

(2) ELEVEN POINT, MISSOURI.—The segment of the river extending downstream from Thomasville to State Highway 142; to be administered by the Secretary of Agriculture.

(3) FEATHER, CALIFORNIA.—The entire Middle Fork; to be administered by the Secretary of Agriculture.

(4) RIO GRANDE, NEW MEXICO.—The segment extending from the Colorado State line downstream to the State Highway 96 crossing, and the lower four miles of the Red River; to be administered by the Secretary of the Interior.

(5) ROGUE, OREGON.—The segment of the river extending from the mouth of the Applegate River downstream to the Lobster Creek Bridge; to be administered by agencies of the Departments of the Interior or Agriculture as agreed upon by the Secretaries of said Departments or as directed by the President.

(6) SAINT CROIX, MINNESOTA AND WISCONSIN.—The segment between the dam near Taylors Falls, Minnesota, and the dam near Gordon, Wisconsin, and its tributary, the Namekagon, from Lake Namekagon downstream to its confluence with the Saint Croix; to be administered by the Secretary of the Interior: *Provided*, That except as may be required in connection with items (a) and (b) of this paragraph, no funds available to carry out the provisions of this Act may be expended for the acquisition or development of lands in connection with, or for administration under this Act of, that portion of the Saint Croix River between the dam near Taylors Falls, Minnesota, and the upstream end of Big Island in Wisconsin, until sixty days after the date on which the Secretary has transmitted to the President of the Senate and Speaker of the House of Representatives a proposed cooperative agreement between the Northern States Power Company and the United States (a) whereby the company agrees to convey to the United States, without charge, appropriate interests in certain of its lands between the dam near Taylors Falls, Minnesota, and the upstream end of Big Island in Wisconsin, including the company's right, title, and interest to approximately one hundred acres per mile, and (b) providing for the use and development of other lands and interests in land retained by the company between said points adjacent to the river in a manner which shall complement and not be inconsistent with the purposes for which the lands and interests in land donated by the company are administered under this Act. Said agreement may also include provision for State or local governmental participation as authorized under subsection (c) of section 10 of this Act.

(7) SALMON, MIDDLE FORK, IDAHO.—From its origin to its confluence with the main Salmon River; to be administered by the Secretary of Agriculture.

(8) WOLF, WISCONSIN.—From the Langlade-Menoninee County line downstream to Keshena Falls; to be administered by the Secretary of the Interior.

(b) The agency charged with the administration of each component of the national wild and scenic rivers system designated by subsection

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(a) of this section shall, within one year from the date of this Act, establish detailed boundaries therefor (which boundaries shall include an average of not more than three hundred and twenty acres per mile on both sides of the river); determine which of the classes outlined in section 2, subsection (b), of this Act best fit the river or its various segments; and prepare a plan for necessary developments in connection with its administration in accordance with such classification. Said boundaries, classification, and development plans shall be published in the Federal Register and shall not become effective until ninety days after they have been forwarded to the President of the Senate and the Speaker of the House of Representatives.

Publication in
Federal Register.

82 STAT. 909

82 STAT. 909

SEC. 4. (a) The Secretary of the Interior or, where national forest lands are involved, the Secretary of Agriculture or, in appropriate cases, the two Secretaries jointly shall study and from time to time submit to the President and the Congress proposals for the addition to the national wild and scenic rivers system of rivers which are designated herein or hereafter by the Congress as potential additions to such system; which, in his or their judgment, fall within one or more of the classes set out in section 2, subsection (b), of this Act; and which are proposed to be administered, wholly or partially, by an agency of the United States. Every such study and plan shall be coordinated with any water resources planning involving the same river which is being conducted pursuant to the Water Resources Planning Act (79 Stat. 244; 42 U.S.C. 1962 et seq.).

Each proposal shall be accompanied by a report, including maps and illustrations, showing among other things the area included within the proposal; the characteristics which make the area a worthy addition to the system; the current status of landownership and use in the area; the reasonably foreseeable potential uses of the land and water which would be enhanced, foreclosed, or curtailed if the area were included in the national wild and scenic rivers system; the Federal agency (which in the case of a river which is wholly or substantially within a national forest, shall be the Department of Agriculture) by which it is proposed the area be administered; the extent to which it is proposed that administration, including the costs thereof, be shared by State and local agencies; and the estimated cost to the United States of acquiring necessary lands and interests in land and of administering the area as a component of the system. Each such report shall be printed as a Senate or House document.

Report, maps,
etc.

Printing as
Senate or
House document.

(b) Before submitting any such report to the President and the Congress, copies of the proposed report shall, unless it was prepared jointly by the Secretary of the Interior and the Secretary of Agriculture, be submitted by the Secretary of the Interior to the Secretary of Agriculture or by the Secretary of Agriculture to the Secretary of the Interior, as the case may be, and to the Secretary of the Army, the Chairman of the Federal Power Commission, the head of any other affected Federal department or agency and, unless the lands proposed to be included in the area are already owned by the United States or have already been authorized for acquisition by Act of Congress, the Governor of the State or States in which they are located or an officer designated by the Governor to receive the same. Any recommendations or comments on the proposal which the said officials furnish the Secretary or Secretaries who prepared the report within ninety days of the date on which the report is submitted to them, together with the Secretary's or Secretaries' comments thereon, shall be included with the transmittal to the President and the Congress. No river or portion of any river shall be added to the national wild and scenic rivers system subsequent to enactment of this Act until the close of the next full session of the State legislature, or legislatures in case more than one

27 STAT. 910

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Publication in
Federal Register.

Potential
additions.
Designation.

State is involved, which begins following the submission of any recommendation to the President with respect to such addition as herein provided.

(c) Before approving or disapproving for inclusion in the national wild and scenic rivers system any river designated as a wild, scenic or recreational river by or pursuant to an act of a State legislature, the Secretary of the Interior shall submit the proposal to the Secretary of Agriculture, the Secretary of the Army, the Chairman of the Federal Power Commission, and the head of any other affected Federal department or agency and shall evaluate and give due weight to any recommendations or comments which the said officials furnish him within ninety days of the date on which it is submitted to them. If he approves the proposed inclusion, he shall publish notice thereof in the Federal Register.

Sec. 5. (a) The following rivers are hereby designated for potential addition to the national wild and scenic rivers system:

- (1) Allegheny, Pennsylvania: The segment from its mouth to the town of East Brady, Pennsylvania.
- (2) Bruneau, Idaho: The entire main stem.
- (3) Buffalo, Tennessee: The entire river.
- (4) Chattooga, North Carolina, South Carolina, and Georgia: The entire river.
- (5) Clarion, Pennsylvania: The segment between Ridgway and its confluence with the Allegheny River.
- (6) Delaware, Pennsylvania and New York: The segment from Hancock, New York, to Matamoras, Pennsylvania.
- (7) Flathead, Montana: The North Fork from the Canadian border downstream to its confluence with the Middle Fork; the Middle Fork from its headwaters to its confluence with the South Fork; and the South Fork from its origin to Hungry Horse Reservoir.
- (8) Gasconade, Missouri: The entire river.
- (9) Illinois, Oregon: The entire river.
- (10) Little Beaver, Ohio: The segment of the North and Middle Forks of the Little Beaver River in Columbiana County from a point in the vicinity of Negly and Elkton, Ohio, downstream to a point in the vicinity of East Liverpool, Ohio.
- (11) Little Miami, Ohio: That segment of the main stem of the river, exclusive of its tributaries, from a point at the Warren-Clermont County line at Loveland, Ohio, upstream to the sources of Little Miami including North Fork.
- (12) Maumee, Ohio and Indiana: The main stem from Perrysburg, Ohio, to Fort Wayne, Indiana, exclusive of its tributaries in Ohio and inclusive of its tributaries in Indiana.
- (13) Missouri, Montana: The segment between Fort Benton and Ryan Island.
- (14) Moyie, Idaho: The segment from the Canadian border to its confluence with the Kootenai River.
- (15) Obed, Tennessee: The entire river and its tributaries, Clear Creek and Daddys Creek.
- (16) Penobscot, Maine: Its east and west branches.
- (17) Pere Marquette, Michigan: The entire river.
- (18) Pine Creek, Pennsylvania: The segment from Ansonia to Waterville.
- (19) Priest, Idaho: The entire main stem.
- (20) Rio Grande, Texas: The portion of the river between the west boundary of Hudspeth County and the east boundary of Terrell County on the United States side of the river: *Provided*, That before undertaking any study of this potential scenic river, the Secretary of the Interior shall determine, through the channels of appropriate

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82 STAT. 911

executive agencies, that Mexico has no objection to its being included among the studies authorized by this Act.

(21) Saint Croix, Minnesota and Wisconsin: The segment between the dam near Taylors Falls and its confluence with the Mississippi River.

(22) Saint Joe, Idaho: The entire main stem.

(23) Salmon, Idaho: The segment from the town of North Fork to its confluence with the Snake River.

(24) Skagit, Washington: The segment from the town of Mount Vernon to and including the mouth of Bacon Creek: the Cascade River between its mouth and the junction of its North and South Forks: the South Fork to the boundary of the Glacier Peak Wilderness Area: the Suiattle River from its mouth to the Glacier Peak Wilderness Area boundary at Milk Creek: the Sauk River from its mouth to its junction with Elliott Creek: the North Fork of the Sauk River from its junction with the South Fork of the Sauk to the Glacier Peak Wilderness Area boundary.

(25) Suwannee, Georgia and Florida: The entire river from its source in the Okefenokee Swamp in Georgia to the gulf and the outlying Ichetucknee Springs, Florida.

(26) Upper Iowa, Iowa: The entire river.

(27) Youghiogheny, Maryland and Pennsylvania: The segment from Oakland, Maryland, to the Youghiogheny Reservoir, and from the Youghiogheny Dam downstream to the town of Connellsville, Pennsylvania.

(b) The Secretary of the Interior and, where national forest lands are involved, the Secretary of Agriculture shall proceed as expeditiously as possible to study each of the rivers named in subsection (a) of this section in order to determine whether it should be included in the national wild and scenic rivers system. Such studies shall be completed and reports made thereon to the President and the Congress, as provided in section 4 of this Act, within ten years from the date of this Act: *Provided, however*, That with respect to the Suwannee River, Georgia and Florida, and the Upper Iowa River, Iowa, such study shall be completed and reports made thereon to the President and the Congress, as provided in section 4 of this Act, within two years from the date of enactment of this Act. In conducting these studies the Secretary of the Interior and the Secretary of Agriculture shall give priority to those rivers with respect to which there is the greatest likelihood of developments which, if undertaken, would render them unsuitable for inclusion in the national wild and scenic rivers system.

(c) The study of any of said rivers shall be pursued in as close cooperation with appropriate agencies of the affected State and its political subdivisions as possible, shall be carried on jointly with such agencies if request for such joint study is made by the State, and shall include a determination of the degree to which the State or its political subdivisions might participate in the preservation and administration of the river should it be proposed for inclusion in the national wild and scenic rivers system.

(d) In all planning for the use and development of water and related land resources, consideration shall be given by all Federal agencies involved to potential national wild, scenic and recreational river areas, and all river basin and project plan reports submitted to the Congress shall consider and discuss any such potentials. The Secretary of the Interior and the Secretary of Agriculture shall make specific studies and investigations to determine which additional wild, scenic and recreational river areas within the United States shall be evaluated in planning reports by all Federal agencies as potential alternative uses of the water and related land resources involved.

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Land acquisition. SEC. 6. (a) The Secretary of the Interior and the Secretary of Agriculture are each authorized to acquire lands and interests in land within the authorized boundaries of any component of the national wild and scenic rivers system designated in section 3 of this Act, or hereafter designated for inclusion in the system by Act of Congress, which is administered by him, but he shall not acquire fee title to an average of more than 100 acres per mile on both sides of the river. Lands owned by a State may be acquired only by donation, and lands owned by an Indian tribe or a political subdivision of a State may not be acquired without the consent of the appropriate governing body thereof as long as the Indian tribe or political subdivision is following a plan for management and protection of the lands which the Secretary finds protects the land and assures its use for purposes consistent with this Act. Money appropriated for Federal purposes from the land and water conservation fund shall, without prejudice to the use of appropriations from other sources, be available to Federal departments and agencies for the acquisition of property for the purposes of this Act.

(b) If 50 per centum or more of the entire acreage within a federally administered wild, scenic or recreational river area is owned by the United States, by the State or States within which it lies, or by political subdivisions of those States, neither Secretary shall acquire fee title to any lands by condemnation under authority of this Act. Nothing contained in this section, however, shall preclude the use of condemnation when necessary to clear title or to acquire scenic easements or such other easements as are reasonably necessary to give the public access to the river and to permit its members to traverse the length of the area or of selected segments thereof.

(c) Neither the Secretary of the Interior nor the Secretary of Agriculture may acquire lands by condemnation, for the purpose of including such lands in any national wild, scenic or recreational river area, if such lands are located within any incorporated city, village, or borough which has in force and applicable to such lands a duly adopted, valid zoning ordinance that conforms with the purposes of this Act. In order to carry out the provisions of this subsection the appropriate Secretary shall issue guidelines, specifying standards for local zoning ordinances, which are consistent with the purposes of this Act. The standards specified in such guidelines shall have the object of (A) prohibiting new commercial or industrial uses other than commercial or industrial uses which are consistent with the purposes of this Act, and (B) the protection of the bank lands by means of acreage, frontage, and setback requirements on development.

(d) The appropriate Secretary is authorized to accept title to non-Federal property within the authorized boundaries of any federally administered component of the national wild and scenic rivers system designated in section 3 of this Act or hereafter designated for inclusion in the system by Act of Congress and, in exchange therefor, convey to the grantor any federally owned property which is under his jurisdiction within the State in which the component lies and which he classifies as suitable for exchange or other disposal. The values of the properties so exchanged either shall be approximately equal or, if they are not approximately equal, shall be equalized by the payment of cash to the grantor or to the Secretary as the circumstances require.

(e) The head of any Federal department or agency having administrative jurisdiction over any lands or interests in land within the authorized boundaries of any federally administered component of the national wild and scenic rivers system designated in section 3 of this Act or hereafter designated for inclusion in the system by Act of Congress is authorized to transfer to the appropriate secretary jurisdiction

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tion over such lands for administration in accordance with the provisions of this Act. Lands acquired by or transferred to the Secretary of Agriculture for the purposes of this Act within or adjacent to a national forest shall upon such acquisition or transfer become national forest lands.

(f) The appropriate Secretary is authorized to accept donations of lands and interests in land, funds, and other property for use in connection with his administration of the national wild and scenic rivers system.

(g) (1) Any owner or owners (hereinafter in this subsection referred to as "owner") of improved property on the date of its acquisition, may retain for themselves and their successors or assigns a right of use and occupancy of the improved property for noncommercial residential purposes for a definite term not to exceed twenty-five years or, in lieu thereof, for a term ending at the death of the owner, or the death of his spouse, or the death of either or both of them. The owner shall elect the term to be reserved. The appropriate Secretary shall pay to the owner the fair market value of the property on the date of such acquisition less the fair market value on such date of the right retained by the owner.

(2) A right of use and occupancy retained pursuant to this subsection shall be subject to termination whenever the appropriate Secretary is given reasonable cause to find that such use and occupancy is being exercised in a manner which conflicts with the purposes of this Act. In the event of such a finding, the Secretary shall tender to the holder of that right an amount equal to the fair market value of that portion of the right which remains unexpired on the date of termination. Such right of use or occupancy shall terminate by operation of law upon tender of the fair market price.

(2) The term "improved property", as used in this Act, means a detached, one-family dwelling (hereinafter referred to as "dwelling"), the construction of which was begun before January 1, 1967, together with so much of the land on which the dwelling is situated, the said land being in the same ownership as the dwelling, as the appropriate Secretary designate to be reasonably necessary for the enjoyment of the dwelling for the sole purpose of noncommercial residential use, together with any structures accessory to the dwelling which are situated on the land so designated.

SEC. 7. (a) The Federal Power Commission shall not license the construction of any dam, water conduit, reservoir, powerhouse, transmission line, or other project works under the Federal Power Act (41 Stat. 1063), as amended (16 U.S.C. 791a et seq.), on or directly affecting any river which is designated in section 3 of this Act as a component of the national wild and scenic rivers system or which is hereafter designated for inclusion in that system, and no department or agency of the United States shall assist by loan, grant, license, or otherwise in the construction of any water resources project that would have a direct and adverse effect on the values for which such river was established, as determined by the Secretary charged with its administration. Nothing contained in the foregoing sentence, however, shall preclude licensing of, or assistance to, developments below or above a wild, scenic or recreational river area or on any stream tributary thereto which will not invade the area or unreasonably diminish the scenic, recreational, and fish and wildlife values present in the area on the date of approval of this Act. No department or agency of the United States shall recommend authorization of any water resources project that would have a direct and adverse effect on the values for which such river was established, as determined by the Secretary charged with its administration, or request appropriations to begin

Right of use
and occupancy.

"Improved
property."

Water resources
projects.
Restrictions.

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82 STAT. 914

49 Stat. 863.
16 USC 791a.

Publication
in Federal
Register.

construction of any such project, whether heretofore or hereafter authorized, without advising the Secretary of the Interior or the Secretary of Agriculture, as the case may be, in writing of its intention so to do at least sixty days in advance, and without specifically reporting to the Congress in writing at the time it makes its recommendation or request in what respect construction of such project would be in conflict with the purposes of this Act and would affect the component and the values to be protected by it under this Act.

(b) The Federal Power Commission shall not license the construction of any dam, water conduit, reservoir, powerhouse, transmission line, or other project works under the Federal Power Act, as amended, on or directly affecting any river which is listed in section 5, subsection (a), of this Act, and no department or agency of the United States shall assist by loan, grant, license, or otherwise in the construction of any water resources project that would have a direct and adverse effect on the values for which such river might be designated, as determined by the Secretary responsible for its study or approval—

(i) during the five-year period following enactment of this Act unless, prior to the expiration of said period, the Secretary of the Interior and, where national forest lands are involved, the Secretary of Agriculture, on the basis of study, conclude that such river should not be included in the national wild and scenic rivers system and publish notice to that effect in the Federal Register, and

(ii) during such additional period thereafter as, in the case of any river which is recommended to the President and the Congress for inclusion in the national wild and scenic rivers system, is necessary for congressional consideration thereof or, in the case of any river recommended to the Secretary of the Interior for inclusion in the national wild and scenic rivers system under section 2(a)(ii) of this Act, is necessary for the Secretary's consideration thereof, which additional period, however, shall not exceed three years in the first case and one year in the second.

Nothing contained in the foregoing sentence, however, shall preclude licensing of, or assistance to, developments below or above a potential wild, scenic or recreational river area or on any stream tributary thereto which will not invade the area or diminish the scenic, recreational, and fish and wildlife values present in the potential wild, scenic or recreational river area on the date of approval of this Act. No department or agency of the United States shall, during the periods hereinbefore specified, recommend authorization of any water resources project on any such river or request appropriations to begin construction of any such project, whether heretofore or hereafter authorized, without advising the Secretary of the Interior and, where national forest lands are involved, the Secretary of Agriculture in writing of its intention so to do at least sixty days in advance of doing so and without specifically reporting to the Congress in writing at the time it makes its recommendation or request in what respect construction of such project would be in conflict with the purposes of this Act and would affect the component and the values to be protected by it under this Act.

(c) The Federal Power Commission and all other Federal agencies shall, promptly upon enactment of this Act, inform the Secretary of the Interior and, where national forest lands are involved, the Secretary of Agriculture, of any proceedings, studies, or other activities within their jurisdiction which are now in progress and which affect or may affect any of the rivers specified in section 5, subsection (a), of this Act. They shall likewise inform him of any such proceedings, studies, or other activities which are hereafter commenced or resumed before they are commenced or resumed.

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82 STAT. 915

(d) Nothing in this section with respect to the making of a loan or grant shall apply to grants made under the Land and Water Conservation Fund Act of 1965 (78 Stat. 897; 16 U.S.C. 4601-5 et seq.).

Sec. 8. (a) All public lands within the authorized boundaries of any component of the national wild and scenic rivers system which is designated in section 3 of this Act or which is hereafter designated for inclusion in that system are hereby withdrawn from entry, sale, or other disposition under the public land laws of the United States.

(b) All public lands which constitute the bed or bank, or are within one-quarter mile of the bank, of any river which is listed in section 5, subsection (a), of this Act are hereby withdrawn from entry, sale, or other disposition under the public land laws of the United States for the periods specified in section 7, subsection (b), of this Act.

Sec. 9. (a) Nothing in this Act shall affect the applicability of the United States mining and mineral leasing laws within components of the national wild and scenic rivers system except that—

Mining and
mineral leas-
ing laws.

(i) all prospecting, mining operations, and other activities on mining claims which, in the case of a component of the system designated in section 3 of this Act, have not heretofore been perfected or which, in the case of a component hereafter designated pursuant to this Act or any other Act of Congress, are not perfected before its inclusion in the system and all mining operations and other activities under a mineral lease, license, or permit issued or renewed after inclusion of a component in the system shall be subject to such regulations as the Secretary of the Interior or, in the case of national forest lands, the Secretary of Agriculture may prescribe to effectuate the purposes of this Act:

(ii) subject to valid existing rights, the perfection of, or issuance of a patent to, any mining claim affecting lands within the system shall confer or convey a right or title only to the mineral deposits and such rights only to the use of the surface and the surface resources as are reasonably required to carrying on prospecting or mining operations and are consistent with such regulations as may be prescribed by the Secretary of the Interior or, in the case of national forest lands, by the Secretary of Agriculture; and

(iii) subject to valid existing rights, the minerals in Federal lands which are part of the system and constitute the bed or bank or are situated within one-quarter mile of the bank of any river designated a wild river under this Act or any subsequent Act are hereby withdrawn from all forms of appropriation under the mining laws and from operation of the mineral leasing laws including, in both cases, amendments thereto.

Regulations issued pursuant to paragraphs (i) and (ii) of this subsection shall, among other things, provide safeguards against pollution of the river involved and unnecessary impairment of the scenery within the component in question.

(b) The minerals in any Federal lands which constitute the bed or bank or are situated within one-quarter mile of the bank of any river which is listed in section 5, subsection (a) of this Act are hereby withdrawn from all forms of appropriation under the mining laws during the periods specified in section 7, subsection (b) of this Act. Nothing contained in this subsection shall be construed to forbid prospecting or the issuance or leases, licenses, and permits under the mineral leasing laws subject to such conditions as the Secretary of the Interior and, in the case of national forest lands, the Secretary of Agriculture find appropriate to safeguard the area in the event it is subsequently included in the system.

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Administration.

SEC. 10. (a) Each component of the national wild and scenic rivers system shall be administered in such manner as to protect and enhance the values which caused it to be included in said system without, insofar as is consistent therewith, limiting other uses that do not substantially interfere with public use and enjoyment of these values. In such administration primary emphasis shall be given to protecting its esthetic, scenic, historic, archeologic, and scientific features. Management plans for any such component may establish varying degrees of intensity for its protection and development, based on the special attributes of the area.

16 USC 1131
note.

(b) Any portion of a component of the national wild and scenic rivers system that is within the national wilderness preservation system, as established by or pursuant to the Act of September 3, 1964 (78 Stat. 890; 16 U.S.C., ch. 23), shall be subject to the provisions of both the Wilderness Act and this Act with respect to preservation of such river and its immediate environment, and in case of conflict between the provisions of these Acts the more restrictive provisions shall apply.

(c) Any component of the national wild and scenic rivers system that is administered by the Secretary of the Interior through the National Park Service shall become a part of the national park system, and any such component that is administered by the Secretary through the Fish and Wildlife Service shall become a part of the national wildlife refuge system. The lands involved shall be subject to the provisions of this Act and the Acts under which the national park system or national wildlife system, as the case may be, is administered, and in case of conflict between the provisions of these Acts, the more restrictive provisions shall apply. The Secretary of the Interior, in his administration of any component of the national wild and scenic rivers system, may utilize such general statutory authorities relating to areas of the national park system and such general statutory authorities otherwise available to him for recreation and preservation purposes and for the conservation and management of natural resources as he deems appropriate to carry out the purposes of this Act.

Cooperative
agreements with
State or local
governments.

(d) The Secretary of Agriculture, in his administration of any component of the national wild and scenic rivers system area, may utilize the general statutory authorities relating to the national forests in such manner as he deems appropriate to carry out the purposes of this Act.

(e) The Federal agency charged with the administration of any component of the national wild and scenic rivers system may enter into written cooperative agreements with the Governor of a State, the head of any State agency, or the appropriate official of a political subdivision of a State for State or local governmental participation in the administration of the component. The States and their political subdivisions shall be encouraged to cooperate in the planning and administration of components of the system which include or adjoin State- or county-owned lands.

Assistance in
financing State
and local proj-
ects.

16 USC 4601-4
note.

16 USC 4601-
4601-3.

SEC. 11. (a) The Secretary of the Interior shall encourage and assist the States to consider, in formulating and carrying out their comprehensive statewide outdoor recreation plans and proposals for financing assistance for State and local projects submitted pursuant to the Land and Water Conservation Fund Act of 1965 (78 Stat. 897), needs and opportunities for establishing State and local wild, scenic and recreational river areas. He shall also, in accordance with the authority contained in the Act of May 28, 1963 (77 Stat. 49), provide technical assistance and advice to, and cooperate with, States, political subdivisions, and private interests, including nonprofit organizations, with respect to establishing such wild, scenic and recreational river areas.

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(b) The Secretaries of Agriculture and of Health, Education, and Welfare shall likewise, in accordance with the authority vested in them, assist, advise, and cooperate with State and local agencies and private interests with respect to establishing such wild, scenic and recreational river areas.

SEC. 12. (a) The Secretary of the Interior, the Secretary of Agriculture, and heads of other Federal agencies shall review administrative and management policies, regulations, contracts, and plans affecting lands under their respective jurisdictions which include, border upon, or are adjacent to the rivers listed in subsection (a) of section 5 of this Act in order to determine what actions should be taken to protect such rivers during the period they are being considered for potential addition to the national wild and scenic rivers system. Particular attention shall be given to scheduled timber harvesting, road construction, and similar activities which might be contrary to the purposes of this Act.

Administration
and management
policies.
Review.

(b) Nothing in this section shall be construed to abrogate any existing rights, privileges, or contracts affecting Federal lands held by any private party without the consent of said party.

(c) The head of any agency administering a component of the national wild and scenic rivers system shall cooperate with the Secretary of the Interior and with the appropriate State water pollution control agencies for the purpose of eliminating or diminishing the pollution of waters of the river.

SEC. 13. (a) Nothing in this Act shall affect the jurisdiction or responsibilities of the States with respect to fish and wildlife. Hunting and fishing shall be permitted on lands and waters administered as parts of the system under applicable State and Federal laws and regulations unless, in the case of hunting, those lands or waters are within a national park or monument. The administering Secretary may, however, designate zones where, and establish periods when, no hunting is permitted for reasons of public safety, administration, or public use and enjoyment and shall issue appropriate regulations after consultation with the wildlife agency of the State or States affected.

Fish and wild-
life.
Jurisdiction
under State
and Federal
laws.

(b) The jurisdiction of the States and the United States over waters of any stream included in a national wild, scenic or recreational river area shall be determined by established principles of law. Under the provisions of this Act, any taking by the United States of a water right which is vested under either State or Federal law at the time such river is included in the national wild and scenic rivers system shall entitle the owner thereof to just compensation. Nothing in this Act shall constitute an express or implied claim or denial on the part of the Federal Government as to exemption from State water laws.

Compensation
for water
rights.

(c) Designation of any stream or portion thereof as a national wild, scenic or recreational river area shall not be construed as a reservation of the waters of such streams for purposes other than those specified in this Act, or in quantities greater than necessary to accomplish these purposes.

(d) The jurisdiction of the States over waters of any stream included in a national wild, scenic or recreational river area shall be unaffected by this Act to the extent that such jurisdiction may be exercised without impairing the purposes of this Act or its administration.

82 STAT. 917

(e) Nothing contained in this Act shall be construed to alter, amend, repeal, interpret, modify, or be in conflict with any interstate compact made by any States which contain any portion of the national wild and scenic rivers system.

82 STAT. 918

(f) Nothing in this Act shall affect existing rights of any State, including the right of access, with respect to the beds of navigable streams, tributaries, or rivers (or segments thereof) located in a national wild, scenic or recreational river area.

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October 2, 1968

82 STAT. 918.

Easements and
rights-of-way.

(g) The Secretary of the Interior or the Secretary of Agriculture, as the case may be, may grant easements and rights-of-way upon, over, under, across, or through any component of the national wild and scenic rivers system in accordance with the laws applicable to the national park system and the national forest system, respectively: *Provided*, That any conditions precedent to granting such easements and rights-of-way shall be related to the policy and purpose of this Act.

Claim and allow-
ance as chari-
table contri-
bution or gift.
76 Stat. 1034.
68A Stat. 410.

SEC. 14. The claim and allowance of the value of an easement as a charitable contribution under section 170 of title 26, United States Code, or as a gift under section 2522 of said title shall constitute an agreement by the donor on behalf of himself, his heirs, and assigns that, if the terms of the instrument creating the easement are violated, the donee or the United States may acquire the servient estate at its fair market value as of the time the easement was donated minus the value of the easement claimed and allowed as a charitable contribution or gift.

Definitions.

SEC. 15. As used in this Act, the term—

(a) "River" means a flowing body of water or estuary or a section, portion, or tributary thereof, including rivers, streams, creeks, runs, kills, rills, and small lakes.

(b) "Free-flowing", as applied to any river or section of a river, means existing or flowing in natural condition without impoundment, diversion, straightening, rip-rapping, or other modification of the waterway. The existence, however, of low dams, diversion works, and other minor structures at the time any river is proposed for inclusion in the national wild and scenic rivers system shall not automatically bar its consideration for such inclusion: *Provided*, That this shall not be construed to authorize, intend, or encourage future construction of such structures within components of the national wild and scenic rivers system.

Revised

(c) "Scenic easement" means the right to control the use of land (including the air space above such land) for the purpose of protecting the scenic view from the river, but such control shall not affect, without the owner's consent, any regular use exercised prior to the acquisition of the easement.

Appropriations.

SEC. 16. There are hereby authorized to be appropriated such sums as may be necessary, but not more than \$17,000,000, for the acquisition of lands and interests in land under the provisions of this Act.

Approved October 2, 1968.

LEGISLATIVE HISTORY:

HOUSE REPORTS: No. 1623 accompanying H. R. 18260 (Comm. on Interior & Insular Affairs) and No. 1917 (Comm. of Conference).

SENATE REPORT No. 491 (Comm. on Interior & Insular Affairs).

CONGRESSIONAL RECORD:

Vol. 113 (1967): Aug. 8, considered and passed Senate.

Vol. 114 (1968): July 15, Sept. 12, considered and passed

House, amended, in lieu of H. R. 18260.

Sept. 25, House agreed to conference report.

Sept. 26, Senate agreed to conference report.

PUBLIC LAW 94-486—OCT. 12, 1976

90 STAT. 2327

Public Law 94-486
94th Congress

An Act

To amend the Wild and Scenic Rivers Act, and for other purposes.

Oct. 12, 1976

[S. 1506]

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*Wild and Scenic
Rivers Act,
amendments.

TITLE I—FLATHEAD, MONTANA

SEC. 101. Section 3(a) of the Wild and Scenic Rivers Act (82 Stat. 906; 16 U.S.C. 1271 et seq.) is amended by adding the following new paragraph at the end thereof:

16 USC 1274.

“(13) FLATHEAD, MONTANA.—The North Fork from the Canadian border downstream to its confluence with the Middle Fork; the Middle Fork from its headwaters to its confluence to the South Fork; and the South Fork from its origin to the Hungry Horse Reservoir, as generally depicted on the map entitled ‘Proposed Flathead Wild and Scenic River Boundary Location’ dated February 1976; to be administered by agencies of the Departments of the Interior and Agriculture as agreed upon by the Secretaries of such Departments or as directed by the President. Action required to be taken under subsection (b) of this section shall be taken within one year from the date of enactment of this paragraph. For the purposes of this river, there are authorized to be appropriated not more than \$6,719,000 for the acquisition of lands and interests in lands. No funds authorized to be appropriated pursuant to this paragraph shall be available prior to October 1, 1977.”

Appropriation
authorization.

TITLE II—MISSOURI, MONTANA

SEC. 201. Section 3(a) of the Act is further amended by adding at the end thereof the following new paragraph:

“(14) MISSOURI, MONTANA.—The segment from Fort Benton one hundred and forty-nine miles downstream to Robinson Bridge, as generally depicted on the boundary map entitled ‘Missouri Breaks Freeflowing River Proposal’, dated October 1975, to be administered by the Secretary of the Interior. For the purposes of this river, there are authorized to be appropriated not more than \$1,800,000 for the acquisition of lands and interests in lands. No funds authorized to be appropriated pursuant to this paragraph shall be available prior to October 1, 1977.”

Appropriation
authorization.

SEC. 202. After consultation with the State and local governments and the interested public, the Secretary shall, pursuant to section 3(b) of the Wild and Scenic Rivers Act and within one year of enactment of this Act—

Consultation.
16 USC 1274.
note.

(1) establish detailed boundaries of the river segment designated as a component of the National Wild and Scenic Rivers System pursuant to section 1 of this Act (hereinafter referred to as the “river area”): *Provided*, That the boundaries of the portion of the river area from Fort Benton to Coal Banks Landing and the portion of the river area within the boundaries of the Charles M. Russell National Wildlife Range shall be drawn to include only the river and its bed and exclude all adjacent land except significant historic sites and such campsites and access

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	points as are deemed necessary by the Secretary, and to which the Secretary finds no reasonable alternative, as set forth in the management plan required pursuant to clause (2) of this section; and
16 USC 1273.	(2) determine, in accordance with the guidelines in section 2(b) of the Wild and Scenic Rivers Act, which of the three classes—wild river, scenic river, or recreation river—best fit portions of the river segment, designate such portions in such classes, and prepare a management plan for the river area in accordance with such designation.
Management. 16 USC 1274 note.	SEC. 203. (a) The Secretary of the Interior (hereinafter referred to as the "Secretary") shall manage the river area pursuant to the provisions of this Act and the Wild and Scenic Rivers Act, and in accordance with the provisions of the Taylor Grazing Act (48 Stat. 1269), as amended (43 U.S.C. 315), under principles of multiple use and sustained yield, and with any other authorities available to him for the management and conservation of natural resources and the protection and enhancement of the environment, where such Act, principles, and authorities are consistent with the purposes and provisions of this Act and the Wild and Scenic Rivers Act.
16 USC 1271 note.	
Land acquisition.	(b) (1) The Secretary may acquire land and interests in land only in accordance with the provisions of this Act and the Wild and Scenic Rivers Act and the limitations contained in section 6 of that Act and only: (A) at Fort Benton for the visitor facility as provided in subsection (g) (2) of this section; (B) at the site of Fort McKenzie; (C) in that portion of the river area downstream from Fort Benton to Coal Banks Landing for historic sites, campsites, and access points in accordance with section 202 (1) of this Act; and (D) in that portion of the river area downstream from Coal Banks Landing so as to provide, wherever practicable and necessary for the purposes of this Act and the Wild and Scenic Rivers Act, rim-to-rim protection for such portion.
16 USC 1277.	
Condemnation.	(2) In accordance with section 6(b) of the Wild and Scenic Rivers Act, the Secretary shall not acquire fee title to any lands by condemnation under the authority of that Act or this Act, except that the Secretary may use condemnation when necessary and within the limitations on acquisition set forth in clause (1) of this subsection to clear title, acquire scenic easements, or acquire such other easements as are reasonably necessary to give the public access to the river segment within the river area and to permit its members to traverse the length of said river area or of selected portions thereof.
Development.	(3) The Secretary shall, to the extent feasible, give priority in expenditure of funds pursuant to this Act for the acquisition and development of campsites and historic sites, including the site of the visitor center at Fort Benton and the site of Fort McKenzie.
Easements.	(c) Consistent with the provisions of this Act and the Wild and Scenic Rivers Act, the Secretary may issue easements, licenses, or permits for rights-of-way through, over, or under the lands in Federal ownership within the river area, or for the use of such lands on such terms and conditions as are in accordance with the provisions of this Act, the Wild and Scenic Rivers Act, and other applicable law.
Bridge construction.	(d) The Secretary is authorized to permit the construction of a bridge across the river in the general vicinity of the community of Winifred, Montana, in order to accommodate the flow of north-south traffic. Such construction shall be in accordance with a plan which is mutually acceptable to the Secretary and State and local highway officials, and which is consistent with the purposes of this Act and the Wild and Scenic Rivers Act.

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(e) To the extent and in a manner consistent with the purposes of the Wild and Scenic Rivers Act the Secretary shall permit such pumping facilities and associated pipelines as may be necessary to assure the continuation of an adequate supply of water from the Missouri River to the owners of lands adjacent to the river and for future agricultural use outside the river corridor. The Secretary is authorized to permit such pumping facilities and associated pipelines for use for fish, wildlife, and recreational uses outside the river corridor.

Pumping facilities and associated pipelines.

(f) The Secretary shall permit hunting and fishing in the river area in accordance with applicable Federal and State laws, except that he may designate zones where, and periods when, no hunting or fishing shall be permitted for reasons of public safety or administration.

Hunting and fishing.

(g) (1) The Secretary, acting through the Bureau of Land Management, shall exercise management responsibilities in the river area for:

- (A) the grazing of livestock;
- (B) the application of the United States mining and mineral leasing laws;
- (C) the management of fish and wildlife habitat;
- (D) the diversion and use of water for agricultural and domestic purposes;
- (E) the acquisition of lands and interests therein;
- (F) the administration of public recreational uses of, and any historic sites and campsites in, the river area; and
- (G) all other management responsibilities except those set forth in paragraph (2) of this subsection.

(2) The Secretary, acting through the National Park Service, shall be responsible for the construction, operation, and management of any visitor facility in or near Fort Benton which is found necessary in accordance with the management plan developed pursuant to section 202 and the provision, at such facility, of interpretive services for the historic, archeological, scenic, natural, and fish and wildlife resources of the area.

Visitor facility construction.

TITLE III—OBED, TENNESSEE

SEC. 301. Section 3(a) of the Act is further amended by adding the following new paragraph at the end thereof: 16 USC 1274.

“(15) OBED, TENNESSEE.—The segment from the western edge of the Catoosa Wildlife Management Area to the confluence with the Emory River: Clear Creek from the Morgan County line to the confluence with the Obed River. Daddys Creek from the Morgan County line to the confluence with the Obed River; and the Emory River from the confluence with the Obed River to the Nemo bridge as generally depicted and classified on the stream classification map dated December 1973. The Secretary of the Interior shall take such action, with the participation of the State of Tennessee as is provided for under subsection (b) within one year following the date of enactment of this paragraph. The development plan required by such subsection (b) shall include cooperative agreements between the State of Tennessee acting through the Wildlife Resources Agency and the Secretary of the Interior. Lands within the Wild and Scenic River boundaries that are currently part of the Catoosa Wildlife Management Area shall continue to be owned and managed by the Tennessee Wildlife Resources Agency in such a way as to protect the wildlife resources and primitive character of the area, and without further development of roads, campsites, or associated recreational facilities unless deemed necessary by that agency for wildlife management practices. The

Cooperative agreements.

90 STAT. 2330

PUBLIC LAW 94-486—OCT. 12, 1976

Appropriation
authorization.

Obed Wild and Scenic River shall be managed by the Secretary of the Interior. For the purposes of carrying out the provisions of this Act with respect to this river, there are authorized to be appropriated such sums as may be necessary, but not to exceed \$2,000,000 for the acquisition of lands or interests in lands and not to exceed \$400,000 for development. No funds authorized to be appropriated pursuant to this paragraph shall be available prior to October 1, 1977."

TITLE IV—HOUSATONIC, CONNECTICUT

16 USC 1276.

SEC. 401. Subsection (a) of section 5 of the Act is further amended by adding at the end thereof the following:

"(58) Housatonic, Connecticut: The segment from the Massachusetts-Connecticut boundary downstream to its confluence with the Shepaug River."

TITLE V—SECTION IV AMENDMENT

16 USC 1275.

SEC. 501. Subsection (b) of section 4 of the Act is amended by deleting the final sentence thereof.

TITLE VI—FEATHER, CALIFORNIA

16 USC 1274.

Administration.

SEC. 601. Subsection (a) of section 3 of the Act is further amended by striking the paragraph numbered (3) and inserting in lieu thereof:

"(3) FEATHER, CALIFORNIA.—The entire Middle Fork downstream from the confluence of its tributary streams one kilometer south of Beckwourth, California; to be administered by the Secretary of Agriculture."

TITLE VII—PIEDRA, COLORADO

16 USC 1276.

SEC. 701. Paragraph (47) of section 5(a) of the Act is amended by striking out "including the tributaries and headwaters on national forest lands".

Approved October 12, 1976.

LEGISLATIVE HISTORY:

HOUSE REPORT No. 94-1657 accompanying H.R. 15422 (Comm. on Interior and Insular Affairs).

SENATE REPORT No. 94-502 (Comm. on Interior and Insular Affairs).

CONGRESSIONAL RECORD:

Vol. 121 (1975): Dec. 4, considered and passed Senate.

Vol. 122 (1976): Sept. 27, considered and passed House, amended, in lieu of H.R. 15422.

Sept. 28, Senate concurred in House amendments.

Note.—A change has been made in the slip law format to provide for one-time preparation of copy to be used for publication of both slip laws and the United States Statutes at Large volumes. Comments from users are invited by the Office of the Federal Register, National Archives and Records Service, Washington, D.C. 20408.

APPENDIX B: Memorandum Of Understanding

MEMORANDUM OF UNDERSTANDING
Between
UNITED STATES DEPARTMENT OF THE INTERIOR
and
TENNESSEE WILDLIFE RESOURCES AGENCY

THIS AGREEMENT is made and entered into this 14th day of February, 1984, by and between the United States of America, acting through the National Park Service, U. S. Department of the Interior, by the Superintendent, Obed Wild and Scenic River (hereinafter Service) and the Tennessee Wildlife Resources Agency, acting by and through its Executive Director (hereinafter Agency).

ARTICLE I. BACKGROUND and OBJECTIVES

WHEREAS, the Obed Wild and Scenic River (Obed) was designated a component of the wild and scenic river system by virtue of 16 U.S.C. 1274 (d) (15) (1976) (hereinafter the Act); and

WHEREAS, pursuant to the Act of October 2, 1968, Pub. L. No. 90-542, 16 U.S.C. 1281 (c), the Secretary may utilize his general statutory authorities in the administration of the Obed as a unit of the National Park System; and

WHEREAS, pursuant to the Act of October 2, 1968, Pub. L. 90-542, 16 U.S.C. 1281 (e), the Service may enter into agreements with the Agency; and

WHEREAS, pursuant to 70-1-302 (7) Tennessee Code Annotated (1983), the Agency is authorized to enter into agreements with the United States of America; and

WHEREAS, the Act charged the Secretary of the Interior with the ultimate responsibility for the management of the Wild and Scenic River, but it also states that the lands within the river boundaries that are currently part of the Catoosa Wildlife Management Area shall continue to be owned and managed by the Tennessee Wildlife Resources Agency. It is therefore deemed necessary, appropriate, and in the public interest for the Agency and the Service to cooperate in planning for the management of the above-described lands in accordance with the stated purpose of the Wild and Scenic River--that purpose being to preserve and protect the Obed Wild and Scenic River as a free-flowing river which possesses outstanding scenic, recreational, geologic, and fish and wildlife values, for the protection of the wildlife resources and the primitive character of the area, for the protection of the water quality of the river, for the benefit and enjoyment of future generations, and for other vital national conservation purposes.

NOW, THEREFORE, in consideration of the foregoing premises and of the mutual covenants herein-after contained, the parties hereto agree as follows:

ARTICLE II. STATEMENT OF WORK

A. In addition to the other obligations contained in this Agreement, the Agency shall:

1. Manage and administer Agency lands described below in accordance with the purpose and policies outlined in the Wild and Scenic Rivers Act, as amended, Public Law 90-542:

a. Those lands enclosed within the rims of the gorge of the Wild and Scenic River, or, if there is no readily definable gorge rim, those lands which are visible from the thread of the river.

b. A strip of land extending back from the gorge of the river for a distance of 100 feet in areas where the gorge rim is readily visible from the thread of the river.

c. Those lands lying in the gorges of streams that are tributary to the Obed River, Daddys Creek, and Clear Creek, which are visible from the thread of the river.

2. Keep the Service informed of its policies, procedures, and management needs as they relate to planning, development, and administration of the river corridor within the area under the jurisdiction of the Agency.

3. Provide professional advice and assistance to the Service to the extent that funds and personnel availability allow.
4. Construct and maintain improvements at river access points that the Agency and Service mutually agree should be provided on river corridor lands under the jurisdiction of the Agency.
5. Consult with the Service before implementing any program which could have an impact on the management and use of the river.
6. Not permit timber cutting within the gorge of the Wild and Scenic River except for limited operational cuts necessary for safety, approved development projects, or insect and/or disease control. Such activities will be conducted only after consultation with the Service.
7. Permit access through Catoosa Wildlife Management Area to the river over existing roads except:
 - a. During periods of freezing and thawing weather such use would seriously damage the road surfaces, or
 - b. When it is necessary to close a road because a managed hunt is in progress, or
 - c. When the use of a road would have detrimental effect on fish and/or wildlife populations, or
 - d. When public use would interfere with approved wildlife management objectives.
8. Permit the Service to construct and maintain a hiking trail on Agency lands from Nemo Bridge on the Emory River to Devils Breakfast Table on Daddys Creek. The trail will be located adjacent to the gorge rim or, when necessary, within the gorge along the south side of the Emory River, Obed River, and Daddys Creek. It will provide for recreational hiking, hunter access to the river corridor by foot, an emergency escape route for boaters stranded on the river, and foot protection patrols of the river gorge by both agencies. The Service understands that portions of the trail in the future may be in close proximity to timber harvest roads, timber harvest areas, wildlife agricultural openings, and ponds along this restrictive route. At times, the hiking trail could be adjacent to a road or wildlife opening. The trail will connect to Tennessee's Cumberland Trail on each end and be considered a portion of that trail. It will include one primitive campsite to comply with standards for the Cumberland Trail. The Agency will review design and construction standards with the option to make changes prior construction.
9. Permit pedestrian access through the Catoosa Wildlife Management Area on the trail except:
 - a. When a managed hunt is in progress.
 - b. When it may interfere with wildlife management objectives.

B. In addition to the other obligations contained in this Agreement, the Service shall:

1. Prepare plans and specifications for the development of the Obed Wild and Scenic River that are in keeping with the concepts expressed in the Wild and Scenic Rivers Act, after consultation with the Agency. The plans will include those river corridor lands that are under the jurisdiction of the Agency.
2. Keep the Agency fully informed of all plans and programs.
3. Consult with the Agency prior to initiating any plan, program, or regulation that may affect fish and wildlife populations or public use thereof within the lands administered by the Service.
4. Construct, mark, maintain, and patrol the hiking trail from Nemo Bridge to Devils Breakfast Table.

Construction will be in accordance with Service Trail standards and marked as part of Tennessee's Cumberland Trail. Trail head signs and handout information will emphasize management area restrictions.

C. The Agency and the Service will:

1. Meet annually, or more often if necessary, to review the cooperative agreement, administrative and management policies, practices, procedures, regulations, and plans affecting the river lands under their respective jurisdictions.

2. Cooperate in the preservation of life and property and in the suppression of wildfire to the extent permitted by the availability of staff and funds.
3. Notify the other party promptly if a fire is located on, or determined to be a threat to, lands under the jurisdiction of that party.
4. As funds permit, obtain the necessary radio equipment and clearances so that field personnel will be able to work together for the resolution of mutual law enforcement problems and of emergency situations.
5. Regulate recreation use levels on the basis of the carrying capacity of the land and water in order to prevent damage to the resources or deterioration of the recreation experience. Tentative saturation levels have been determined for the river and they will be modified as use data indicates.
6. Cooperate in the enforcement of laws dealing with resource utilization and preservation.
7. Cooperate in the development and implementation of interpretive/public information program which will convey information about the game management area and the river.
8. Agree that nothing in this Agreement shall be construed as obligating either party hereto in the expenditure of funds or for the future payment of money in excess of appropriations authorized by law.
9. Agree that nothing contained herein shall be construed as limiting in any way the responsibility and authority as defined by TCA Chapter 51, Rules and Regulations, Proclamations and Policies promulgated by the Tennessee Commission, or by Federal law of the Secretary, U.S. Department of the Interior, in connection with the administration and protection of lands and resources under their respective jurisdictions.

ARTICLE III. TERM OF AGREEMENT

This agreement shall be effective as of the date first above written and shall terminate five years from that date, unless otherwise amended or extended by the parties in writing.

ARTICLE IV. KEY OFFICIALS

Key Officials:

NPS: Doyle L. Kline, Superintendent
Obed Wild and Scenic River/Big
South Fork NRRRA
P.O. Drawer 630
Oneida, Tennessee 37841
(615) 569-6389

TWRA: John Quillen, Assistant Manager
Region III
216 East Penfield
Crossville, Tennessee 38555
(615) 484-9571

ARTICLE V. PROPERTY MANAGEMENT AND DISPOSITION

Not Applicable

APPENDIX C: Developed Overlook Special Study

BACKGROUND

The management objectives developed in 1992 for Obed Wild and Scenic River (WSR) provide for "scenic overlook experience(s)." This was deemed appropriate for several reasons. In a number of places the gorge provides scenic views and visual "access" to the river for the visitor who is not able to participate in the river-oriented recreation offered by Obed WSR. For a long time, the local elected officials and area residents have desired an easily accessible overlook for themselves and visitors. As a result, the 1978 Development Plan for Obed WSR included an overlook development at two locations; Obed River/Clear Creek Junction and Devils Breakfast Table. Lands were acquired at the Obed River/Clear Creek Junction site to provide a corridor for road access. Funds for construction have been recently received but work has been delayed pending the outcome of this planning effort.

During development of the management objectives, it became clear that area residents strongly desired, and expected, at least one developed overlook. The location most had in mind was Obed River/Clear Creek Junction, a location that has received considerable use by area residents over the years, even without improved access. Development of this site would pose certain difficulties since the management objectives allow for development in the river corridor only in the vicinity of existing bridge crossings and aim to maintain the corridor's primitive character.

METHODOLOGY

Realizing the importance of this issue, the NPS planning team conducted a comprehensive survey of possible overlook sites. Sites considered included "traditional" sites, used by area residents, and sites identified

through field survey, based on view and access potential. Areas investigated included: lands in the vicinity of Nemo Bridge; the rim west of Canoe Hole; both rims of Clear Creek below Lilly Bridge; approximately a mile of the north rim above Obed River above its junction with Clear Creek; and a traditional site at Devils Breakfast Table. Besides the traditionally used sites at Obed River/Clear Creek Junction and Lilly Bluff, only the site above Canoe Hole appeared to have significant potential. However, local interest led the planning team back to the Obed River/Clear Creek Junction area.

An ad hoc committee was established to intensively examine the Obed River/Clear Creek Junction bluff area. The committee members were Kelly Amonett (Morgan County Extension Leader), Don Barger (Southeast Regional Director, National Parks and Conservation Association), Palace Anderson (Roads and Trails Foreman, Big South Fork National River and Recreation Area), and Patricia Trap and John Fischer of the NPS planning team.

The committee initially identified the following characteristics that any developed overlook would need to have in order to be acceptable (not in any order of importance):

1. Easily accessible to the casual visitor within a short time frame.
2. Provides opportunity for a representative view of the Obed WSR river and gorge.
3. Provides some parking and trails.
4. Is accessible to the physically handicapped (if possible).
5. Is not a visual intrusion from the river for boaters and hikers.

6. Will provide a meaningful/educational transition into the Obed WSR corridor.
7. Will be a part of an overall package of other trails and land acquisition, as needed.
8. Is a safe experience (safety being of particular importance here).
9. Requires only reasonable maintenance.
10. Does not significantly affect the environment.
11. Does not contribute to incompatible use over the long term.

A field investigation was made of the Obed River/Clear Creek Junction area, including the access right-of-way, noting opportunities and constraints. A site on the rim was identified for the overlook, and two possibilities for parking were also identified — one with parking back near the county road (concept 1) and one with parking much closer to the overlook, i.e., just behind the first ridge away from the gorge (concept 2).

The committee concluded that concept 1 would not provide for characteristics 1 and 4. Concept 2 would not provide for characteristics 4, 10 and 11, plus, the cost would be significantly higher.

The committee then considered the possibility of acquiring the necessary lands and improving the currently used, traditional access route over privately owned lands (concept 3). The use of a different overlook site would likely result. This concept would not provide for characteristics 4, 5 and 11, plus, the cost would be even higher than concept 2.

Finding difficulties with the Obed River/Clear Creek Junction area, the committee also began to seriously investigate the Lilly Bluff site, a traditionally used site near Lilly Bridge. Previous thoughts of this site were

not encouraging because of the sensitive plant communities known to exist on Lilly Bluff itself, a large sandstone outcrop. The committee obtained information on the site's vegetation as well as past and current human use. Resource Management Specialist Robert Emmott of Big South Fork NRR coordinated a contract with the University of Tennessee to survey the plant community. Human use of the site has resulted in disturbance of the vegetation, littering, cutting of trees, etc. Past efforts of Obed WSR personnel to deter such abuse have been ineffective.

Armed with the results of the vegetation survey and an understanding of the traditional use and abuse of the site, the committee met at the site with other members of the GMP planning team to consider the potential for overlook development. Also present at this meeting by invitation were Ms. Maureen Cunningham (a botanist) and Dr. William Russell (representing TCWP), both having recognized expertise valuable to the resolution of this issue. It was concluded that an elevated boardwalk design should be pursued that would direct visitors up to and through the site and minimize the opportunity to create social trails and other site abuse. By controlling use of the area, relatively undisturbed portions of the site could be protected and disturbed portions would have the opportunity to reestablish. High-quality design, sensitive construction, greater numbers of interested people using the facility, and anticipated non-NPS participation in the project should collectively contribute to a high degree of community pride in the facility. Abuse of the site is expected to virtually cease in a short period of time.

Being near Lilly Bridge, the overlook development at Lilly Bluff would satisfy all the above-mentioned characteristics and also be consistent with established management objectives. In order to ensure the satisfaction of characteristic 10, regarding environmental impact, monitoring the plant

community would be integral to the project. If adverse impacts become evident at any time, immediate corrective steps would be taken. Notwithstanding an established use pattern, NPS might just move, or close for a period, the facility if such action were required to eliminate the impact.

Desiring to still provide an opportunity for visitors having more time, ability, and interest in walking farther distances, the undeveloped overlooks in the Obed River/ Clear Creek Junction bluff area would be made more accessible by providing a small parking lot and a trail within the access right-of-way.

Details of the several evaluations referred to in this discussion are on file.

APPENDIX D: Development Cost Estimates

ALTERNATIVE A:

THE PROPOSED ACTION

Development Item	Gross Construction Costs
<i>Lilly Bluff Overlook</i>	\$301,100
900 ft. two lane gravel road	
0.4 acre cleared of vegetation	
20 space gravel parking area	
1100 l.f. surface stabilized trail	
1200 l.f. trail	
1000 l.f. mile boardwalk and 2 seating areas of recycled polymer composite and wood with railings.	
stone entrance with bench	
1 bench of recycled polymer composite	
1 sanitary facility	
1 information board	
<i>Obed R./Clear Creek Jct. Overlook/Right-Of-Way</i>	83,400
200' two lane gravel road	
0.14 acre cleared of vegetation	
10 space gravel parking area	
1 mile trail	
1 footbridge	
1 sanitary facility	
4 picnic tables	
4 trash receptacles	
1 information board	
<i>Lilly Bridge River Access</i>	132,700
14 space paved parking area	
500 ft. trail	
1500 ft. of surface stabilized trail	
wooden stairs	
3000 s.f. vegetation restoration	
20 posts or bollards	
3 picnic tables	
4 trash receptacles	
1 sanitary facility	
4 information boards	
2 roadway signs	
<i>Jett Bridge River Access</i>	5,270
1000 ft. trail	
1 information board	

ALTERNATIVE A:**(Continued)**

Development Item	Gross Construction Cost
<i>Barnett Bridge River Access</i>	<i>\$14,150</i>
2 roadway signs	
4 gravel parking spaces	
2 picnic tables	
4 trash receptacles	
1 sanitary facility	
1 information board	
300 ft. trail	
<i>Obed Junction River Access</i>	<i>22,600</i>
10 space gravel parking area	
0.5 mile trail	
<i>Norris Ford River Access</i>	<i>5,400</i>
0.25 mile trail	
<i>Nemo/Recreational Subzone Area (includes improvements to Norris Bottoms Campground)</i>	<i>81,750</i>
21 additional gravel parking spaces	
4 additional camp sites	
2 miles of trail	
4 picnic tables	
4 grills	
4 trash receptacles	
<i>Long Distance Trails</i>	<i>583,605</i>
27 miles	
<i>Waysides</i>	<i>55,000</i>
5 at Lilly Bluff	
2 at Lilly Bridge	
<i>Other Information Boards</i>	<i>8,250</i>
2 information boards at Potters Ford and Devils Breakfast Table	
5 information boards along county and state maintained roads	
Subtotal Gross Construction Costs	\$1,293,225
Construction Planning Costs	\$121,875
Total Project Costs	\$1,415,100

ALTERNATIVE B: THE CURRENT COURSE

Development Item	Gross Construction Costs
<i>Obed R./Clear Creek Jct. Overlook</i>	<i>\$1,068,600</i>
1.3 miles two lane gravel road	
30 ft. two land concrete bridge	
4 acres vegetation cleared	
10 space gravel parking area	
800 ft. surface stabilized trail	
0.5 mile trail	
1 overlook platform with railing	
1 sanitary facility	
4 picnic tables	
4 trash receptacles	
1 information board	
<i>Lilly Bridge River Access</i>	<i>132,700</i>
14 space paved parking area	
500 ft. trail	
1500 ft. of surface stabilized trail	
wooden stairs	
3000 s.f. vegetation restoration	
20 posts or bollards	
3 picnic tables	
4 trash receptacles	
1 sanitary facility	
4 information boards	
2 roadway signs	
<i>Jett Bridge River Access</i>	<i>5,270</i>
1,000 feet trail	
1 information board	
<i>Barnett Bridge River Access</i>	<i>14,150</i>
2 roadway signs	
4 gravel parking spaces	
2 picnic tables	
4 trash receptacles	
1 sanitary facility	
1 information board	
300 ft. trail	
<i>Obed Junction River Access</i>	<i>279,100</i>
0.5 mile two lane gravel road	
10 space gravel parking area	
500 ft. trail	

ALTERNATIVE B:
(Continued)

Development Item	Gross Construction Costs
<i>Norris Ford River Access</i>	<i>\$209,700</i>
1.5 mile two lane gravel road	
500' trail	
<i>Nemo/Recreational Subzone Area (includes improvements to Norris Bottoms Campground)</i>	<i>81,750</i>
21 additional gravel parking spaces	
4 additional camp sites	
2 miles of trail	
4 picnic tables	
4 grills	
4 trash receptacles	
<i>Long Distance Trails</i>	<i>0</i>
Not Applicable	
<i>Waysides</i>	<i>55,000</i>
5 at Obed River/Clear Creek Junction	
2 at Lilly Bridge	
<i>Other Information Boards</i>	<i>8,250</i>
2 information boards at Potters Ford and Devils Breakfast Table	
5 information boards along county and state maintained roads	
Subtotal Gross Construction Costs	\$1,854,520
Construction Planning Costs	\$10,500
Total Project Costs	\$1,865,020

APPENDIX E: Building Functions and Space Requirements

Visitor Contact Station and Administrative Headquarters

<u>Function</u>	<u>Space Requirement</u>
Office Space (9 FTEs at 150 s.f. each)	1350 s.f.
Visitor Contact Area	300 s.f.
Rest Rooms	300 s.f.
Audiovisual Area	150 s.f.
Book Sales and Storage	150 s.f.
Library	200 s.f.
Conference Room	300 s.f.
Equipment Storage	250 s.f.
Supply Room	100 s.f.
Mechanical/Janitorial	150 s.f.
<u>Circulation</u>	<u>350 s.f.</u>
TOTAL	3600 square feet

Maintenance Facility

Office Space for 2-3 FTEs	300 s.f.
Boat and Emergency Equipment Storage	1100 s.f.
Rest Room	100 s.f.
Work Area	500 s.f.
<u>Equipment and Vehicle Storage</u>	<u>1000 s.f.</u>
TOTAL	3000 square feet

APPENDIX F: List of Rare and Endangered Species

Scientific Name	Common Name	Federal Status*	State Status**	Probable Habitat
<u>Plants</u>				
<i>Adlumia fungosa</i> fields	Climbing fumatory	—	T	Sandstone boulder
<i>Amelanchier sanguinea</i>	Roundleaf shadbush	—	T	Gravel/sand bars
<i>Arenaria cumberlandensis</i>	Cumberland sandwort	LE	—	
<i>Aureolaria patula</i>	False foxglove	C1	—	
<i>Calamovilfa arcuata</i>	Cumberland sand grass	C1	E	Gravel/sand bars
<i>Conradina verticillata</i>	Cumberland rosemary	LT	T	Gravel/sand bars
<i>Eupatorium luciae-brauniae</i>	Lucy Braun's white snakeroot	C2	—	
<i>Helenium brevifolium</i>	Shortleaf sneezeweed	—	E	Gravel/sand bars
<i>Helianthus eggertii</i>	Eggert's sunflower	C2	SC	Gravel/sand bars
<i>Hexastylis contracta</i>	Southern heartleaf	C2	T	Mixed oak & hemlock forests
<i>Hydrastis canadensis</i>	Goldenseal	3C	T	Mesic deciduous forests
<i>Leucothoe racemosa</i>	Fetter-bush	—	T	Gravel/sand bars
<i>Marshallia grandiflora</i>	Large-flowered Barbara's buttons	C2	E	Gravel/sand bars
<i>Panax quinquefolius</i>	American ginseng	3C	T	Mesic deciduous forests
<i>Polygonella americana</i>	Southern jointweed	—	E	Gravel/sand bars
<i>Polymnia laevigata</i> fields	Tennessee leafcup	3C	SC	Sandstone boulder
<i>Schwalbea americana</i>	American chaffseed	LE	—	
<i>Silphium brachiatum</i>	Cumberland rosinweed	C2	—	
<i>Spiraea virginiana</i>	Virginia spiraea	LT	—	
<i>Sporobolus junceus</i>	a dropseed	—	SC	Gravel/sand bars
<i>Talinum teretifolium</i>	Roundleaf fameflower	—	T	Sandstone outcroppings
<i>Trillium pusillum</i> var. <i>ozarkanum</i>	Ozark least trillium	C2	—	
<i>Utricularia subulata</i>	Zizzag bladderwort	—	T	
<u>Invertebrates</u>				
<i>Cambarus obeyensis</i>	Obey crayfish	C2	—	
<i>Villosa perpurpurea</i>	Purple bean pearly mussel	C2	SC	Riffle areas of Obed R.
<i>Lampsilis virescens</i>	Alabama pearly mussel	LE	—	
<u>Vertebrates</u>				
<i>Aimophila aestivalis</i>	Bachman's sparrow	C2	—	
<i>Cryptobranchus alleganiensis</i>	Hellbender	C2	D	
<i>Esox masquinongy ohioensis</i>	Muskelunge			
<i>Hybopsis monacha</i>	Spotfin chub	LT	T	Obed R., Emory R., Clear Cr. & Daddys Cr.
<i>Neotoma floridana magister</i>	Eastern woodrat	C2	—	
<i>Percina aurantiaca</i>	Tangerine darter	—	T	
<i>Percina macrocephala</i>	Longhead darter	C2	—	
<i>Picoides borealis</i>	Red-cockaded woodpecker	LE	E	

Explanation of Federal Status Designations

*Federal Status, determined by the US Fish and Wildlife Service: Federal Register, 50 (188), September 18, 1985, pp. 37958-37959; September 27, 1985, pp. 39526-39527; Federal Register, 55(35), February 21, 1990, pp. 6184-6228; and 56(225), November 21, 1991, 58804-58836.

LE: Taxa formally listed as endangered.

LT: Taxa formally listed as threatened.

C1: Taxa for which the Service has on file substantial information on biological vulnerability and threats to support the appropriateness to list them as endangered or threatened species. Included are those taxa whose status in recent past is known, but may have already become extinct.

C2: Taxa for which information now in possession of the Service indicated that proposing to list them as endangered or threatened is appropriate, but for which substantial data on biological vulnerability and threat(s) are not currently known or on file to support a proposed rule.
destruction or commercial exploitation.

SC: Special Concern - species requiring special concern because of:

- (1) their rarity in Tennessee as the State represents the limit or near-limit of their geographic range, or
- (2) their status is undetermined because of insufficient information.

C3: Taxa that are no longer being considered for listing as threatened or endangered species. The following subcategories are used to further indicate the reasons(s) for removal from consideration.

3A - Taxa for which the Service has persuasive evidence of extinction or being destroyed. If rediscovered, such taxa might acquire high priority for listing.

3B - Names that on the basis of current taxonomic understanding do not represent taxa meeting the Acts definition of "species". Such proposed taxa could be reevaluated in the future on the basis of subsequent research.

3C - Taxa that have proven to be more abundant or widespread than was previously believed and/or those that are not subject to any identifiable threat.

NOTE: The taxa listed in Categories 1 and 2 may be considered candidates for addition as Endangered and Threatened species, and, as such, consideration should be given them in environmental planning.

Explanation of State Status Designations

**The categories for state Status (adapted from the Committee for Tennessee Rare Plants, 1978):

E: Endangered - species now in danger of becoming extinct in Tennessee because of:

- (1) their rarity throughout their range; or
- (2) their rarity in Tennessee as a result of sensitive habitat destruction or restricted area of distribution.

T: Threatened - species likely to become endangered in the immediately foreseeable future as a result of rapid habitat

APPENDIX G: Botanical Investigation of Overlook Sites

REPORT FROM A BOTANICAL INVESTIGATION OF TWO POTENTIAL
OVERLOOK SITES: LILLY BLUFF AND CLEAR CREEK JUNCTION,
OBED WILD AND SCENIC RIVER, MORGAN COUNTY, TENNESSEE

Lilly Bluff Overlook

General Description: Lilly Bluff is located on the Lancing Quad (TN) and overlooks Clear Creek slightly south of Lilly Bridge. Lilly Bluff is a clifftop sandstone glade community of high natural quality dominated by *Pinus virginiana*, *Gaylussacia baccata*, *Vaccinium* spp., *Aronia melanocarpa*, and *Amelanchier arborea*. In slight depressions in the sandstone between the patches of woody vegetation, *Talinum mengesii*, *Arenaria glabra*, *Campylopus tallulensis*, *Polytrichum juniperinum*, *Liatris microcephala*, and various lichen species may be found. The glade/bluff is in two sections, a northern section and a southern section.

Unusual Plant Communities and Rare Species: The northern section of the glade/bluff has been negatively impacted and disturbed by campfires and off-road vehicles (ORV's) since the "access road" leads directly to it. This portion of the glade/bluff has over 100 ramets of *Talinum mengesii* (threatened in Tennessee (Somers 1989)) in scattered depressions. (Since the *Talinum* was not yet in flower, I could not personally determine whether it was *T. teretifolium* or *T. mengesii*. According to Robert Emmott (biologist, BSFNRRAA) it has been reliably determined as *T. mengesii*.) This part of the glade/bluff also is weedier than the southern part due to ORV's disrupting the thin soils and removing patches of native vegetation.

The southern section of the glade/bluff, which is reached from the northern portion by crossing through a small patch of forest, is presently of high natural quality. It was also

highlighted as of special significance by Schmalzer and DeSelm (1982). Almost no weedy introduced species are present in this portion of the glade/bluff and the ORV traffic has not yet had an obvious impact on it. The total number of ramets of Lalium mengesii found in the depressions of this portion of the glade/bluff probably exceeds 1000. The stunted, scattered Pinus virginiana give this section of the glade/bluff a very nice aspect. Near the southern end of this portion of the glade/bluff a shrub was encountered that had small flower buds (very immature) on it the day of my visit to the site (5 May 1993). Neither Dr. B. Eugene Wofford (botanist, University of Tennessee-Knoxville) or myself have been able to identify the shrub from the specimen I collected. Obviously it is not yet known whether the shrub is rare or not. Dr. Wofford and I will probably visit Lilly Bluff to see fully developed flowers next week (17-21 May 1993).

Since the southern portion of Lilly Bluff is of high natural quality and the northern portion has already been negatively impacted, it is strongly recommended that if the glade/bluff is developed that the boardwalk/overlook be placed in the northern section and that the existing dirt road be used for access. The views from either portion of the glade/bluff are very nice. If the boardwalk/overlook is placed in the southern section of the glade/bluff, both the development process itself and the unavoidable off-trail foot traffic after the overlook is put in would decrease the natural quality of the southern section and increase the number of exotic species present in it. Also, the size of the southern half of the glade/bluff is not readily apparent when looking from the northern glade/bluff. Thus a low percentage of the visitors to an overlook platform on the northern glade/bluff would be likely to wander around the southern glade/bluff.

Clear Creek Junction

General Description: The Clear Creek Junction overlook and right-of-way are also located on the Lancing Quad (TN). The overlook would be situated above the Obed River approximately 1.5 miles west-southwest of the Obed River-Clear Creek junction. The proposed right-of-way to this potential overlook site consists of sub-xeric to somewhat mesic upland forests that are typical for the Cumberland Plateau in northern Tennessee. These forests are dominated by various combinations, depending on site conditions, of Tsuga canadensis, Acer rubrum, Pinus virginiana, Liriodendron tulipifera, and Quercus spp. A swampy streamhead along one side of the proposed right-of-way (see topo photocopy) is dominated by Liquidambar styraciflua, Acer rubrum, and Liriodendron tulipifera. Common herbs in the swampy streamhead include Thelypteris noveboracensis, Oxypolis rigidior, Carex debilis, C. laxiflora, Platanthera clavellata, Iris cristata, Osmunda cinnamomea, and Microstegium vimineum. The overlook area itself was recently burned and thus consists of young brushy vegetation with lots of dead/injured trees.

Unusual Plant Communities and Rare Species: No unusual plant communities or high quality/highly diverse natural communities were observed along the proposed right-of-way or overlook site.

One species of concern, Cyperipedium acaule, was found in two areas along the proposed right-of-way. One patch consisting of about 12 ramets is about 0.1 mile west of Melton Mill Branch. The other patch is about 0.1 mile east of Melton Mill Branch and consists of greater than 100 ramets. Cyperipedium acaule is not particularly rare, but it is somewhat threatened since many people collect the plants in order to sell them. Since the right-of-way is fairly broad, the trail could easily be placed so that these two populations are not impacted or easily visible to trail users.

SPECIES LISTB

(* indicates rare species or species of concern)

Lilly Bluff

Bryophytes: (nomenclature after Anderson et al. 1990)

Andreaea rothii Web. & Mohr
Aulacomnium palustre (Hedw.) Schwaegr.
Bruchia flexuosa (Sw. ex Schwaegr.) C. M.
Bryum argenteum Hedw.
Campylopus tallulensis Sull. & Lesq. ex Sull.
Ceratodon purpureus (Hedw.) Brid.
Dicranum condensatum Hedw.
D. scoparium Hedw.
D. spurium Hedw.
Ditrichum lineare (Sw.) Lindb.
Hedwigia ciliata (Hedw.) P. Beauv.
Hypnum sp.
Leucobryum albidum (Brid. ex P. Beauv.) Lindb.
Pohlia sp. (probably P. nutans)
Polytrichum commune Hedw.
P. juniperinum Hedw.
Sphagnum compactum DC. ex Lam. & DC.

Vascular Plants: (nomenclature after Wofford (1989)

Acer rubrum L.
Amelanchier arborea (Michx.f.) Fern.
Andropogon scoparius Michx.
Arenaria glabra (Michx.) Fern.
Aronia melanocarpa (Michx.) Ell.
Aster surculosus Michx.
Betula lenta L.
Bidens sp.
Bignonia capreolata L.
Comandra umbellata (L.) Nutt.
Crotonopsis elliptica Willd.
Gaultheria procumbens L.
Gaylussacia baccata (Wang.) K. Koch
Houstonia caerulea L.
Hypericum sp.
H. gentianoides (L.) BSP.
Ilex opaca Ait.
Iris verna L.
Juncus effusus L.
J. tenuis Willd.
Kalmia latifolia L.
Lechea sp. (probably L. racemulosa)
Lespedeza repens (L.) Bart.
Liatris microcephala (Small) K. Schumann
Nyssa sylvatica Marsh.
Oxydendrum arboreum (L.) DC.
Panicum depauperatum Muhl.
Pinus strobus L.
P. virginiana Mill.
Plantago virginica L.
Poa annua L.
Prunus serotina Ehrhart
Pteridium aquilinum (L.) Kuhn
Quercus alba L.
Rubus sp.
Smilax rotundifolia L.
*Talinum mengesii Wolf
Tsuga canadensis (L.) Carr
Uniola laxa (L.) BSP.
Vaccinium arboreum Marsh.
V. melanocarpum C. Mohr.
V. vacillans Torr.
Viburnum dentatum L.
V. rufidulum Raf.
Viola pedata L.
Vitis rotundifolia Michx.
?? mystery shrub

Clear Creek Junction Overlook

Vascular Plants:

Acer pennsylvanicum L.
A. rubrum L.
A. saccharum Marsh.
Alnus serrulata (Ait.) Willd.
Amelanchier arborea (Michx.f.) Fern.
Antennaria plantaginifolia (L.) Richardson
A. solitaria Rydb.
Arisaema triphyllum (L.) Schott
Athyrium filix-femina (L.) Roth
Bignonia capreolata L.
Carex debilis Michx.
C. laxiflora Lam.
Carya pallida (Ashe) Engl. & Graebn.
Castanea dentata (Marsh.) Borkh.
C. pumila (L.) Miller
Chimaphila maculata (L.) Pursh
Coreopsis major Walt.
Cornus florida L.
*Cypripedium acaule Ait.
Dioscorea villosa L.
Euonymus americanus L.
Eupatorium fistulosum Barratt
E. rotundifolium L.
Fagus grandifolia Ehrh.
Fraxinus sp.
Goodyera pubescens (Willd.) R. Br.
Gratiola virginiana L.
Hamamelis virginiana L.
Houstonia caerulea L.
H. purpurea L.
Hexastylis arifolia (Michx.) Small
Hypericum hypericoides (L.) Crantz
Hypoxis hirsuta (L.) Coville
Ilex opaca Ait.
Iris cristata Ait.
Kalmia latifolia L.
Krigia biflora (L.) Willd.
Lindera benzoin (L.) Blume
Liquidambar styraciflua L.
Liriodendron tulipifera L.
Lobelia cardinalis L.
Magnolia macrophylla Michx.
Medeola virginiana L.
Microstegium vimineum (Trin.) Camus
Mitchella repens L.
Nyssa sylvatica Marsh.
Onoclea sensibilis L.
Osmunda cinnamomea L.
O. regalis L.
Oxalis violacea L.
Oxydendrum arboreum (L.) DC.
Oxypolis rigidior (L.) Raf.
Parthenocissus quinquefolia (L.) Planch.
Phlox paniculata L.
Pinus strobus L.
Platanthera clavellata (Michx.) Luer
Polystichum acrostichoides (Michx.) Schott
Potentilla canadensis L.
Prenanthes sp.
Prunella vulgaris L.
Pteridium aquilinum (L.) Kuhn

Quercus alba L.
Q. coccinea Muenchh.
Q. rubra L.
Ranunculus recurvatus Poir.
Rhododendron maximum L.
R. periclymenoides (Michx.) Shinnars
Sambucus canadensis L.
Sassafras albidum (Nutt.) Nees
Senecio anonymus A. Wood
Smilacina racemosa (L.) Desf.
Smilax glauca Walt.
S. rotundifolia L.
Thelypteris noveboracensis (L.) Nieuwl.
Toxicodendron radicans (L.) Kuntze
Uvularia perfoliata L.
U. sessilifolia L.
Viburnum acerifolium L.
V. dentatum L.
Viola blanda Willd.
V. hastata Michx.
V. hirsutula Brainerd
Vitis rotundifolia Michx.

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APPENDIX H: Biological opinion U.S. Fish and Wildlife Service

D18(SER-PC)

Dr. Lee A. Barclay, Field Supervisor
U.S. Fish and Wildlife Service
446 Neal Street
Cookeville, Tennessee 38501

Dear Dr. Barclay:

The National Park Service (NPS) is preparing a General Management Plan/Design Concept Plan/Environmental Impact Statement for the Obed Wild and Scenic River and we would like to initiate informal consultation with your agency pursuant to the requirements of Section 7 of the Endangered Species Act. This unit of the NPS encompasses portions of the Obed River, Emory River, Daddys Creek, and Clear Creek in Cumberland, Morgan, and Fentress Counties, Tennessee.

We are requesting a current list of federally listed, threatened or endangered species, candidate species, and special-status species that might occur in these localities, and designated critical habitats for these species.

Enclosed is a copy of a topographic map of the area. The park boundaries are marked and areas where development is expected to occur are also indicated. The proposed development will consist of: improving existing picnic grounds, camping, and parking areas; constructing a long distance trail; and developing a scenic overlook with trails and parking near Lilly Bridge.

All stream sections of the aforementioned rivers within the Obed Wild and Scenic River are listed as Critical Habitat for the spotfin chub (*Cyprinella monacha*). In discussions with Dick Biggins, Asheville Field Office, U.S. Fish and Wildlife Service, we were informed that the purple bean mussel (*Villosa perpurpurea*) is known to occur within the park and is proposed to be listed. Mr. Biggins is sending us a copy of the recovery plan for the spotfin chub and we would appreciate receiving any other information that would be relevant to the Obed Wild and Scenic River's area.

We have reviewed the U.S. Fish and Wildlife Service National Wetland Inventory maps for this area and find no wetlands in the areas we expect to impact. If you know of any wetlands in the area that do not appear on the wetlands inventory maps, we would

2

appreciate knowing about them. If you or your staff have questions, please contact me at 404-331-5835.

Sincerely,

Chris Furqueron
Landscape Architect



United States Department of the Interior

FISH AND WILDLIFE SERVICE

446 Neal Street
Cookeville, Tennessee 38501



October 25, 1993

Mr. Chris Furqueron
National Park Service
Southeast Regional Office
75 Spring Street, S.W.
Atlanta, Georgia 30303

RE: FWS #93-2468

Dear Mr. Furqueron:

Thank you for your letter and enclosure of September 17, 1993, regarding the proposed General Management Plan/Design Concept Plan/Environmental Impact Statement for the Obed Wild and Scenic River in Cumberland and Morgan Counties, Tennessee. The National Park Service proposes to improve existing picnic grounds, camping, and parking areas, construct a long distance trail system, and develop a scenic overlook with trails and parking near Lilly Bridge. The Fish and Wildlife Service (Service) has reviewed the information submitted and offers the following comments.

Review of the Service's National Wetland Inventory maps reveals that there are no forested, emergent, or scrub-shrub wetlands in the vicinity of the proposed actions. In addition, we are not aware of any wetlands that are not indicated on the maps. However, we suggest that you contact the Soil Conservation Service's District Conservationists (Morgan and Cumberland Counties) to find out if hydric soils (and possibly wetlands) exist in the area. Currently, we anticipate no adverse project-related impacts to valuable wetland resources.

According to our records, the following federally listed endangered and threatened species may occur in the impact areas of the proposed actions:

Red-cockaded woodpecker - Picoides borealis (E)
Spotfin chub - Cyprinella monacha (T)
Cumberland sandwort - Arenaria cumberlandensis (E)
American chaffseed - Schwalbea americana (E)
Cumberland rosemary - Conradina verticillata (T)
Virginia spiraea - Spiraea virginiana (T)

The entire reaches of the Obed River, Clear Creek, and Daddys Creek within the Obed Wild and Scenic River have been designated by the Service as critical habitat for the spotfin chub. In addition, the Emory River historically supported populations of the endangered Alabama lamp pearly mussel (Lampsilis virescens). This species has not been found in the river

for over 20 years, but since there have been no recent intensive surveys of these rivers it is possible that L. virescens still exists in low numbers in the Emory River, the lower reach of the Obed River, or the lower reach of Clear Creek.

Section 7 of the Endangered Species Act (Act) requires all Federal agencies to ensure that actions they authorize, fund, or carry out do not jeopardize the continued existence of listed species or result in destruction or adverse modification of designated critical habitat. Agencies must assess potential impacts to listed species and determine if proposed actions may affect them. A "may affect" finding may require initiation of formal consultation with, and issuance of a biological opinion by, the Service.

In addition to listed species, there are species that are not presently listed or proposed, but are being considered by the Service for possible listing in the future. Status review (candidate) species that might occur in the vicinity of the proposed actions include:

Eastern woodrat - Neotoma floridana magister
Bachman's sparrow - Aimophila aestivalis
Longhead darter - Percina macrocephala
Hellbender - Cryptobranchus alleganiensis
Purple bean - Villosa perpurpurea
Obey crayfish - Cambarus obeyensis
Lucy Braun's white snakeroot - Eupatorium luciae-brauniae
False foxglove - Aureolaria patula
Mountain heartleaf - Hexastylis contracta
Barbara's buttons - Marshallia grandiflora
Ozark least trillium - Trillium pusillum var. ozarkanum
Cumberland rosinweed - Silphium brachiatum
Cumberland sand grass - Calamovilfa arcuata

These species are not legally protected at this time, and the consultation requirements of Section 7 of the Endangered Species Act do not yet apply to them. However, they are under consideration for listing in the future and we would appreciate anything you might do to avoid impacting them. The 1988 amendments to the Act direct the Fish and Wildlife Service to monitor populations of status review species and carry out "pre-listing recovery actions" to prevent the need to list them. Any actions taken by the Park Service to conserve and protect these species would be in keeping with the intent of this provision of the Act. Please be aware that the purple bean is known to occur in the project area. Although it is not yet listed, the Service is conducting a status survey to determine if listing is warranted. Pending the results of the status survey, this species may or may not be proposed for listing in the near future. Once proposed, the purple bean will be legally protected by the Endangered Species Act.

Thank you for the opportunity to comment. If you have any questions or if we can be of further assistance, please contact Jim Widlak of my staff at 615/528-6481.

Sincerely,

A handwritten signature in cursive script, reading "Lee A. Barclay".

Lee A. Barclay, Ph.D.
Field Supervisor

APPENDIX I: List of Dams and Impoundments

<u>Official Name</u>	<u>Size*</u>
Buckingham (proposed)	Large
Otter Creek	Intermediate
Lake Tansi	Intermediate
Lake Holiday	Intermediate
Lake Dartmore	Large
Fox Creek Lake	Large
Lake Glastowbury	Intermediate
Lake St. George	Intermediate
Byrd Lake	Intermediate
Larry Turner Lake	Intermediate
Lake Malvern	Small
Good Neighbor Lake	Small
Lake Pomeroy	Small
Linger Lake	Small
Lake Francis	Small
Hill Lake	Small

*Impoundment size classification based upon dam height or maximum capacity:

<u>Size Classification</u>	<u>Max. Capacity (Acre Feet)</u>	<u>Dam's Structural Height</u>
Minor	Capacity < 50 Plus Capacity < 15	and or Height < 25 Feet Height < 6 Feet
Small	$50 \leq \text{Capacity} < 1,000$	or 25 Feet \leq Height < 40 Feet
Intermediate	$1,000 \leq \text{Capacity} < 50,000$	or 40 Feet \leq Height < 100 Feet
Large	$50,000 \leq \text{Capacity}$	or 100 Feet \leq Height

< = Less Than

\leq = Less Than or Equal To

National Park Service
Engineering and Safety Services Division
Dam and Related Floodplain Inventory Report
March 10, 1993

U.S. Department of the Interior, National Park Service, WASO March 4, 1993, Call for Southeast Region 1993 Dams Report, October 25, 1993, Review of Southeast Region 1993 Dams Report between Regional Staff and WASO Dams Program Officer.

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As the nation's principal conservation agency, the Department of the Interior has the responsibility for most of our nationally owned public lands and natural and cultural resources. This includes fostering wise 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 ensure that their development is in the best interests of all our people. The department also promotes the goals of the Take Pride in America campaign by encouraging stewardship and citizen responsibility for the public lands and promoting citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

**U.S. Department of the Interior
National Park Service**