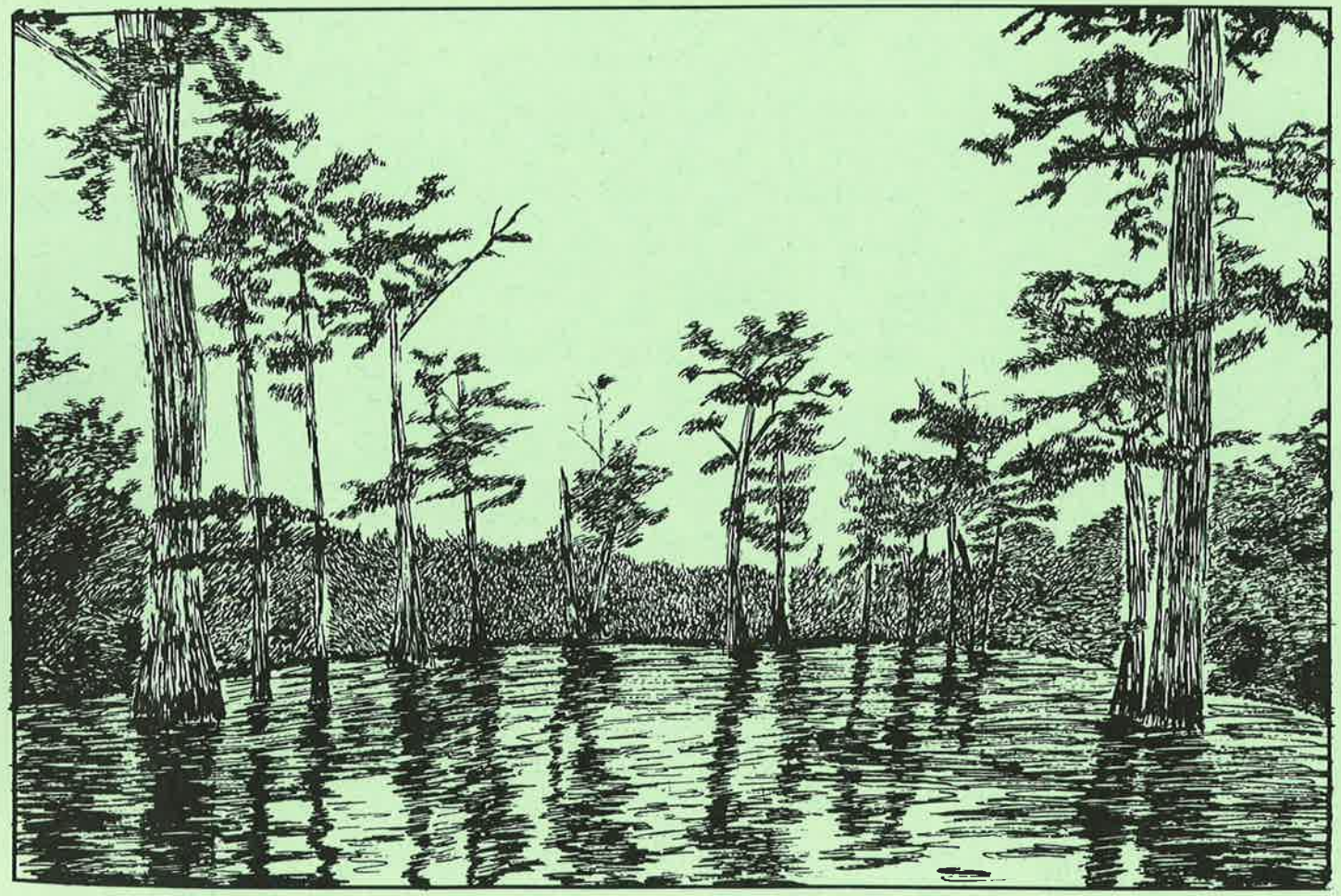
# Felsenthal National Wildlife Refuge

DRAFT

MASTER PLAN

ENVIRONMENTAL ASSESSEMENT



Department of the Interior
U.S. Fish and Wildlife Service,
Southeast Region

# FELSENTHAL
# NATIONAL WILDLIFE REFUGE
# ASHLEY, UNION, AND BRADLEY COUNTIES, ARKANSAS

## DRAFT MASTER PLAN
## AND
## ENVIRONMENTAL ASSESSMENT

AUGUST 1986

U.S. FISH AND WILDLIFE SERVICE
DEPARTMENT OF THE INTERIOR

Felsenthal National Wildlife Refuge (NWR) was established on August 12, 1975, as an enhancement project of the U.S. Army Corps of Engineers' (COE) Ouachita and Black River's Navigation Project. The refuge encompasses 65,000 acres in Ashley, Union, and Bradley counties in southeast Arkansas, lying fifty-three miles west of the Mississippi River, three miles north of the Louisiana border and eight miles west of Crossett, Arkansas. This Master Plan/Environmental Assessment describes three alternatives for managing Felsenthal National Wildlife Refuge and the effects of implementing each. The management alternative preferred by the U.S. Fish and Wildlife Service is identified and the criteria used in its selection are presented.

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# SUMMARY

In April, 1985, refuge staff met with personnel from the Regional Office planning team to discuss the master planning process and to establish some basic goals, objectives and schedules for completion of the project. During the next few weeks various Federal, State and local agencies and citizens were contacted and asked to participate in the Master Plan Core Group which would provide continual public input during the planning process. This group first met in July 1985 and continued to meet throughout the planning process. The final meeting was held in April 1986.

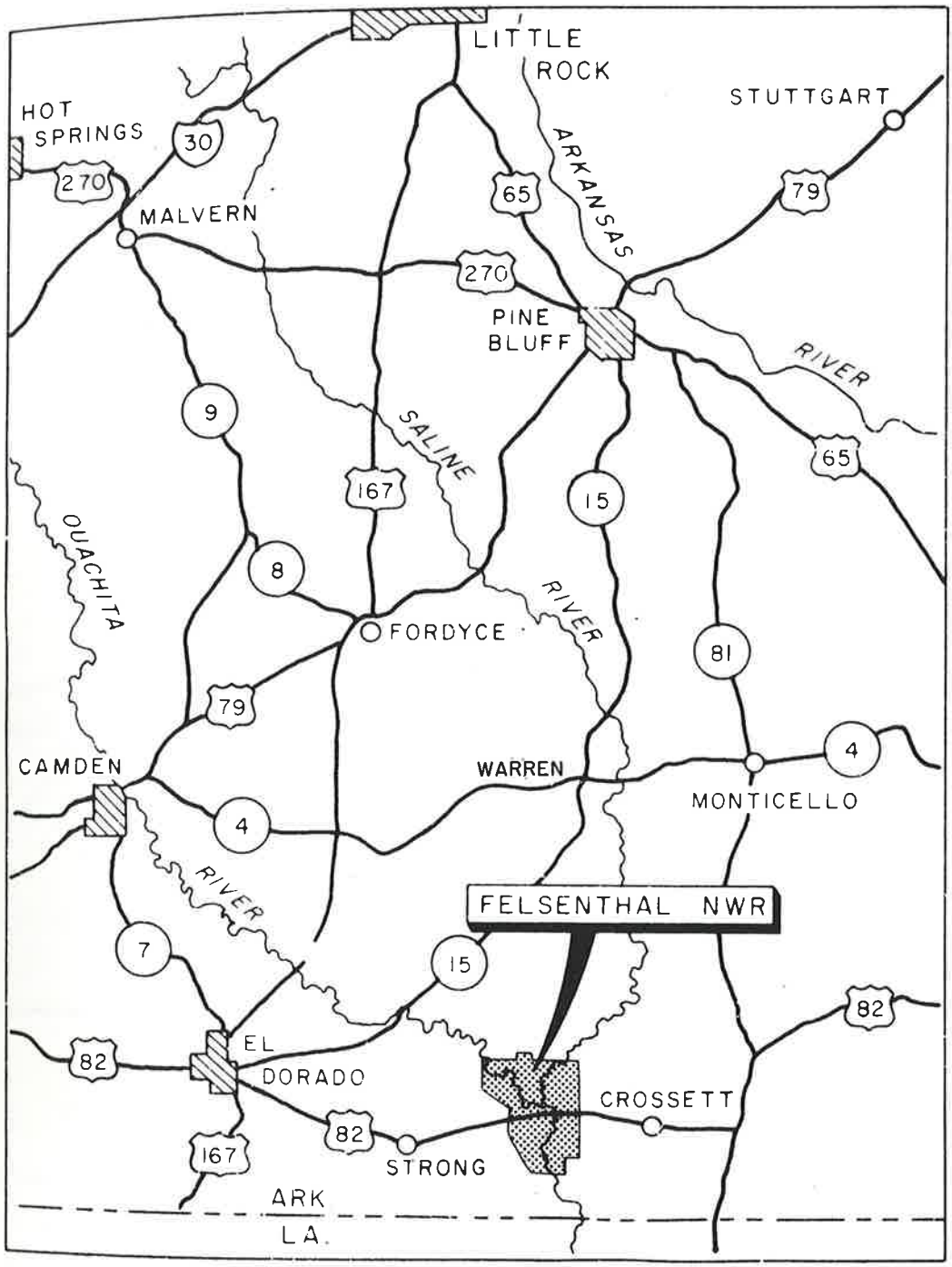
The Master Plan was developed in stages. The first section of the Master Plan involved background data not only concerning the refuge and its resources, but the surrounding area and demographic information on the local populations. The second phase of the planning process dealt with listing all of the management activities that would occur on the refuge, placing them in one of three categories: public use, habitat, or wildlife populations management and then establishing three management levels for each activity. From this information the three management alternatives were derived. The third stage was the evaluation of each management alternative. This process involved assessing the biological and socioeconomic impacts, a general comparison of the alternatives by activity, evaluating each management alternative against a set of criteria and the relative cost of implementing each alternative. After this evaluation stage was completed, the Preferred Alternative was selected. The final stage of the Master Plan document involved developing the Master Plan itself along with short- and long-term implementation strategies.

In regard to public input, review and approvals, the following steps were taken. Public meetings were held twice during the planning process, at the beginning of the process in August 1985 and after the three management alternatives had been developed in March 1986. The document went through an internal review after the management alternatives were developed and again when a first draft of the full document was completed, it was circulated for public review and comment. It is anticipated that the final draft document will be approved during the fall of 1986.

# I: Introduction

# FIGURE I

## Vicinity Map

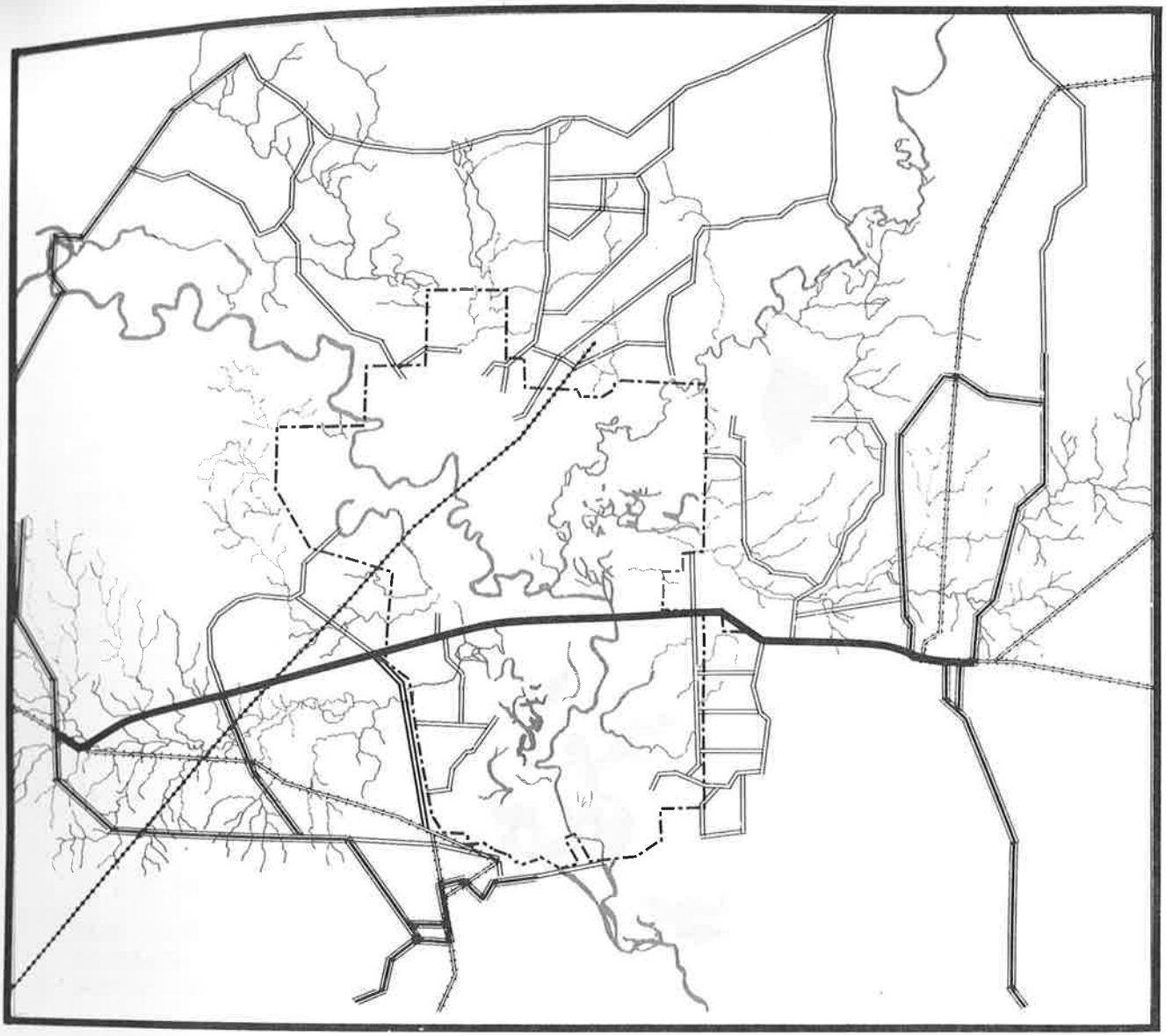



VICINITY MAP

SCALE 0 10 20 30 MILES

# FIGURE 2

## Base Map



SCALE

0 1 2 3 4 5

MILES

LEGEND

- LAKES & PONDS
- RIVERS
- CREEKS
- PRIMARY HIGHWAY (US 82)
- SECONDARY ROAD
- IMPROVED ROAD
- RAILROADS
- PIPELINE
- BOUNDARY

# INTRODUCTION

## BACKGROUND

Felsenthal National Wildlife Refuge (NWR) was established on August 12, 1975, as an enhancement project of the U.S. Army Corps of Engineers' (COE) Ouachita and Black Rivers' Navigation Project. The refuge encompasses 65,000 acres in Ashley, Union, and Bradley counties in southeast Arkansas, lying fifty-three miles west of the Mississippi River, three miles north of the Louisiana border and eight miles west of Crossett, Arkansas. The refuge headquarters is located approximately five miles west of Crossett on U.S. Highway 82.

## LEGAL CONTEXT

Felsenthal National Wildlife Refuge was established in accordance with the following legal mandates.

Public Law 91-641 - December 31, 1970

The River and Harbor Act, which provides for the establishment and acquisition of lands for a migratory waterfowl refuge in conjunction with the Ouachita and Black Rivers' navigation project.

Public Law 89-72 - July 9, 1965

Federal Water Project Recreation Act provides that fish and wildlife enhancement be considered as part of Federal water development projects.

Public Law 85-624 - August 12, 1958

Fish and Wildlife Coordination Act provides for integration of fish and wildlife programs with federal water resource developments. Amends the Act of March 10, 1934.

Executive Order 11990 - May 24, 1977

Protection of Wetlands provides for the protection of wetlands that may be adversely impacted due to construction activities. It also provides for the exploration and utilization of alternatives to permit construction activities to continue.

Executive Order 11988 - May 24, 1977

Floodplain Management provides for the protection of floodplains by discouraging development of these areas, especially when alternatives exist.

Archeological Resources Protection Act of 1979

Provides for the recovery, protection, and preservation of significant scientific prehistoric or archeological data.

Endangered Species Act of 1973

Provides for the conservation of threatened and endangered species o wildlife and plants by various means within the scope and autho the Act.

Migratory Bird Treaty Act of 1918 (amended)

Provides for the protection of international migratory bird resources regulations, enforcement authority and penalties for violations.

National Wildlife Refuge Administration Act of 1966

Provides guidelines and directives for administration and management areas in the National Wildlife Refuge System including "wildlife re and the uses of such areas as long as they are compatible with the purposes of these areas.

Ouachita/Black Rivers Master Plan of 1981

Provides for the development and management of the Ouachita and Black from Camden, Arkansas, to Jonesville, Louisiana, including the establi of a nine-foot navigation channel and recreational development.

Memorandum of Agreement - August 12, 1975

Provides for the management of Felsenthal NWR by FWS while the COE com construction activities outlined in the Ouachita/Black Rivers Master Pla

Title 50 Code of Federal Regulations

Title 50 contains the federal regulations governing wildlife and fish Subchapter C contains those regulations governing the national wildlife system.

PURPOSE OF MASTER PLANNING

The overall purpose of master planning is to provide long-term guide and objectives for managing a national wildlife refuge. During the planning process, goals and objectives for a particular refuge are establ in accordance with U. S. Fish and Wildlife Service (FWS) policy. The planning process allows for integration of national and regional into the management of each refuge, provides a vehicle for public partici in the decision making process, and is a systematic method for docum refuge decisions.

In the ten years that Felsenthal NWR has been in existence it has operating without any formal goals or objectives. The result has that the refuge has been operating under the general policies and guide of the FWS; however, there have been no specific goals and objectiv direct the efforts of the refuge and its staff. During the last few it has become increasingly evident, as the refuge programs have exp and become more complex, that there was a need for documented goals objectives for Felsenthal NWR.

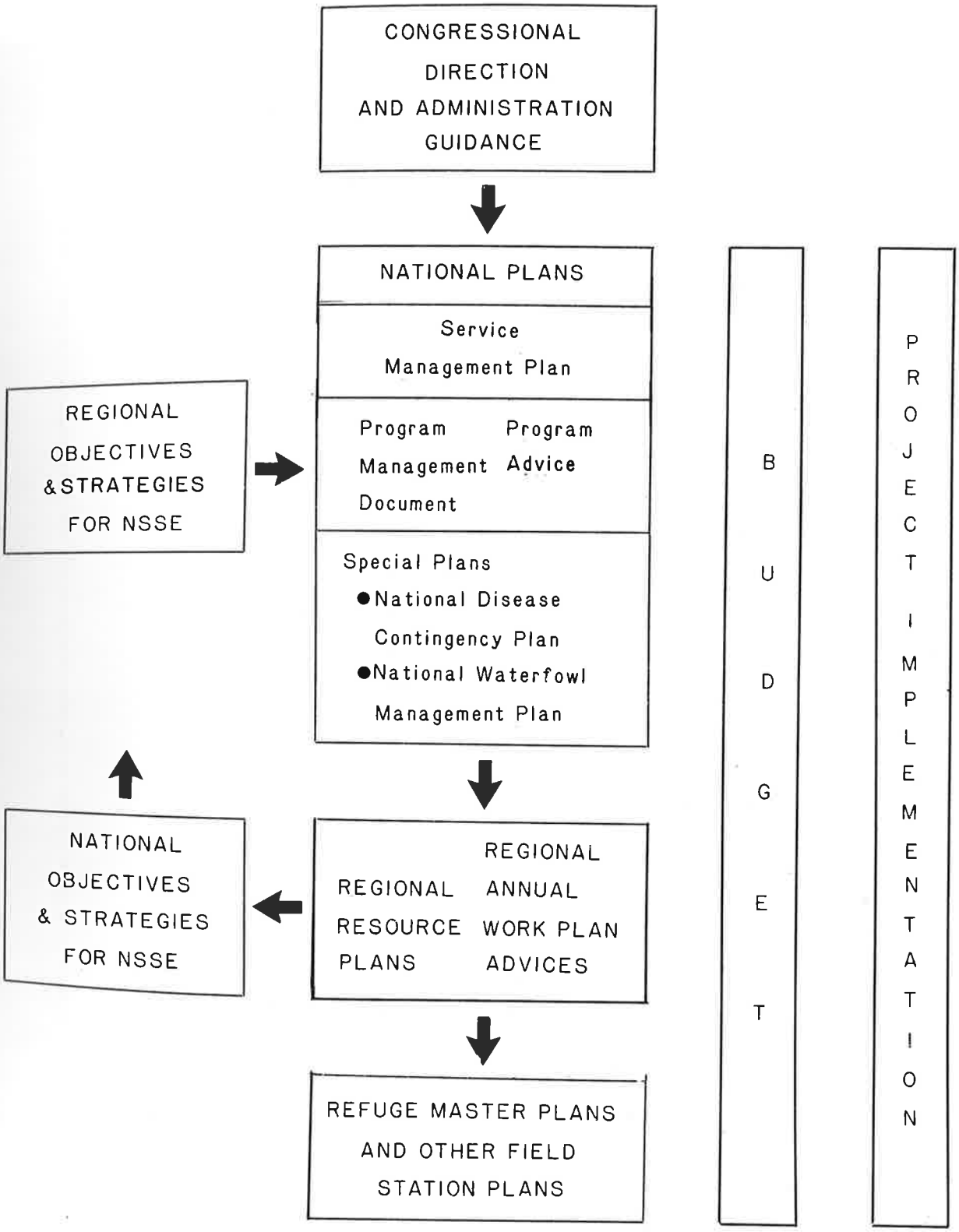
The local residents also have an intense interest in the refuge and its development and management because of the potential economic impact of the refuge on the local area. The Crossett Chamber of Commerce has established a Felsenthal Committee that has a keen interest, especially in the recreational development and tourism aspects of the refuge. They have been actively involved with the COE and the construction of various recreational facilities in and around the refuge. Many residents have traditionally utilized the area that Felsenthal NWR now occupies for a variety of outdoor recreation activities and have an intense desire to continue to do so.

The relative newness of the refuge, the amount of on-going development, the increasing complexity of the refuge management programs plus the intense public interest all indicate the need to master plan Felsenthal NWR.

## MASTER PLANNING PROCESS

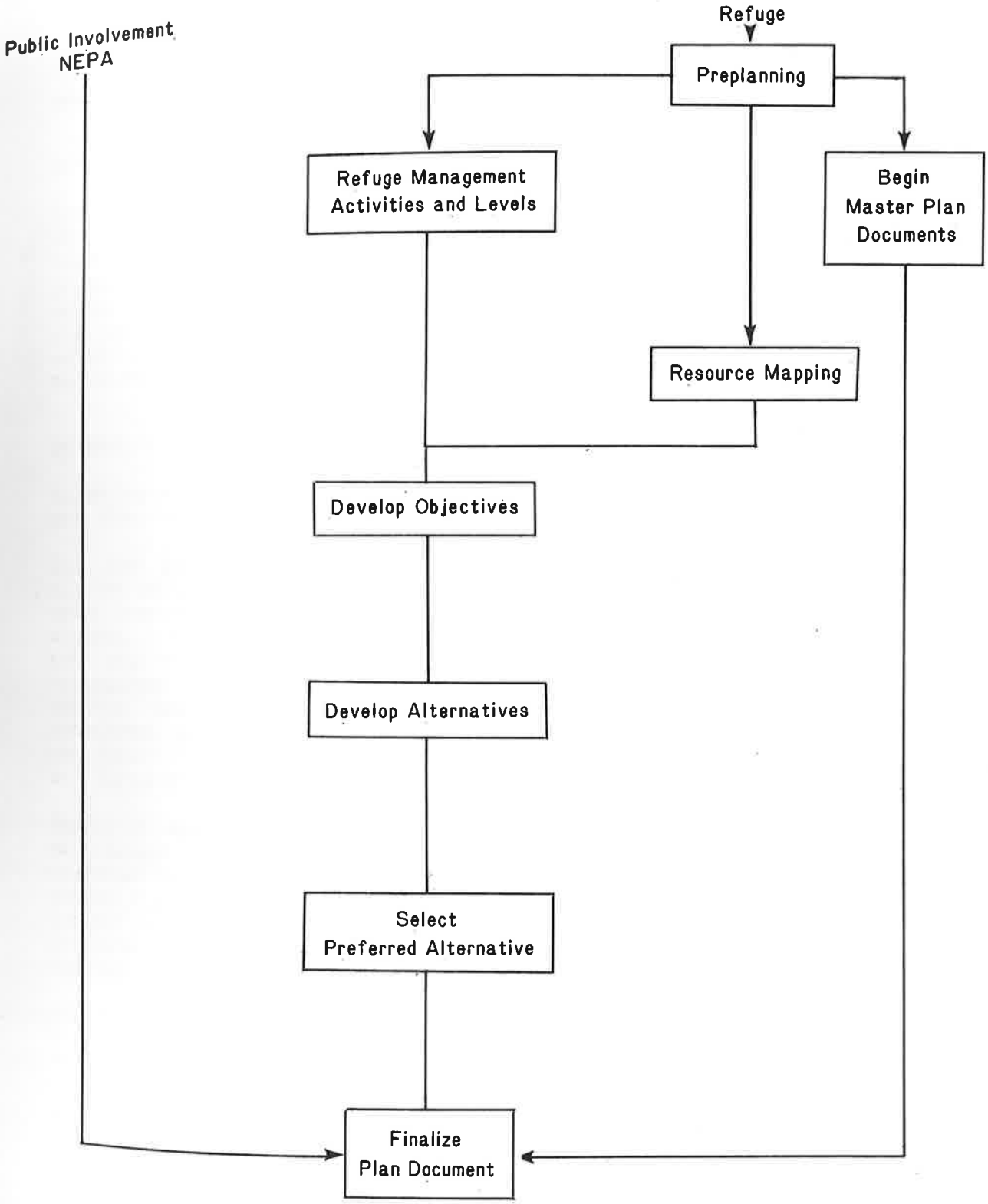
The master planning process involves three basic steps: the collection of background data, the analysis of the various alternatives and the selection of a preferred management strategy. Along with the development of a management alternative the process also incorporates the National Environmental Policy Act (NEPA) requirements for public participation. The FWS master planning process is outlined in the Planning Workbook for the National Wildlife Refuge System and is summarized in Figures 3 and 4.

## FIGURE 3
## FISH AND WILDLIFE SERVICE PLANNING FRAMEWORK



## Figure 4

## Master Planning Process



## SCOPE

This Master Plan provides guidance for the management of Felsenthal NWR through the next ten- to fifteen-year planning period. The plan will be reviewed and amended as necessary to assure that the guidelines and directions set forth are being followed and can be met. This master plan reflects the available resource data, public input and conforms to national policies and guidelines of the FWS.

## ENVIRONMENTAL ASSESSMENT

The master plan process incorporates environmental review components to insure compliance with the National Environmental Policy Act of 1969 into the master plan document. The question was addressed early in the master plan process as to whether or not an Environmental Impact Statement (EIS) or an Environmental Assessment (EA) was needed to fulfill NEPA requirements. The decision was based upon the overall impact, controversy and the anticipated significance of any planning decisions. It was determined that an EA would be necessary for Felsenthal NWR.

## POTENTIAL PROBLEMS AFFECTING FISH, WILDLIFE AND HABITAT

Existing situations that may potentially affect the refuge's natural resources are few, but none-the-less could possibly have significant impacts.

Oil and gas exploration and production has the potential of impacting the entire refuge. When the refuge was acquired no mineral rights were obtained, only surface rights. By law, surface rights are subservient to mineral rights. Currently, there are twenty-one oil wells located on Felsenthal NWR and exploration activities for both oil and gas have been conducted throughout the refuge. Oil and gas activities could result in timber loss, habitat destruction and there exists the possibility of oil spills and the resultant pollution. Other sources of water pollution located within the watershed but outside the refuge do exist. These are associated with river and barge traffic and some industrial and municipal pollution from upriver.

There is one inholding within Felsenthal NWR and that is owned by the City of Crossett. This approximately 125-acre site is a river port owned and operated by the Crossett Port Authority. The facility is designed to service barge traffic along the Ouachita River. Possible products that could be loaded or off-loaded at this site include timber, paper and petro-chemical products. A public marina and necessary support facilities may also be developed in the future.

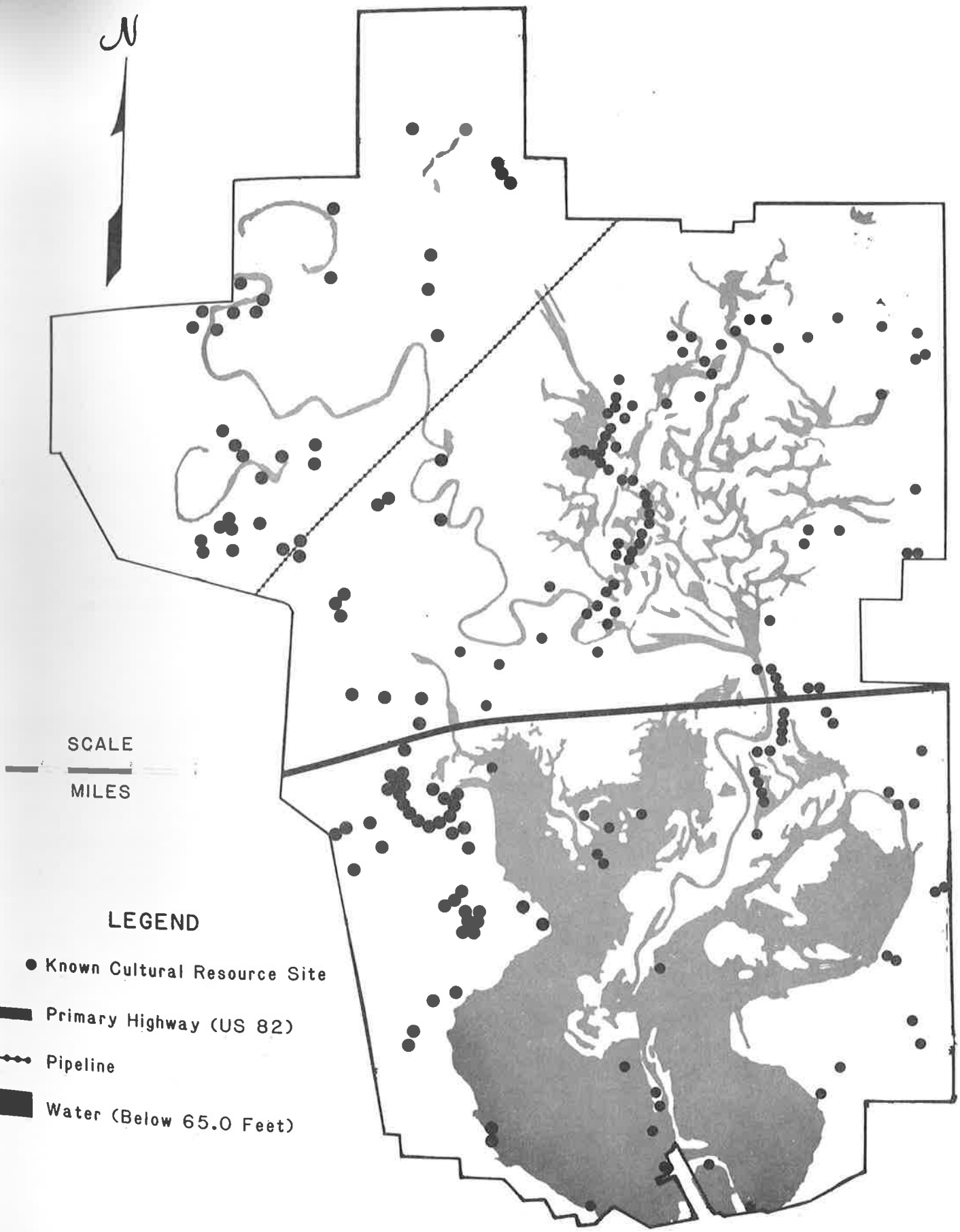
Additional recreational facility development is also planned in and around the refuge in accordance with the COE's Ouachita and Black Rivers' Master Plan. On an approximate 175-acre site adjacent to the Crossett Port, a Class-A campground facility is to be developed. This facility will include 100 campsites with water and electrical hookups, washhouses, restrooms, picnic area and necessary support facilities such as a sewage disposal system. A similar but smaller facility is also being developed along the southern boundary west of the Felsenthal Lock and Dam at the Grand Marais access site. All the above development is scheduled to be completed by September, 1988.

## SPECIAL VALUES

The Felsenthal Basin in which the Felsenthal NWR lies is well kno its cultural resources value. Within the refuge boundaries there are 200 known cultural resource sites. A number of these are eligibl listing on the National Register of Historical Places. Among these signi sites are the Eagle Lake Mounds, one of the most pristine and well-pre temple mound groups in the State of Arkansas. A second important archeolo site is at Shallow Lake. This area is known to have over 200 struc including a religious center, burial mounds and a permanent fishin hunting village. Figure 5 shows these known sites.

As a result of the construction of the Felsenthal Lock and Dam and subse seasonal flooding of five feet above the permanent pool, Felsenthal now contains the largest greentree reservoir in the world consistin 21,000 acres of flooded bottomland hardwoods. The area is gradually flo beginning in early November and peaking the first of January, then foll by a gradual drawdown through mid-May. The greentree reservoir bene not only over-wintering migratory waterfowl but also enhances the sp fish spawn.

FIGURE 5
CULTURAL RESOURCES MAP



## PUBLIC INVOLVEMENT

In compliance with the National Environmental Policy Act, the following methods were utilized to involve the public during the master planning process for Felsenthal NWR.

1) Master Plan Core Group - This committee consisted of representatives from Federal, State and local entities. Periodic meetings were held with this group to elicit ideas, opinions and information. They also assisted in gathering background information and in formulating various management alternatives. This group was active throughout the entire master planning process.

2) Public Meetings - Public meetings were held twice during the planning process in each of the three counties occupied by the refuge. The first meeting was more of an informational or "scoping" meeting held very early in the planning process. During the first meeting the public had the opportunity to learn about master planning and express their opinions and ideas regarding refuge management. A second series of public meetings was held after the management alternatives were developed and a preferred alternative selected. During the second set of meetings the public was able to express comments and concerns regarding the chosen management direction.

Throughout the entire master planning process comments from the public were welcomed.

# II: Affected Enviroment

# AFFECTED ENVIRONMENT

## PHYSICAL ENVIRONMENT

### Setting

This 65,000-acre refuge lies within the Felsenthal Basin which is the remnant of a huge lake that at one time extended south beyond Monroe, Louisiana. Now the basin is an extensive, natural depression that is dissected by an intricate system of rivers, sloughs, bayous and lakes separated mostly by woodlands. The area normally floods each year from overflows of the Ouachita and Saline Rivers.

### Land Status

Felsenthal NWR is a mitigation refuge, the result of Public Law 91-641 and the consequential COE's Ouachita/Black Rivers' Master Plan. Initially, the 65,000-acre refuge was managed by the FWS under an interim agreement with the COE from 1975 to 1985 when title was transferred. However, all mineral rights were retained by previous owners.

The water level of the 15,000-acre permanent pool, located primarily in the southern portion of the refuge, is managed through an informal cooperative agreement with the COE. By using the Felsenthal Lock and Dam the permanent pool is held most of the year. In the winter months, the water level is raised creating a 21,000-acre greentree reservoir.

### Climate

Hot humid summers and mild winters typify the climate at Felsenthal Refuge. Light snowfall and ice storms are normally infrequent occurrences. Normal precipitation averages 53.25 inches and mean annual temperature is 60.2°F. Approximately ninety-six days reach 90°F or above, while forty-one days are normally 32°F or below. Heaviest rainfall occurs during winter and early spring.

The refuge, itself, does not have any significant geologic features that affect the climate of the region.

### Topography

Topography is typically level with slightly elevated ridges. Relief varies from approximately 60 to 90 feet above mean sea level (MSL). The 100-year flood elevation within the influence of the Ouachita and Saline Rivers is 88.3 and 91.5 feet above mean sea level respectively. Consequently, requirements of Executive Order 11988, Floodplain Management, will apply to most developments occurring within the refuge. Lands below 72 feet MSL are generally wetlands and development in these areas will necessitate compliance with requirements of Executive Order 11990, Protection of Wetlands, and Army Corps of Engineers Section 404 under the Federal Water Pollution Control Act Amendments of 1972.

## Geology

Geological characteristics are the result of recent deposits alluvial soils and Pleistocene terrace features from former bots which streams have now cut. Bottomland and Terrace soils, material which varies from coarse to fine texture, is found and bottoms, while Forested Coastal Plain soils, which are clay loams, are characteristic of the higher elevations.

## Water Resources

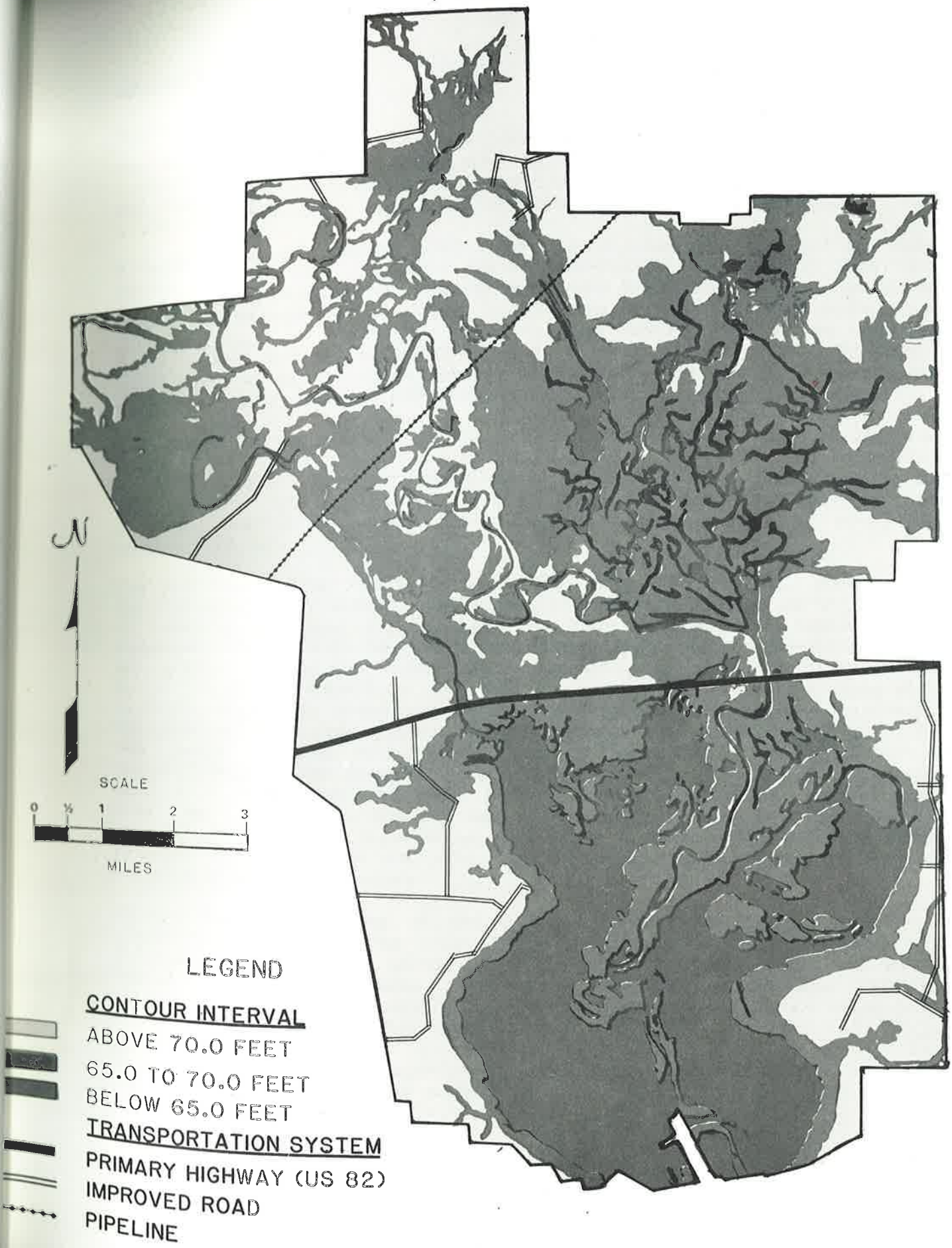
The watersheds of the Ouachita and Saline Rivers, whose confl center of the refuge, have a significant affect on the refuge 6). These two rivers along with their associated creeks, sl lakes and bayous eventually drain into the Mississippi River sy two river systems plus the permanent pool of the Felsenthal L have a profound affect upon overall refuge management.

The management of the refuge does not significantly impact the o quality. However, there is oil and gas activity on the refuge past there have been minor oil spills. If these occur during high water, the possibility does exist that portions of the wate be contaminated before the spill is detected.

Two factors influence the flooding potential on Felsenthal. topography is relatively flat, varying only by thirty feet. Sec refuge is located in the Felsenthal Basin; therefore, the refug than much of the surrounding area. These two factors, coupled wit rains that occur during late fall and throughout the winter, result i of the refuge being flooded up to eight months out of the year.

WATER RESOURCES

FIGURE 6



## BIOLOGICAL ENVIRONMENT

### Vegetation

The land areas of Felsenthal are predominately pine and bottomland hardwood forests. These forest areas are, in general, separated by the 72-foot MSL elevation. Areas above this elevation are classified as uplands, those below are bottomlands. Figure 7 illustrates the various timber types.

Although pine predominates today, the upland areas are typified by three forest cover types: (1) white oak-red oak-hickory, (2) loblolly pine, and (3) loblolly pine-hardwood. The white oak-red oak-hickory type is considered the climax vegetation for these upland areas. Trees found in association with this type are white oak, post oak, southern red oak, winged elm, red maple, pignut hickory, mockernut hickory, blackgum and sweetgum. This plant composition makes the white oak-red oak-hickory type one of the best mast or wildlife food producing associations on the refuge for upland species.

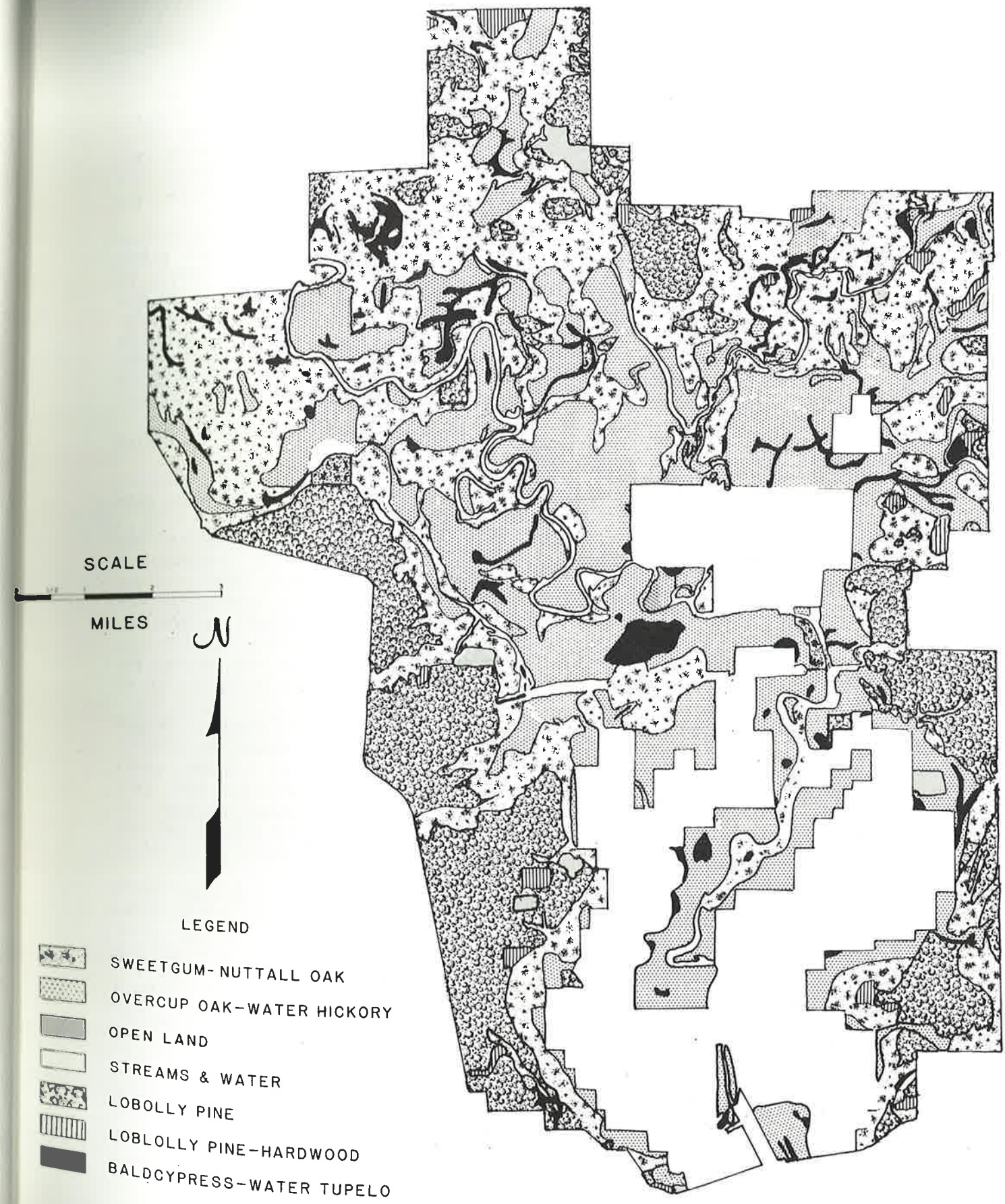
Also found in the uplands are the loblolly pine-hardwood and loblolly pine types. The loblolly pine-hardwood mixture is a transition type consisting of loblolly pine, sweetgum, shortleaf pine and southern red oak. Hardwoods dominate this type. The loblolly pine type is dominated by loblolly pine with the associating plants consisting of sweetgum, shortleaf pine, and southern red oak.

The bottomland, that which is generally below 72 feet MSL, consists of the following three forest cover types: (1) sweetgum-Nuttall oak-willow oak, (2) overcup oak-water hickory, and (3) bald cypress-water tupelo. The sweetgum-Nuttall oak-willow oak type occupies approximately one-third of the refuge especially in the higher, better drained bottomlands. It is considered to be the climax vegetation dominated by Nuttall and willow oak along with sweetgum, sugarberry green ash, overcup oak, red maple, and common persimmon. The oaks of this type produce acorns preferred by much of the wildlife. The overcup oak-water hickory type occupies the backwater basins and poorly drained flats of the refuge. Associated with the overcup oak (the dominant species in this type) and water hickory are the willow oak, Nuttall oak, green ash, sugarberry, and red maple. Flooding is often frequent and of long duration in the areas where this cover type occurs. Wildlife foods produced in these areas are usually more desirable for waterfowl than those produced at higher elevations.

At the lowest elevations of the refuge is found the bald cypress-water tupelo type. Much of the area occupied by this type will be permanently flooded. Species found in this type include the bald cypress and water tupelo, along with red maple, water locust, overcup oak and water hickory. In areas that are permanently flooded these species will produce seeds that can be used as a wildlife food source.

In addition to forested lands, there are approximately 150 acres of small prairie-like and open upland areas located throughout the refuge that provide some diversity.

FIGURE 7
TIMBER TYPES



Fish

The Ouachita and Saline Rivers, and Eagle, Lapile and Lapoile Creeks are the major drainages within the refuge, providing fifty-two miles of riverline habitat. Numerous bays, sloughs, bayous, beaver ponds, borrow pits and lakes provide additional aquatic habitat. Five lakes including Pereogeethe (55 acres) Eagle (21 acres), Buck (10 acres), Jones (34 acres), and Hoop (30 acres) are isolated from the rivers during periods of low water. They are all subject to flooding and are inundated nearly every year.

Native species of sport fish found in refuge waters include largemouth bass, black and white crappie, bluegill and other species of sunfish. Species of commercial importance include: channel, blue and flathead catfish; yellow and brown bullhead catfish; and big and smallmouth buffalo. Other common species include: freshwater drum; common carp; spotted, longnose and shortnose gar; bowfin; gizzard and threadfin shad; chain pickerel; paddlefish and various suckers. Some of the more common smaller species include brook silverside, gambusia, madtoms, pirate perch, log perch and minnow species (see Appendix E).

Birds

Felsenthal NWR provides habitat for approximately 200 species of birds, most of which are migratory (see Appendix E).

The refuge and its surrounding affected environment is located within the Mississippi Flyway (for waterfowl) and the migration corridor between north-central Canada and the area in and around the Gulf of Mexico and the Caribbean. The refuge provides habitat for those bird species requiring seasonally flooded bottomland hardwoods, upland pine stands, or relatively old growth timber. Areas with these characteristics are becoming scarcer throughout the nation and in southeast Arkansas as more lands are converted to agricultural use.

Migratory waterfowl utilizing Felsenthal NWR from mid-November through March includes mallards, wigeon, gadwall and teal. Peak one-day population estimates range upwards to 55,000 birds. Although waterfowl use the flooded bottoms they are generally concentrated in the sanctuary area, especially during the hunting season. The only resident waterfowl species found on the refuge are the hooded merganser and wood duck. The wood duck population is estimated to be 2,000 birds year-round increasing to 13,000 during the winter months.

Other migratory birds include large flocks of grackles and starlings that often strip an area of its mast crop. Felsenthal NWR is also on the migration route for a number of species of songbirds, birds of prey, herons and egrets and other marsh and water birds.

Resident birdlife is also found in an abundant variety. Resident game birds include quail, woodcock and wild turkey. Raptors make up a large portion of this group, the most common being turkey and black vultures, red-shouldered and red-tailed hawks, and screech and barred owls.

Mammals

Due to a diversity of habitat Felsenthal NWR is able to provide for a wide range of wildlife species. The refuge provides habitat for approximately

forty-five species of mammals (see Appendix E). Seasonal flooding during winter months temporarily forces many of the mammals to the higher ground both on the refuge and land areas adjacent to the refuge. During this time increased pressure is placed on limited upland habitat, thus causing some mammals to move off-refuge and out of the floodplain. Many of these mammals are listed as game animals - the most common being white-tailed deer, raccoon and squirrel. It is estimated that the fall white-tailed deer population ranges from 1,800-2,000 animals. This species is the most popular big game animal on Felsenthal NWR. Traditionally, the area has been hunted since the refuge provides approximately 50,000 acres of reasonably good deer habitat. However, the white-tailed deer found on Felsenthal NWR are generally smaller than those found in central and northern Arkansas. The average hog-dressed weight of a 2.5-year old buck is about 100 pounds and a doe of the same age about 70 pounds.

Beaver inhabit the sloughs, creeks and bayous throughout the refuge. This particular species is quite abundant and is a cause of special concern. Although the beaver pond do have wildlife value, such as fish nursery ponds, brood habitat for wood ducks and providing moist soil units for wintering waterfowl, if allowed to remain too long in a timber stand they eventually cause those trees to die. There has been substantial timber loss on the refuge due to beavers and their ponds.

Small game mammals such as squirrels, opossums and raccoons are relatively abundant throughout the refuge. There have been periodic reports of disease outbreaks among the raccoon population.

## Threatened and Endangered Species

Felsenthal provides habitat for a number of endangered species, three of which are actually found on the refuge: the red-cockaded woodpecker, American alligator and bald eagle. There is a remote possibility that the Florida panther may be found in the area. The red-cockaded woodpecker and the American alligator are resident species. The bald eagle is a transient species, occasionally seen between October and March.

Refuge management programs aid the two resident endangered species. Much of the upland forest management is aimed at increasing and improving habitat for the red-cockaded woodpecker. In the past the refuge was involved in a restocking program for American alligators. However, the reintroduction program has been inactive since 1976.

## Reptiles and Amphibians

Approximately ninety species of reptiles and amphibians inhabit Felsenthal NWR (see Appendix E). The vast majority of these species inhabit the intricate system of creeks, sloughs, bayous, lakes and rivers that crisscross the refuge. The list of reptiles and amphibians includes a variety of salamanders, toads, treefrogs, lizards, snakes, skinks, and turtles. Some species of special note are the American alligator which has been reintroduced into the area through a stocking program, the western cottonmouth, found abundantly in and around beaver ponds and the alligator snapping turtle which utilizes many of the oxbow lakes and drainages.

## HUMAN ENVIRONMENT

### Cultural Resources

Southeast Arkansas is well known for its bounty of cultural resources. Unfortunately, many sites have been lost in the area due to agricultural, forest and land development. Felsenthal NWR is the only remaining large area that contains some relatively undisturbed sites of the Caddoan culture dating as far back as 5,000 years. There are over 200 known sites on the refuge including villages, burial mounds, seasonal fishing sites and temple mounds. Cultural resources influence all other areas of refuge management.

### Population Trends and Composition

Felsenthal NWR falls within the confines of Ashley, Bradley and Union Counties which have a combined population of 88,914 (1980 census). El Dorado (population of 25,500) is the closest metropolitan area and is located thirty-five miles west of the refuge. The closest city to the refuge is Crossett, population 6,700, located eight miles to the east. Approximately 500,000 people live within a 100-mile radius of the refuge.

### Sociocultural Systems

The majority of the local citizens are long time residents of the area. Many families have lived in and around the area for generations. There is a strong family influence regarding occupations, education and life styles throughout the area.

Occupations are largely based on timber, agricultural or petroleum industries. The majority of people involved in these businesses are blue collar workers or laborers. The mean annual family incomes for the three counties, based on 1980 census figures are: Ashley - $16,119; Union - $15,412; and Bradley - $12,759. Other demographic information is summarized in Table I.

TABLE I

POPULATION STATISTICS (1980 figures)

| | Ashley | Union | Bradley |
|---|---|---|---|
| Population | 26,538 | 48,573 | 13,803 |
| % 65 years or older | 12.85% | 15.70% | 18.42% |
| % 18 years or older | 45.71% | 40.69% | 50.11% |
| % 18 years and older not completing high school | 67% | 71% | 71% |

## Economic Conditions

The area within the immediate vicinity of the refuge is predominantly forestry based economy with large timber corporations located at Crosset Huttig and Strong. Further west of the refuge the petroleum industry the dominant economic force. Two large petroleum companies are headquarter in El Dorado, which is known as the oil capital of Arkansas. There a twenty-one oil wells located on the refuge.

Agricultural lands in the refuge's affected area are primarily located the east in Ashley County. Approximately 134,000 acres are planted cotton, soybeans, wheat and rice in an area that was once predominant bottomland hardwoods. As the agricultural industry has expanded in th region, the acres of bottomland hardwoods has decreased and continues do so. The remaining agricultural lands in Ashley and the majority o such lands in Bradley and Union Counties are small truck or subsistanc farms.

In addition, there are numerous small industries. The economic base i generally healthy and should remain stable through the next few years.

## Public Use

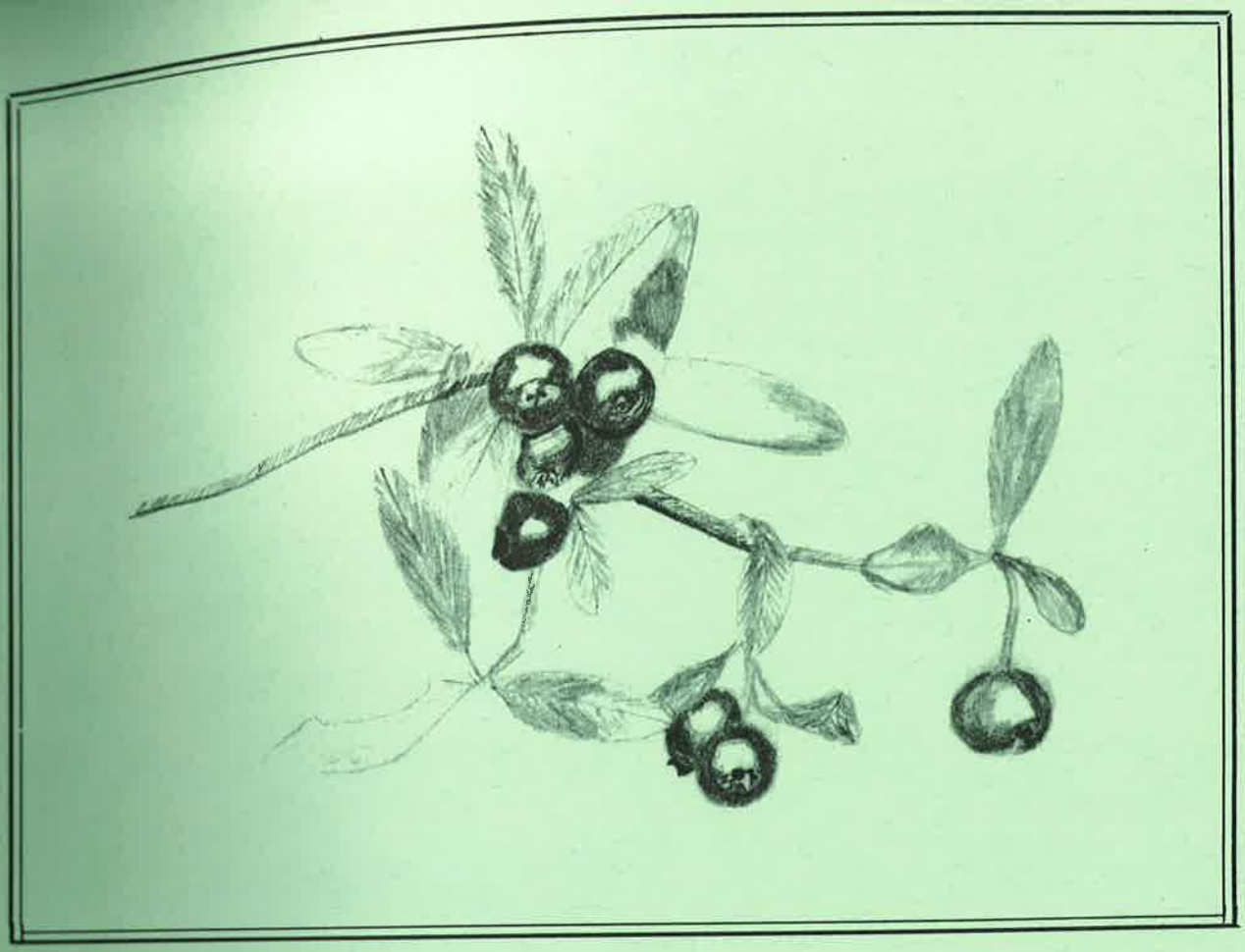
Outdoor recreation activities in Ashley, Bradley, and Union Counties primarily take the form of hunting, fishing and camping (which is generally in associatio with the first two activities).

Other popular outdoor activities include boating and its related activities of swimming, picnicking and waterskiing. Currently, there are no facilities developed in the area primarily for non-consumptive wildlife-oriented recreation activities such as hiking, backpacking, canoeing, wildlife observation, interpretation and environmental education. Even though demand on the refuge is not currently high, it is expected to increase as facilities are developed and made available.

## Existing Facilities

Public transportation is very limited in the area that the refuge affects. In addition to bus service, there is a small airport in El Dorado served by a local airline. The nearest regional airport is located in Monroe, Louisiana, fifty miles to the south.

U. S. Highway 82 bisects the refuge and is the major transportation artery in the area. Access into the interior of the refuge can be gained from U. S. Highway 82 through numerous timber access and county roads. Access to the remote northern part of the refuge can be gained from State Highway 160. The refuge road system is extremely poor. Some roads have been improved in accordance with the COE's Ouachita and Black Rivers' Master Plan. Any additional road improvements will be accomplished through refuge funding.



# III: Management Strategies

## MANAGEMENT LEVELS AND ACTIVITIES

Many of the levels or strategies developed, if selected as part of the preferred alternative, will require an additional planning effort or document to be fully implemented. Some of these levels can be planned for and accomplished without any additional documentation, and in some instances it was determined that a particular management level could not be considered under any circumstances. Table II summarizes each activity and its three management levels and the need or lack of need for additional planning efforts for each management level.

A list of management activities has been developed and divided into the categories of public use, habitat and wildlife populations management. Intensive, moderate, and minimal management levels or strategies for each activity have also been developed. Intensive management generally will achieve the maximum possible result. However, in some of the public use categories (hunting, fishing and furtaking), it will result in a higher level of control or restrictions. A moderate level of management will not result in the highest level of output but will more than meet any minimal standards for a particular activity. A minimal level is the least amount that can be accomplished and still maintain a management activity. These activities and their various strategies were utilized in developing the management alternatives considered for the master plan. This information is summarized in Table III.

TABLE II

MANAGEMENT ACTIVITIES SUMMARY

| MANAGEMENT ACTIVITY | INTENSIVE MANAGEMENT | MODERATE MANAGEMENT | MINIMAL MANAGEMENT |
|---|---|---|---|
| Public Use | | | |
| Hunting (Big Game, Small Game, and Waterfowl) | X | X | X |
| Fishing | | | |
| Sport | X | X | 0 |
| Commercial | X | X | 0 |
| Furtaking | X | X | 0 |
| Off-Road Vehicling | | | |
| Maximum tire pressure 5 p.s.i. | X | X | - |
| Tire pressure exceeds 5 p.s.i. | - | - | - |
| Camping | X | X | 0 |
| Environmental Education | X | 0 | 0 |
| Interpretation | X | X | 0 |
| Program Information | 0 | 0 | 0 |
| Other Wildlife/Wildlands Oriented Activities | X | 0 | 0 |
| Non-Wildlife Oriented Activities | X | 0 | - |
| Other Commercial Activities | 0 | 0 | - |

TABLE II (cont.)

| MANAGEMENT ACTIVITY | INTENSIVE MANAGEMENT | MODERATE MANAGEMENT | MINIMAL MANAGEMENT |
|---|---|---|---|
| **Habitat Management** | | | |
| Moist Soils Management | X | X | - |
| Water Management | X | X | 0 |
| Openings Management | X | 0 | - |
| Croplands Management | X | X | - |
| Timber Management | X | X | 0 |
| Natural Areas Management | X | 0 | - |
| Fire Management | X | X | X |
| Oil & Gas Management | X | X | X |
| Cultural Resources Management | X | 0 | 0 |
| **Wildlife Populations** | | | |
| Waterfowl | X | X | 0 |
| Endangered Species | | | |
| Red-Cockaded Woodpecker | X | X | 0 |
| American Alligator | X | X | 0 |
| Bald Eagle | X | X | 0 |
| Other Native Endangered Species | X | 0 | 0 |
| Big Game | | | |
| White-tailed Deer | X | 0 | 0 |
| Black Bear | X | 0 | - |
| Turkey | X | 0 | 0 |

TABLE II (cont.)

| MANAGEMENT ACTIVITY | INTENSIVE MANAGEMENT | MODERATE MANAGEMENT | MINIM MANAGE |
|---|---|---|---|
| Small Game & Furbearers | X | X | 0 |
| Other Resident/Non-Resident (Non-Game) Species | 0 | 0 | 0 |
| Fisheries Management | X | X | - |

X - Requires specific or additional planning

0 - Additional planning not required

- - Not permitted

## MANAGEMENT ACTIVITY DESCRIPTION BY MANAGEMENT LEVELS

| MANAGEMENT ACTIVITY | INTENSIVE MANAGEMENT | MODERATE MANAGEMENT | MINIMAL MANAGEMENT |
|---|---|---|---|
| PUBLIC USE MANAGEMENT | | | |
| Consumptive | | | |
| Activities of hunting, fishing and furtaking in which a part of the renewable refuge resource is removed by the public. | | | |
| Hunting | | | |
| Includes the taking of big game, small game & waterfowl species listed in Appendix G. | | | |
| Big Game | Manage hunts for a quality experience, keeping program as simple as possible, utilizing hunter quota permits as necessary. Establish seasons to maintain optimum populations. Conduct vigorous hunt information/education program. Review for biological soundness. | Limit seasons. Continue to manage for a quality experience and biologically sound hunts. | Permitted. State seasons and bag limits. No hunter quotas. |
| Small Game | Limit and establish seasons to maintain optimum populations. Manage for a quality experience. | Limit seasons and manage for a quality and biologically sound hunt. | Permitted. State seasons and bag limits. |

TABLE III (cont.)

| MANAGEMENT ACTIVITY | INTENSIVE MANAGEMENT | MODERATE MANAGEMENT | MINIMAL MANAGEMENT |
|---|---|---|---|
| Hunting (cont.) | | | |
| Waterfowl | Manage for a quality experience. Use hunter permits as necessary. Limit hunt times and/or days. Maintain optimum flyway populations in concert with available habitat, and review hunt for biological soundness. | Manage for a quality experience. Limit hunt times and/or days for a biologically sound hunt. | Permitted. State seasons and bag limits. |
| Fishing | | | |
| Sport - The use of refuge waters for the taking of fish by means other than commercial tackle. | Establish programs for special user groups (handicapped, youth, etc.) and increase facilities (ponds, piers, etc.). | Limited special programs, seasonal management. | Permitted. State seasons and regulations. |
| Commercial - Includes the use of commercial tackle and fishing tournaments. | Control use through facilities, access, and permits. | Limited control, permits, seasonal management. | Permitted. State seasons and regulations. Permits required. |
| Furtaking | | | |
| The taking of furbearers listed in Appendix G through trapping. | Establish furtaker's season, permit system (limited), zones, special conditions using trapping methods | Limited seasons, some restrictions, permits (unlimited). | Permitted. State regulations. Permits (unlimited). |

TABLE III (cont.)

| MANAGEMENT ACTIVITY | INTENSIVE MANAGEMENT | MODERATE MANAGEMENT | MINIMAL MANAGEMENT |
|---|---|---|---|
| Non-consumptive | | | |
| Activities in which no portion of the resource is removed but the area is utilized by the public. | | | |
| Off-Road Vehicling | | | |
| Limited to vehicles with maximum tire pressure of 5 p.s.i. Use is limited to wildlife/wildlands activities on designated trails only. | Establish a trail system to provide public access to additional areas of the refuge. ORV use may be controlled by permit system. Provide trail maintenance meeting Service standards. | Establish a limited trail system accomodating seasonal needs with trail maintenance meeting Service standards. | Not permitted. |
| Off-Road Vehicling | | | |
| Tire pressure greater than 5 p.s.i. | Not permitted. | Not permitted. | Not permitted. |
| Camping | | | |
| Permitted in conjunction with wildlife/wildlands oriented activities. | De-emphasize/reduce camping to a limited number of well-maintained designated areas. Encourage private enterprise to pick up camping activity. | Provide designated areas, with limited improvements such as water and scheduled maintenance. | Provide primitive designated areas & limited maintenance. Provide minimal sanitation facilities. |

TABLE III (cont.)

| MANAGEMENT ACTIVITY | INTENSIVE MANAGEMENT | MODERATE MANAGEMENT | MINIMAL MANAGEMENT |
|---|---|---|---|
| Environmental Education | | | |
| Participation in primarily on-site education programs by students & teachers. Utilization of the refuge as an outdoor classroom. | Schedule on-site EE programs & activities, provide teacher work-shops, utilize Project WILD & develop teacher materials. Expand to all local school systems. | Provide teacher assistance, Project WILD on an as-can basis, and an outdoor classroom. | Provide no formal program. |
| Interpretation | | | |
| Use of various media to illustrate management practices & programs to the general public and to interpret key resource issues. | Provide and maintain interpretive brochures, kiosks, visitor center, exhibits, trails (canoe, interpretive and wildlife drive) & demonstration areas to emphasize & demonstrate management programs. | Provide limited outdoor exhibits, kiosks, and on and off-refuge programs. | Provide general brochures with interpretive resource information. |
| Program Information | | | |
| The distribution of information to the public through newspaper, radio & television. | Distribution of information beyond the local areas, utilizing state | Monthly column in local papers, periodic | Response to |

TABLE III (cont.)

| MANAGEMENT ACTIVITY | INTENSIVE MANAGEMENT | MODERATE MANAGEMENT | MINIMAL MANAGEMENT |
|---|---|---|---|
| Other Wildlife/Wildlands Oriented Activities | | | |
| Includes photography, wildlife observation, berry picking, canoeing, hiking & horseback riding and associated facilities. | Provide and manage for a variety of opportunities and actively promote. Emphasis will be placed on wildlife observation, hiking and canoeing activities & facilities. | Provide some specific trails and opportunities for wildlife observation, hiking and berry picking. | Utilize existing facilities with no active promotion. |
| Non-Wildlife/Wildlands Oriented Activities | | | |
| Includes activities of boating, swimming, waterskiing, picnicking and horseback riding & associated facilities. | Provide improved facilities, establish use zones, manage for restricted and seasonal use. | Permitted with restrictions. Establish use zones. | Not permitted. |
| Other Commercial Activities | | | |
| Includes activites such as guide services, boat rentals, marinas & related concessions. | Manage through the use of permits, special conditions as demand warrants. Monitor as needed. | Permit with restrictions. | Not permitted. |

TABLE III (cont.)

| MANAGEMENT ACTIVITY | INTENSIVE MANAGEMENT | MODERATE MANAGEMENT | MINIMAL MANAGEMENT |
|---|---|---|---|
| **HABITAT MANAGEMENT** | | | |
| Moist Soils Management | | | |
| Manage and maintain openings in bottomland hardwoods for native annual vegetation including managing some existing beaver ponds. | Develop, utilize & evaluate various moist soil management techniques for optimum production of wildlife foods. Create moist soil management units through dike & levee construction and openings. | Manage existing natural moist soil areas. | No active management |
| Water Management | | | |
| Manipulation of water levels using Felsenthal Lock & Dam. | Complete implementation of approved water management plan including long-term bottomland hardwood monitoring study. | Limited implementation of water management plan. | Maintain minimum 65' MSL navigation pool with no attempt to regulate water levels. |
| Openings Management | | | |
| Openings of various sizes throughout forested acreage to provide habitat diversity. Management includes planting of native grasses & selected [illegible] | Develop, establish and maintain a strategic system of permanent & temporary wildlife openings (5% of refuge). | *Maintain current openings.* | *No active management.* |

| MANAGEMENT ACTIVITY | INTENSIVE MANAGEMENT | MODERATE MANAGEMENT | MINIMAL MANAGEMENT |
|---|---|---|---|
| **Croplands Management** | | | |
| Develop agricultural program involving planting & cultivation of preferred wildlife food crops such as rice, soybeans, milo and corn. | Establish, maintain and cultivate network of strategically located agricultural fields throughout refuge. | Plant selected agricultural crops in some existing clearings/openings to supplement natural wildlife foods. | No activity. |
| **Timber Management** | | | |
| To enhance & provide habitat diversity of native forest species preferred by wildlife through timber management techniques such as insect and disease control, fire management, thinning and reforestation. | Manage native forest types to provide maximum habitat diversity. Activities include RCW management, TSI, WSI, timber harvest, reforestation, prescribed burning (pine) & insect disease control to benefit native wildlife, research and evaluation of management practices. Maintain existing hardwood acreages and intensively manage as separate units. | Timber harvest and burning to maintain current stand conditions. Maintain hardwood acreages. | Limited timber harvest and burning to maintain current RCW habitat. |
| **Natural Areas Management** | | | |
| An area set aside in which no active management occurs. This serves as a natural benchmark comparing active management to no management. | Select, officially designate, protect and manage natural areas, wilderness areas, etc. | Unofficially designate, protect, and maintain areas. | No official designation. |

TABLE III (cont.)

| MANAGEMENT ACTIVITY | INTENSIVE MANAGEMENT | MODERATE MANAGEMENT | MINIMAL MANAGEMENT |
|---|---|---|---|
| Fire Management | | | |
| Control wildfires on refuge. Uses prescribed burning in pine stands to provide habitat diversity & red-cockaded woodpecker habitat. | Prescribe burn approximately 1/3 of pine acreage annually. Burn for specific management purposes. Control wildfires. | Prescribe burn approximately 1/5 of pine acreage annually. Control wildfires. | Prescribed burn to maintain RCW colonies only. Limited wildfire control. |
| Oil and Gas Management | | | |
| Protect wildlife habitat through monitoring & supervision of exploration and production of oil and gas resources by mineral owners. | Fully protect integrity of habitat in conjunction with oil and gas development through permits, special conditions and intensive monitoring. | Enforce compliance of Federal and State laws. | Monitor oil and gas exploration and production. |
| Cultural Resources Management | Intensive survey & testing of entire refuge, protect and maintain known sites, ensure compliance with ARPA for all development and management activities. | Protect and maintain known sites, ensure ARPA compliance. Conduct surveys and testing as needed. | Protect and monitor sites, ensure ARPA compliance. |

TABLE III (cont.)

| MANAGEMENT ACTIVITY | INTENSIVE MANAGEMENT | MODERATE MANAGEMENT | MINIMAL MANAGEMENT |
|---|---|---|---|
| WILDLIFE POPULATIONS | | | |
| Waterfowl | | | |
| Resident and Migratory Species | Conduct intensive duck production and harvest surveys, banding, intensive habitat management, research/ data collection (food habits, disease, harvest, etc.) and predator control. Monitor water quality parameters. Manage beaver ponds for waterfowl production & brood needs. Expand wood duck box and natural cavity tree program. | Periodic surveys and limited habitat management (water level and moist soil management). Periodic water quality monitoring. Reduce management of beaver ponds. Reduce predator control. Little expansion of wood duck nesting program. | Periodic surveys and limited habitat management. |
| Endangered Species | | | |
| Those endangered species present on the refuge will be protected and and managed according to legal mandates and FWS policy. | | | |
| Red-cockaded Woodpecker | Conduct intensive surveys, habitat management and research/data collections. | Periodic cavity tree counts, with limited habitat management. | No active management. |
| American Alligator | Continue restocking program and scheduled surveys. | Conduct periodic surveys. | No active management. |

TABLE III (cont.)

| MANAGEMENT ACTIVITY | INTENSIVE MANAGEMENT | MODERATE MANAGEMENT | MINIMAL MANAGEMENT |
|---|---|---|---|
| Bald Eagle | Participate in limited hacking program & surveys. | Conduct periodic surveys including nest searches. | No active management. |
| Other Native Endangered Species (e.g., mammals, invertebrates & plants.) | Possible reintroduction programs and necessary habitat management. | Conduct periodic status surveys. | No active management. |
| Big Game | | | |
| White-tailed Deer | Maintain a healthy balanced deer herd within carrying capacity of managed habitat. Collect complete biological data. | Limited surveys and biological collection, and habitat management. | No active management. |
| Black Bear | Possible reintroduction, periodic population monitoring, habitat management, protection and public relations programs. | Provide habitat for possible natural reoccurence, conduct periodic status surveys. | No active management, but assess potential habitat. |

| MANAGEMENT ACTIVITY | INTENSIVE MANAGEMENT | MODERATE MANAGEMENT | MINIMAL MANAGEMENT |
|---|---|---|---|
| Small Game and Furbearers (species listed in Appendix G.) | Intensive habitat management, population surveys and population control practices. | Conduct population control practices and some surveys. | Nuisance animal control. |
| Other Resident/Non-Resident, Non-Game Species (Species listed in Appendix G. Includes colonial and wading birds, song birds & birds of prey, non-game mammals, reptiles and amphibians.) | Intensive surveys (population, production, and habitat needs) and habitat manipulation. | Periodic surveys. | No active management. |
| Fisheries Management | Conduct stocking programs, establish nursery ponds, renovations, surveys and preferred species management. Intensive water and vegetation management and control, including spawning pool, winter drawdown, etc. | Establish nursery pond, stocking program, intensive sampling, and other AGFC-sponsored practices. | Limited water management (drawdown) and vegetation control. |

## Management Directives

The objectives for the operation of Felsenthal Nati
are as follows:

1. To provide habitat for overwintering migratory w
2. To provide habitat and protection for endangered
3. To provide quality outdoor recreation opportuniti
4. To protect cultural resources.

The Fish and Wildlife Service uses a number of document
program direction for such activities as public use, migrato
species, etc. In addition to national and regional
also numerous factors and decisions existing that have
overall management of Felsenthal NWR.

Since the establishment of the refuge in August 1975 un
Felsenthal NWR was managed under an interim agreement wit
this agreement the refuge was managed by the FWS while
construction of the Felsenthal Lock and Dam and a number
access sites, called for in the Ouachita and Black Rive
The Ouachita and Black Rivers' Master Plan called for th
nine recreation access sites in and around Felsenthal NWR.
of the FWS were involved in this planning prccess that determi
NWR the location of six on-refuge recreation sites that in
parking areas and access roads into these areas. Constru
one of these areas is expected to be completed by fall of 198

Also affecting the master planning effort for Felsenthal NWR
made by FWS to the public at meetings held in the late 197
commitments made relate to traditional uses of the area
Basically, it was promised that such activities as hunting, fi
camping and related recreational activities (wildlife and non-wi
would be permitted on Felsenthal NWR.

During the acquisition process only the surface rights were
the refuge. Because mineral rights were retained in private
are twenty-one active, previously existing, oil wells in th
section of the refuge. Throughout Felsenthal NWR surface rights
to the mineral rights. Individuals owning the mineral ri
law, exploration and production privileges. The possibili
that a mineral rights' owner could impact any aspect of refu
or development by exercising their legal rights.

Prior to the completion of the Felsenthal Lock and Dam whic
on the refuge's southern boundary, an informal agreement was re
FWS, Arkansas Game and Fish Commission and COE regarding water level
The major thrust of this agreement is that the COE will maintain
pool at 65 feet MSL from mid-spring to mid-fall, gradually raise
pool to 70 feet MSL by early winter and then gradually drop
65 feet MSL by mid-spring.

Since one of the major objectives of Felsenthal NWR is to provide habitat and protection of wintering waterfowl, a waterfowl sanctuary was established initially during the 1979-80 hunting season. This first sanctuary area was north of Highway 82 and south of the pipeline. (See Figure 8). The waterfowl sanctuary has since changed and currently encompasses approximately 8,000 acres in the central portion of the refuge. (See Figure 9). In order to provide additional protection for wintering waterfowl, the sanctuary area is closed to public entry during the waterfowl hunting season.

FIGURE 8

Waterfowl Sanctuary 1979 - 80

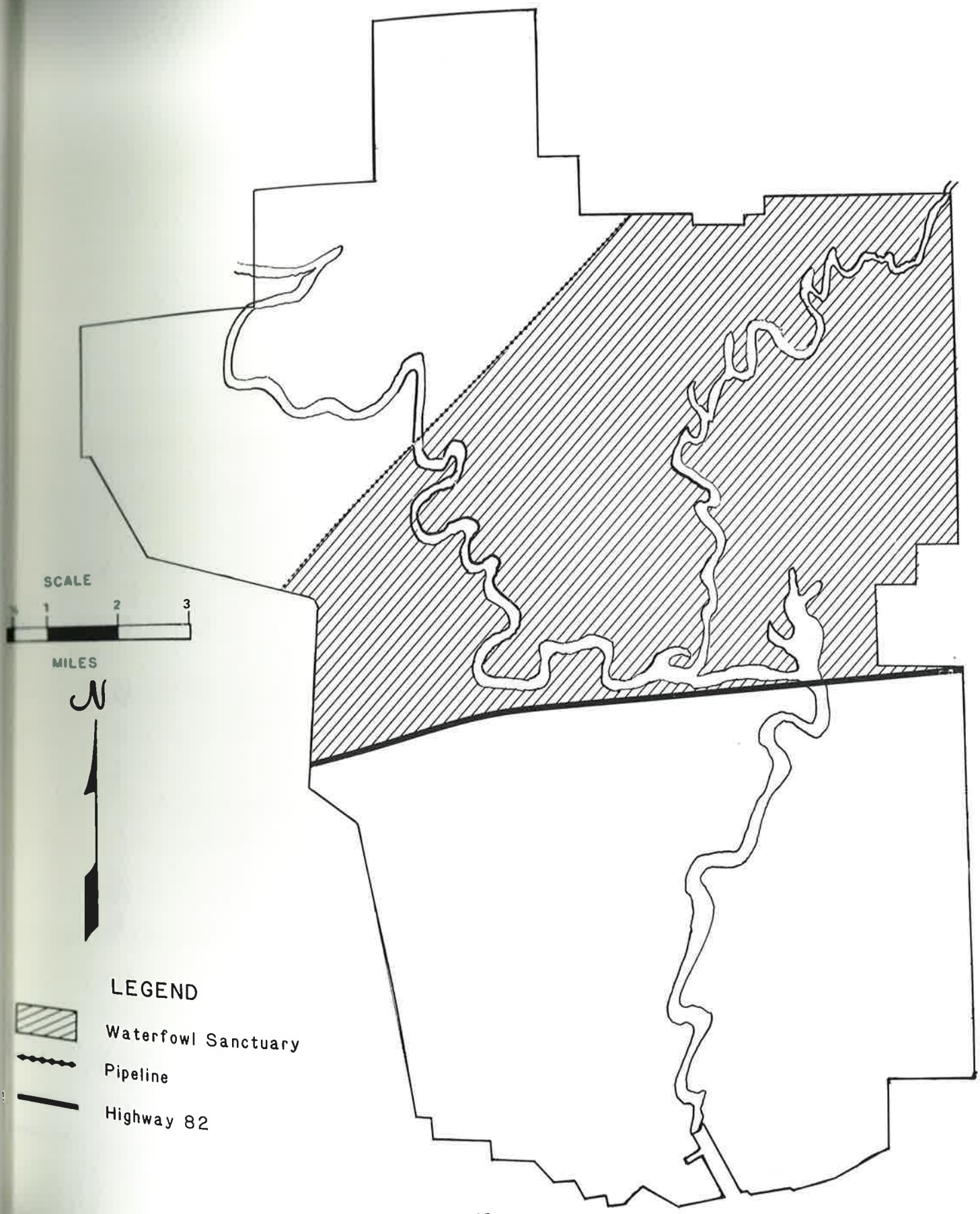
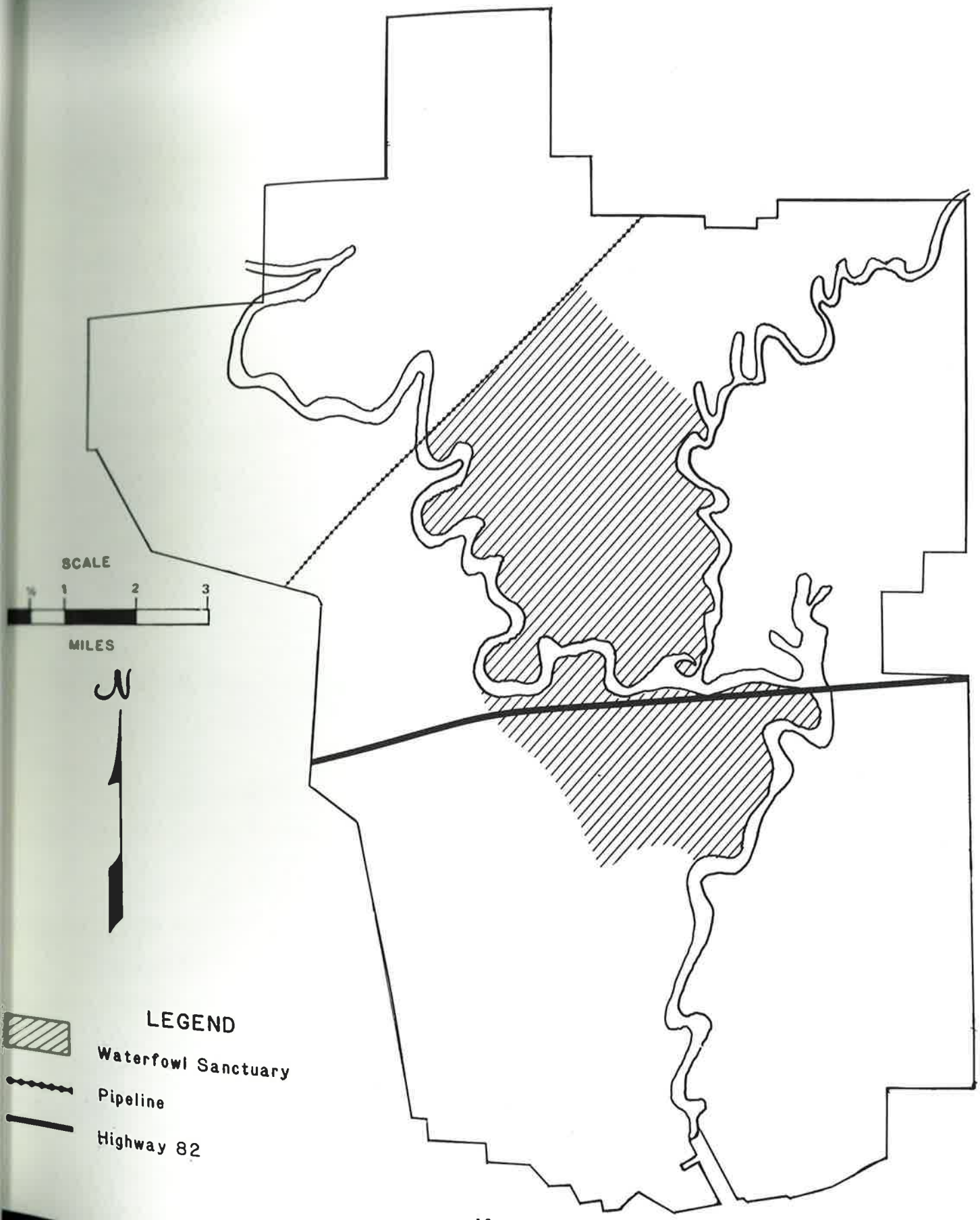


FIGURE 9

Waterfowl Sanctuary 1981-86



# V: Description of Management Alternatives

## DESCRIPTION OF MANAGEMENT ALTERNATIVES

After consideration of the management activities and levels, three management alternatives were developed for determining the direction the management of Felsenthal NWR will take. The description of each of these alternatives follows. A table depicts each management activity and the level of management (Tables IV, V and VI), a map (Figures 10, 11 and 12), followed by a written description of the management alternative.

TABLE IV

ALTERNATIVE A

NO ACTION OR CURRENT STATUS

MANAGEMENT ACTIVITIES SUMMARY

| MANAGEMENT ACTIVITY | INTENSIVE MANAGEMENT (1) |
|---|---|
| **Public Use** | |
| Hunting | |
| Big Game | |
| Small Game | X |
| Waterfowl | |
| Fishing | |
| Sport | |
| Commercial | |
| Furtaking | |
| Off-Road Vehicling | |
| Maximum tire pressure 5 p.s.i | |
| Tire pressure exceeds 5 p.s.i. (Not permitted) | |
| Camping | |
| Environmental Education | |
| Interpretation | |
| Program Information | |
| Other Wildlife/Wildlands Oriented Activities | |
| Non-Wildlife/Wildlands Oriented Activities | |
| Other Commercial Activities | |

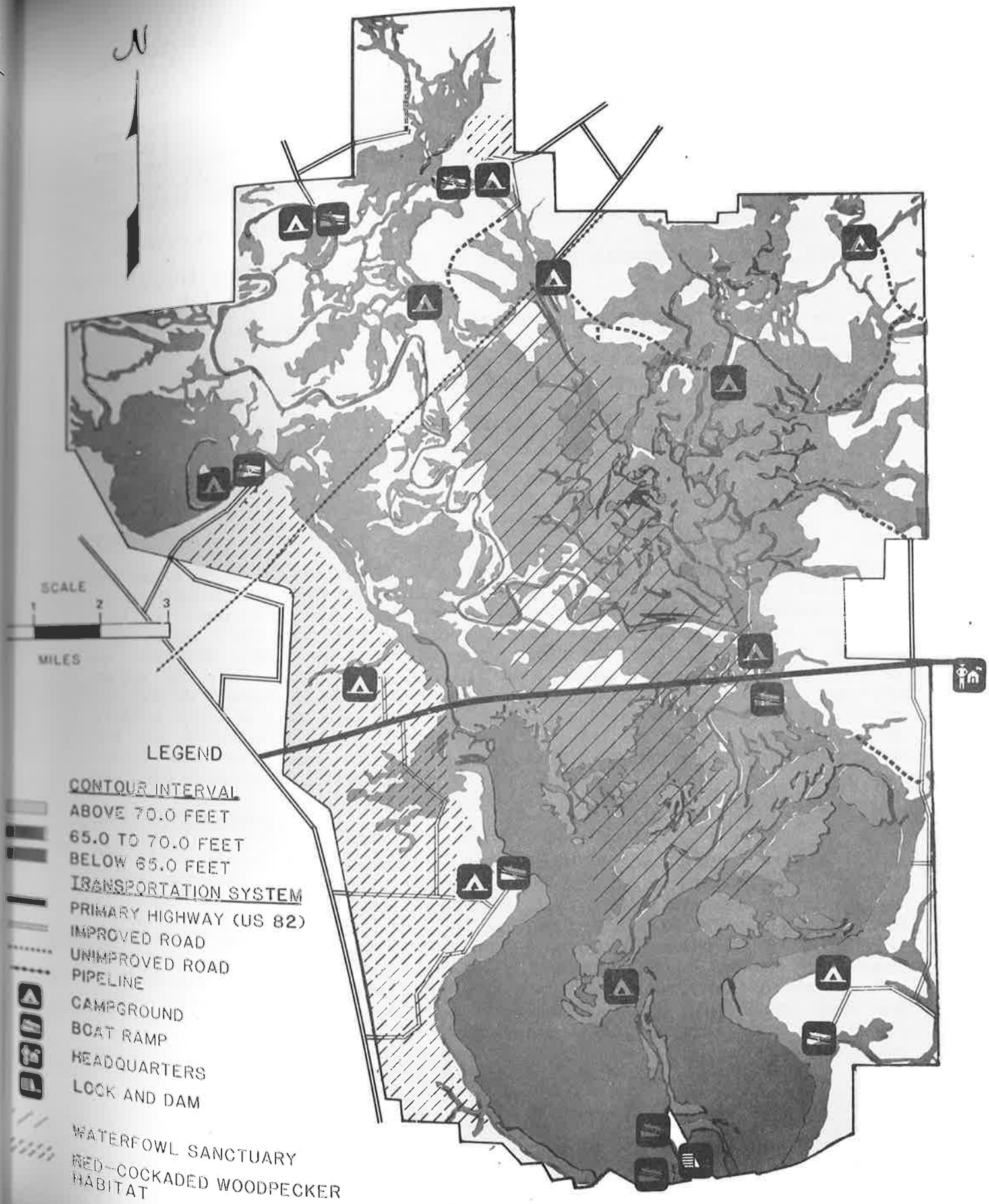
TABLE IV (cont.)

| MANAGEMENT ACTIVITY | INTENSIVE MANAGEMENT (1) | MODERATE MANAGEMENT (11) | MINIMAL MANAGEMENT (111) |
|---|---|---|---|
| **Habitat Management** | | | |
| Moist Soils Management | | | X |
| Water Management | X | | |
| Openings Management | | X | |
| Croplands Management | | | X |
| Timber Management | X | | |
| Natural Areas Management | | X | |
| Fire Management | | X | |
| Oil & Gas Management | X | | |
| Cultural Resources Mgmt. | | X | |
| **Wildlife Populations** | | | |
| Waterfowl | | X | |
| Endangered Species | | | |
| Red-Cockaded Woodpecker | | X | |
| American Alligator | | X | |
| Bald Eagle | | X | |
| Other Native Endangered Species | | | X |
| Big Game | | | |
| White-Tailed Deer | X | | |
| Black Bear | | X | |
| Turkey | X | | |

TABLE IV (cont.)

| MANAGEMENT ACTIVITY | INTENSIVE MANAGEMENT (1) |
|---|---|
| Small Game & Furbearers | |
| Other Resident/Non-Resident (Non-Game) Species | |
| Fisheries Management | |

FIGURE 10
ALTERNATIVE A



## ALTERNATIVE A (Current Status or No Action)

Alternative A describes the current management status. Traditional uses such as hunting, fishing, trapping and camping reflect the direction of the current public use program. During the past ten years the major habitat emphasis has been placed on timber management primarily to benefit the red-cockaded woodpecker. However, extensive focus has been placed on managing for the big game species of white-tailed deer and wild turkey, more so than other resident species.

A summary of major points of emphasis is as follows:

- In public use, emphasis is placed on hunting (especially big game) and fishing.
- Off-road vehicle access is permitted on designated trails.
- Water levels are managed in full accordance with the agreement between COE, Arkansas Game and Fish Commission and FWS.
- Major emphasis is placed on timber management.
- Big game species are managed more intensively than other species.

### Public Use

The major focus of the public use program under Alternative A would continue to be consumptive uses of hunting, fishing, and, to some extent, furtaking. Hunting, especially big game (white-tailed deer), will be managed quite vigorously. All gun deer hunts will be limited permit hunts requiring an extensive amount of staff time to manage. Over the past two years a number of roads, parking areas and boat ramps have been constructed by the COE on Felsenthal NWR. In terms of dollars, more has gone into improving fishing opportunities than any other activity; however, additional facilities are not anticipated. In comparison little effort is put into the other public use activities such as environmental education, interpretation or wildlife observation activities.

### Habitat Management

The major thrust of the habitat management program would continue to be timber management. However, water and oil and gas management will receive extensive attention. Timber management is one of the primary tools for managing the forests and will still primarily be used to benefit the red-cockaded woodpecker. The limited use of openings, prescribed burning and the unofficial establishment of natural areas will add diversity to the habitat management program and benefit a wide range of species. The increased emphasis on water management is the result of completion of the Felsenthal Lock and Dam and the institution of the water management plan previously mentioned. Emphasis on oil and gas management will continue as interest in oil and gas production on the refuge and its potential impacts remain.

## Wildlife Populations

Under the current status alternative most of the on managing big game species, especially white-tailed during gun deer hunts biological data is collected checked on the refuge and later analyzed for condition. Biological data will not collected for for the waterfowl lead shot monitoring study and survey. Periodic surveys and censuses will be species occurring on the refuge. Fisheries accomplished by the Arkansas Game and Fish Commission a moderate level, so as not to impact other management

TABLE V

ALTERNATIVE B

MANAGEMENT ACTIVITIES SUMMARY

| MANAGEMENT ACTIVITY | INTENSIVE MANAGEMENT (1) | MODERATE MANAGEMENT (11) | MINIMAL MANAGEMENT (111) |
|---|---|---|---|
| **Public Use** | | | |
| Hunting | | | |
| Big Game | X | | |
| Small Game | | X | |
| Waterfowl | X | | |
| Fishing | | | |
| Sport | | X | |
| Commercial | | X | |
| Furtaking | | X | |
| Off-Road Vehicling | | | |
| Maximum tire pressure 5 p.s.i | | X | |
| Tire pressure exceeds 5 p.s.i. (Not permitted) | | | |
| Camping | | X | |
| Environmental Education | X | | |
| Interpretation | X | | |
| Program Information | X | | |
| Other Wildlife/Wildlands Oriented Activities | X | | |
| Non-Wildlife/Wildlands Oriented Activities | | X | |
| Other Commercial Activities | X | | |

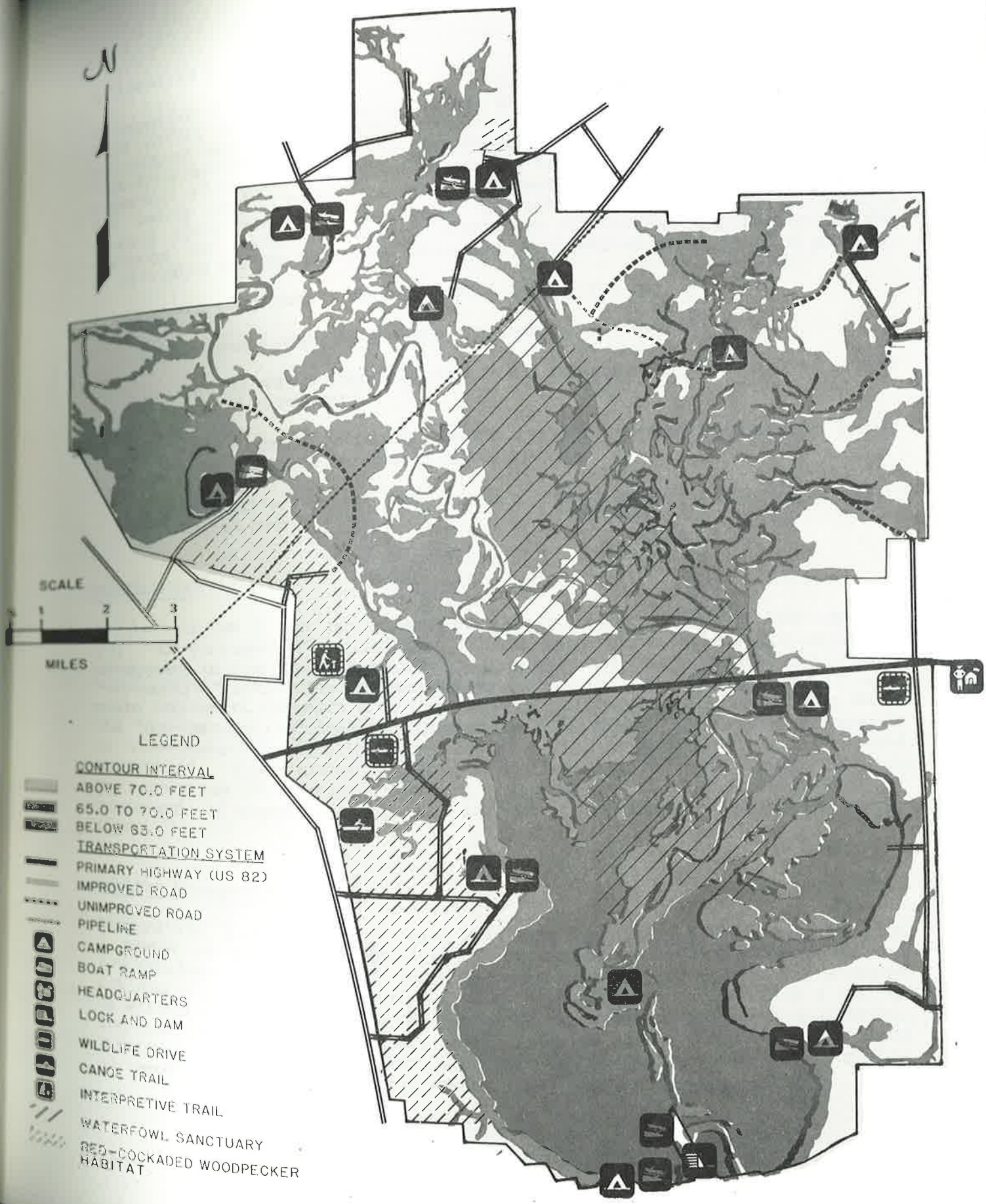
TABLE V (cont.)

| MANAGEMENT ACTIVITY | INTENSIVE MANAGEMENT (1) | MODERATE MANAGEMENT (11) |
|---|---|---|
| Habitat Management | | |
| Moist Soils Management | | X |
| Water Management | X | |
| Openings Management | X | |
| Croplands Management | | X |
| Timber Management | X | |
| Natural Areas Management | X | |
| Fire Management | X | |
| Oil & Gas Management | X | |
| Cultural Resources Mgmt. | | X |
| Wildlife Populations | | |
| Waterfowl | X | |
| Endangered Species | | |
| Red-Cockaded Woodpecker | X | |
| American Alligator | | X |
| Bald Eagle | | X |
| Other Native Endangered Species | | X |
| Big Game | | |
| White-Tailed Deer | X | |
| Black Bear | X | |
| Turkey | X | |

TABLE V (cont.)

| MANAGEMENT ACTIVITY | INTENSIVE MANAGEMENT (1) | MODERATE MANAGEMENT (11) | MINIMAL MANAGEMENT (111) |
|---|---|---|---|
| Small Game & Furbearers | | X | |
| Other Resident/Non-Resident (Non-Game) Species | | X | |
| Fisheries Management | | X | |

FIGURE 11
ALTERNATIVE B



ALTERNATIVE B

Alternative B demonstrates an overall increase in all areas of management. This offers a wider diversification for management plus an equalization of program emphasis. In public use there is an increased emphasis on the "non-consumptive" activities of interpretation, wildlife observation and environmental education. In habitat management timber is still managed intensively but levels are increased in other programs to provide a diversity in the overall forest management program. The management of wildlife populations reflects the overall goals and objectives of the FWS and Felsenthal NWR by providing for the intensive management of waterfowl and endangered species.

A summary of major points of emphasis is as follows:

- Increased emphasis on "non-consumptive" activities.
- Overall more attention placed on all aspects of waterfowl and endangered species management.
- More diversification of habitat through increasing management levels in a number of management activities.
- Maintaining current levels in big game management particularly white-tailed deer.

Public Use

In Alternative B the public use program is balanced between "consumptive" and "non-consumptive" activities. This alternative allows for intensive management of the hunting program particularly big game and waterfowl. Other "consumptive" activities are managed at a moderate level thus providing adequate management for each activity. Regarding those activities falling under the "non-consumptive"category, Alternative B provides for intensive management of interpretation, wildlife observation, environmental education and related activities. These higher levels are consistent with those associated with the operation of a visitor center. Alternative B also provides for the management of commercial public use activities including concessionnaire operations.

Habitat Management

Alternative B provides for good habitat diversification by allowing for a number of management activities to be managed at an intensive level and the remainder to be integrated at a moderate level. By intensively managing for timber, openings and fire, a diversity of habitat that benefits a variety of wildlife species including the endangered red-cockaded woodpecker is achieved. The combination of intensively managed water levels, with the resulting greentree reservoir, plus some moderate use of moist soils and croplands is beneficial to wintering waterfowl.

Wildlife Populations

Alternative B provides for the intensive management of waterfowl and endangered red-cockaded woodpecker plus moderate management of all o endangered species. This basically means an increase from current le to include collection of biological data, surveys and censusing and managem At the same time this alternative calls for the continued intensive manage of big game species including the possible stocking of black bear. O wildlife will be managed at a moderate level, which is basically a bene derived from intensive management of other species. To minimize confl with primarily waterfowl and endangered species management, fisheries w be managed at a moderate level by the Arkansas Game and Fish Commission.

TABLE VI

ALTERNATIVE C

MANAGEMENT ACTIVITIES SUMMARY

| MANAGEMENT ACTIVITY | INTENSIVE MANAGEMENT (1) | MODERATE MANAGEMENT (11) | MINIMAL MANAGEMENT (111) |
|---|---|---|---|
| Public Use | | | |
| Hunting | | | |
| Big Game | X | | |
| Small Game | | X | |
| Waterfowl | | X | |
| Fishing | | | |
| Sport | | X | |
| Commercial | | X | |
| Furtaking | | X | |
| Off-Road Vehicling | | | |
| Maximum tire pressure 5 p.s.i | | X | |
| Tire pressure exceeds 5 p.s.i. (Not permitted) | | | |
| Camping | | X | |
| Environmental Education | | X | |
| Interpretation | X | | |
| Program Information | | X | |
| Other Wildlife/Wildlands Oriented Activities | | X | |
| Non-Wildlife/Wildlands Oriented Activities | | X | |
| Other Commercial Activities | | X | |

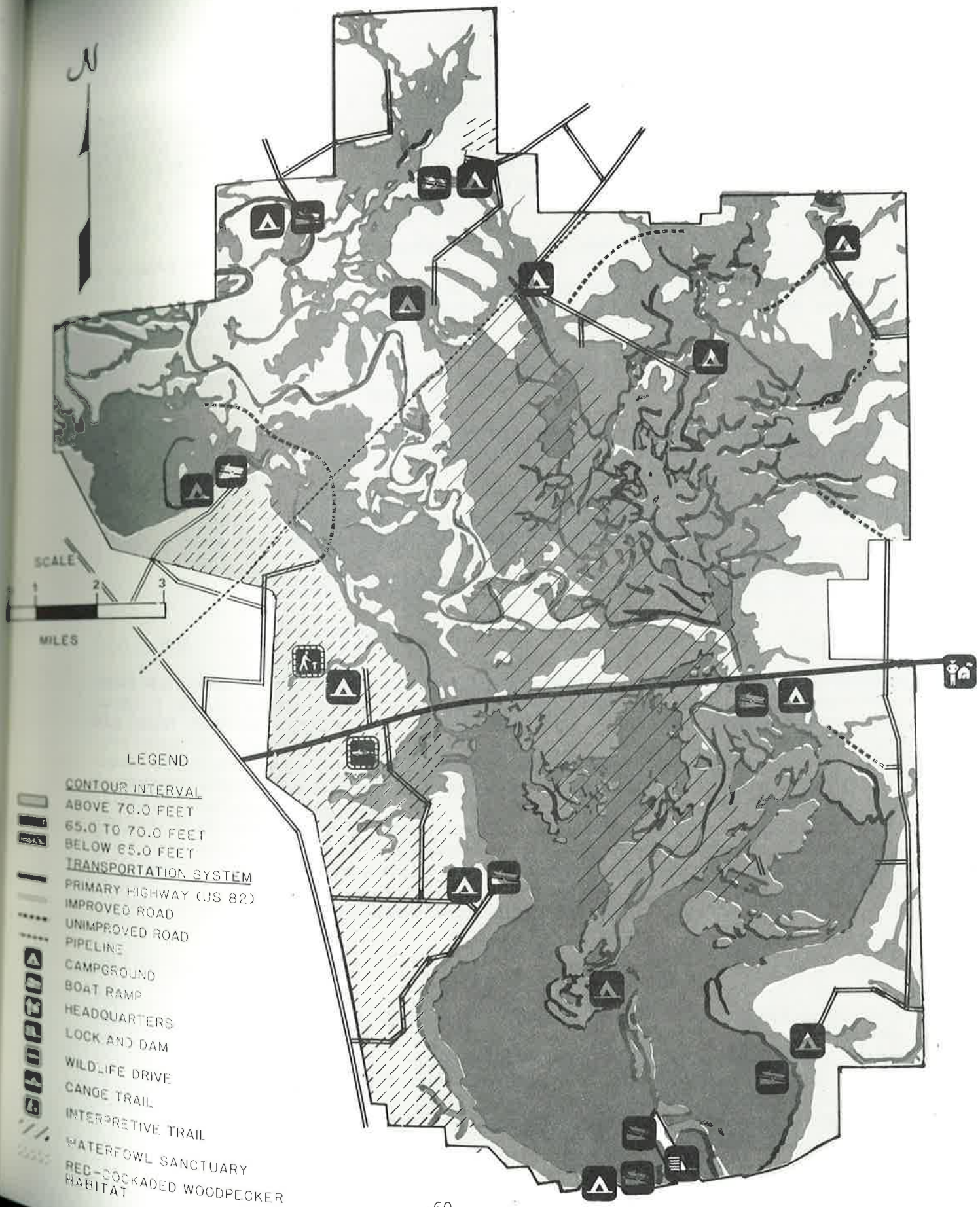
TABLE VI (cont.)

| MANAGEMENT ACTIVITY | INTENSIVE MANAGEMENT (1) | MODERATE MANAGEMENT (11) | MINIMAL MANAGEMENT (111) |
|---|---|---|---|
| **Habitat Management** | | | |
| Moist Soils Management | | X | |
| Water Management | X | | |
| Openings Management | X | | |
| Croplands Management | | X | |
| Timber Management | X | | |
| Natural Areas Management | | X | |
| Fire Management | | X | |
| Oil & Gas Management | X | | |
| Cultural Resources Mgmt. | | X | |
| **Wildlife Populations** | | | |
| Waterfowl | X | | |
| Endangered Species | | | |
| Red-Cockaded Woodpecker | | X | |
| American Alligator | | X | |
| Bald Eagle | | X | |
| Other Native Endangered Species | | X | |
| Big Game | | | |
| White-Tailed Deer | X | | |
| Black Bear | | X | |
| Turkey | X | | |

TABLE VI (cont.)

| MANAGEMENT ACTIVITY | INTENSIVE MANAGEMENT (1) | MODERATE MANAGEMENT (11) | MINIMAL MANAGEMENT (111) |
|---|---|---|---|
| Small Game & Furbearers | | X | |
| Other Resident/Non-Resident (Non-Game) Species | X | | |
| Fisheries Management | X | | |

FIGURE 12
ALTERNATIVE C



ALTERNATIVE C

Overall, Alternative C calls for levels of management reduced from that proposed in Alternative B with most of the emphasis placed on habitat and wildlife populations. Throughout the alternative all management activities are managed at least at a moderate level. There are a few exceptions which call for an intensive level. These are primarily activities that are currently at or near intensive levels and ones that most benefit waterfowl and endangered species.

A summary of major points of emphasis is as follows:

- Emphasis in public use will be on big game hunting and environmental education. All other activities will be managed on a moderate level.
- Diversification of habitat is achieved by intensive management of water, timber and openings.
- Restriction of habitat management programs other than water, timber and openings with the resultant more limited benefits to wildlife populations.
- Fishery resources are managed at the highest level, thus impacting other habitat and wildlife management programs.
- All activities are managed at least at a moderate level.

Public Use

Under management Alternative C only two activities are managed at an intensive level - one in each of the categories of "consumptive" and "non-consumptive". Big game hunting, primarily white-tailed deer, will be managed intensively involving the use of quota permits and hunts being more controlled than those administered at any other level. Environmental education is the other management activity that would be managed at the highest level in the alternative. Intensive management of this activity involves expanded involvement of the Project WILD program and other teacher assistance programs and facilities. All other activities in this alternative would operate at the moderate level. This approach provides an overall balance and the standards for each management activity is more than adequately met; however, it does not allow for a variety of activities emphasized intensively in the public use program.

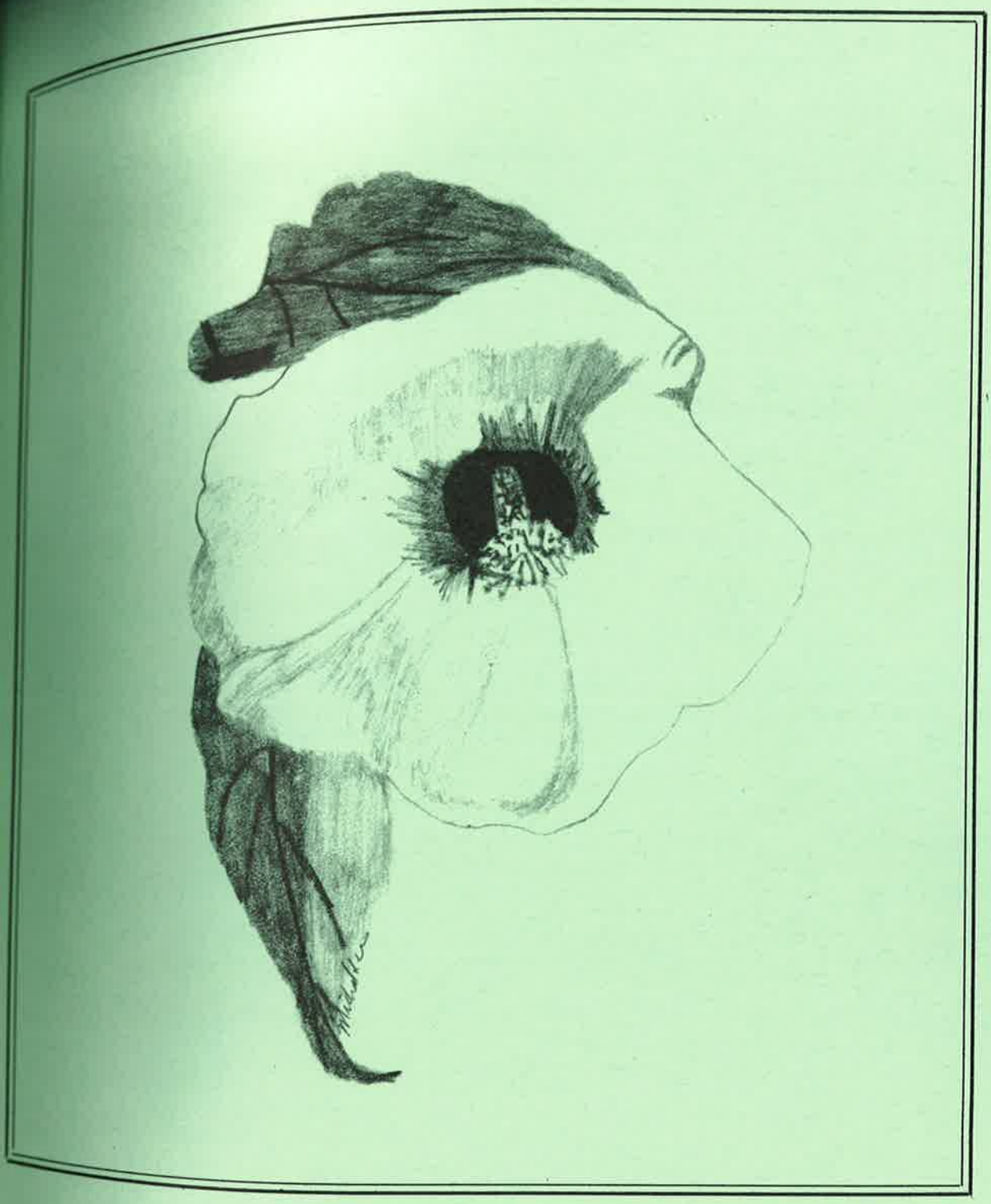
Habitat Management

Four activities would be managed at an intensive level and all others moderately under Alternative C. This alternative allows for partial intensive management of three different types of habitat - water, timber and openings plus oil and gas management which has the potential to impact all areas of the refuge. The water resources would be managed in full accordance with the agreement between FWS, COE and Arkansas Game and Fish Commission. Openings

would consist of 5% of the refuge to provide pockets of habitat di throughout the refuge. Timber management would incorporate a nu techniques and tools to primarily benefit the red-cockaded woodpec other native species. All other habitat management activities, a managed at a moderate level, would still provide some habitat di and more than meet the minimum needs of the resource.

Wildlife Populations

Waterfowl, big game, non-game and fisheries management receive the attention in Alternative C. Waterfowl is one of the major management pro of the FWS and intensive management for this type of wildlife would in collection of biological data, censusing, surveying and possibly ban The big game species of white-tailed deer and wild turkey would necess collection of biological data, surveys, censuses and in the case of th possible restocking. The same basically applies to non-game species. Fishe management would involve utilizing all possible techniques and tools inclu complete drawdowns. In Alternative C all the endangered species (al major FWS objective) are managed at a moderate level including the red-cock woodpecker for which Felsenthal NWR is known. Moderate management of endange species consists of basic surveys and censuses.



# V: Enviromental Consequences

## INTRODUCTION

This section identifies and compares both the biological and socioeconomic impacts that would be the result of the implementation of each alternative.

For the purpose of assessing each alternative, possible development of activities are discussed. In all instances, it is assumed that reasonable management practices and up-to-date technology and techniques will be utilized. Each level of management for each alternative falls within the guidelines, policies and programs of the Fish and Wildlife Service; therefore, each alternative is in compliance. It is important to realize that each activity in each alternative will not necessarily be developed completely in the manner and to the extent described but will, however, fall within the general parameters.

## ALTERNATIVE A (CURRENT STATUS OR NO ACTION)

Under the public use category of this alternative only hunting and fishing are managed at an intensive level with much effort devoted to hunt administration. Most of the development that has occurred has been in association with fishing including the construction of boat ramps, parking lots and access roads. Attention is paid to other public use activities as demand warrants. Timber and water management activities serve as the major tools for habitat management. Timber management practices are geared primarily towards benefitting the endangered red-cockaded woodpecker and the big game species of white-tailed deer and turkey. Techniques utilized include prescribed burning, timber stand improvement and timber harvest. Water management involves the manipulation of water levels from permanent pool levels to seasonal pool to benefit wintering waterfowl populations. Currently, wildlife populations management involves the collection of extensive biological data from white-tailed deer taken during refuge hunts. Periodic surveys and censuses are conducted for waterfowl.

### Biological

Alternative A would maintain existing wildlife populations with existing habitat conditions. Waterfowl populations would be totally dependent on continental numbers, weather conditions, and the mast (acorn) crop in the refuge. Since moist soil management would be non-existent, supplemental food sources would be limited and waterfowl species utilizing Felsenthal NWR would be consistent with those presently using the refuge. Limited manipulation of water levels could have a long-term adverse effect on the seasonally flooded timber of the refuge.

Populations of endangered species would remain at present levels with the exception of the red-cockaded woodpecker which would experience some degree of habitat degradation, especially around colony sites. A long-term loss of colony numbers would probably be the result.

Big game populations would probably continue at present levels since are a product of their habitat. Forest management will continue intensive so deer numbers should continue to be at or above carrying cap Turkey should continue to expand, but perhaps to a lesser degree th alternative where opening management is emphasized to a greater ex The black bear will continue to be absent from this historic range o best,only an occassional animal will wander through the refuge.

Small game and furbearers will continue at levels consistent with re habitat. Beaver populations may expand to some degree, thus changing existing type of refuge wildlife habitat. Most other game populations as squirrel and rabbit will go through their natural cycles. Some spe such as quail, rabbit and turkey may be impacted by a loss of habitat resul from a limited burning program.

Other species of wildlife should continue at or near present levels depend on habitat changes as a result of plant succession. Our knowledge of th species, some of which may be unique, will be limited.

Fish populations will continue to be a product of water management, qua and fertility.

Socioeconomic

Overall, under the current status alternative, Felsenthal NWR does not ha a significant impact on the local communities in regards to economy, populat or uses of the area. However, there is a potential for economic impac to increase if tourism based businesses were to develop as anticipated.

Currently, the refuge has a minor economic impact on the local communit All timber harvesting on the refuge is accomplished by local contractor and sold to large mills within a fifty-mile radius. However, since th local economy is primarily timber based, the contribution from the refu resources is insignificant. The oil production is also currently minima However, since the mineral rights are not owned by FWS, there is a potenti for extensive expansion of oil production. The amount of production in direct proportion to the price of oil. Otherwise, some local businesse especially sporting goods stores, benefit from refuge public uses particular during peak hunting and fishing seasons.

Traditional uses of the area that the refuge now occupies includes a types of outdoor recreation activities such as hunting, fishing, campi and boating activities. Under this alternative, all traditional uses o the area are still permitted. However, there have been some restrictio and regulations adopted that allow more management of these activities t reduce conflicts and impacts on other management programs.

The refuge does not have any significant effect upon the population o the area. Prior to the establishment of Felsenthal NWR there were a numbe of seasonal hunting and fishing camps located throughout what is now th refuge. These owners have since relocated, many to places just outsid

the refuge such as the town of Felsenthal. It is believed by the local community that the refuge and its facilities could be the basis for tourism in the area. If the possible potential is realized there could be an increase in population levels, both permanent and seasonal.

Summary

The major management activities in this alternative would be timber and water management. These would provide benefits to major areas of concern such as the endangered red-cockaded woodpecker and wintering waterfowl. Big game (white-tailed deer and turkey) and fish, especially during spawn, would also be beneficiaries of these programs. Public use would parallel these management programs with emphasis placed on hunting and fishing activities.

ALTERNATIVE B

Under Alternative B there is increased emphasis throughout the m activities, especially in those programs that are more in line overall goals and objectives of the FWS. In the category of pu hunting is still intensively managed; however, fishing is decreasi is a definite increase in those activities commonly labeled "non-con - interpretation, wildlife observation and environmental educatio alternative calls for the development of various facilities to ac these activities such as a visitor center, trails and outdoor cl The habitat and wildlife populations management programs follow trend. Water and timber are still managed intensively, but th of other management activities are increased to provide for more d of habitat, thereby benefitting more wildlife species. Increased will also be placed on waterfowl and endangered species, primar red-cockaded woodpecker. At the same time, big game species will to be managed at an intensive level through habitat diversifica continuation of on-going data collection programs.

Biological

Alternative B, if implemented, should result in increased waterfowl popu and the number of other species using the refuge. Increased man levels in moist soils, croplands and openings should all be bene A greater emphasis on management of waterfowl populations should al in enhancing population levels.

Endangered species will also benefit under Alternative B. Red-co woodpeckers should respond to more intensive habitat and population manag Resident alligators and transient bald eagles should increase somewh to expanded water areas and resultant increases in waterfowl and fi resources.

The increase in both management of habitat and an increase in biol data collection will not necessarily result in more deer, but in healthy herd with good body weight and antler development. Increased manag of openings, timber and moist soil areas should accelerate the exp of turkey both on an off the refuge. This alternative could resu the relocation of turkey from Felsenthal NWR to other areas in the adj counties. A possible black bear release and subsequent restoration of species in the Felsenthal Basin is a possibility if this alternati adopted.

Small game and furbearer populations should increase because of an inc in habitat quality and diversity. The number of other resident sp of wildlife as well as migratory birds should also increase with more emp on habitat and populations management.

Fish populations will be maintained at a proper balance and predator sp such as black bass will be maintained through the use of nursery p and other accepted fishery management practices.

Socioeconomic

The potential for socioeconomic impacts is greater under this alternative. The impacts of timber harvest and oil production should maintain their current levels. It would be from the public use management that the local economy would receive its most positive impacts. Under this alternative the public use program is more diversified, thus attracting not only hunters and fishermen but also individuals seeking wildlife observation opportunities. This alternative calls for increased facility development on the refuge which may in turn encourage the development of support facilities for visitors (marinas, campgrounds, restaurants) in the local community.

It is possible that there could be a slight increase in the local populations both year-round and seasonal by implementing this alternative. Such population increases, especially year-round, would more than likely rely upon the amount of development occurring in the local community.

Traditional uses of the area would still be permitted. However, with a more diversified program the chances of more conflicts between various user groups increase. The possibility of more restrictions and regulations does exist under Alternative B.

Summary

Alternative B calls for more diversification of management in all areas. Public use would be balanced by basically maintaining levels of "consumptive" activities and increasing the levels of "non-consumptive" activities from current levels. The same applies to habitat and wildlife populations. Current management levels are at least maintained and in some instances increased to provide diversification and meet overall goals and objectives.

ALTERNATIVE C

Overall, programs and activities in Alternative C are managed at a m level. It does provide for a diversification in refuge manage does not allow for the facility development provided under a more in management scheme. In this alternative big game hunting maintains its in level of management while environmental education is increased to that All other activities are managed at a moderate level. This provid development of campgrounds to include basic sanitary facilities, bu limited wildlife observation opportunities. Those habitat and wildlife p tion activities currently being managed at an intensive level conti be so managed. All other activities are managed at a moderate level few exceptions. The major exception involves fisheries management. Curr it is managed at a moderate level primarily through water management. this alternative fisheries would be managed at an intensive level a fully implemented would include drawdowns and possible introduction of species. Placing major emphasis on fisheries management could have a ne impact on other habitat and wildlife population management programs.

Biological

Alternative C would offer some advantages to the previous alternative be the intensity of some habitat management levels are increased. Water although still dependent to some degree on things beyond our control, st increase in species and diversity because more emphasis is placed on hab management. Moist soil management would be accelerated thus producin more dependable and diverse habitat. Croplands and openings management w be initiated producing similar benefits.

Endangered species populations would continue at present levels alth the red-cockaded woodpecker might suffer long-term colony site habitat degra tion. The end result might be a long-term reduction in colony numb There could be a slight increase in the population levels of other endang species because some emphasis would be placed on surveys and a more defi determination could be made in what species and at what level they w present.

Big game populations should continue at present levels because of th dependancy on their habitat. This situation would be true for both d and turkey. Turkey should benefit from increased openings management. D would also benefit from this management emphasis as well as emphasis moist soil and cropland management. Black bear will more than likely re absent from the refuge.

Small game and furbearers will continue at population levels consist with refuge habitat. Other species of wildlife will show some increas in both species diversity and population levels because of the increa in habitat diversity and management. A better knowledge of their numb and needs will also be possible since the level of management will be accelerate

Fish populations should be maintained at a proper balance and in numbers suitable for optimum growth. We should have a good knowledge of fish populations because of intensive survey techniques that will be implemented. The nursery ponds should add any needed corrective action as far as predator species are concerned.

Socioeconomic

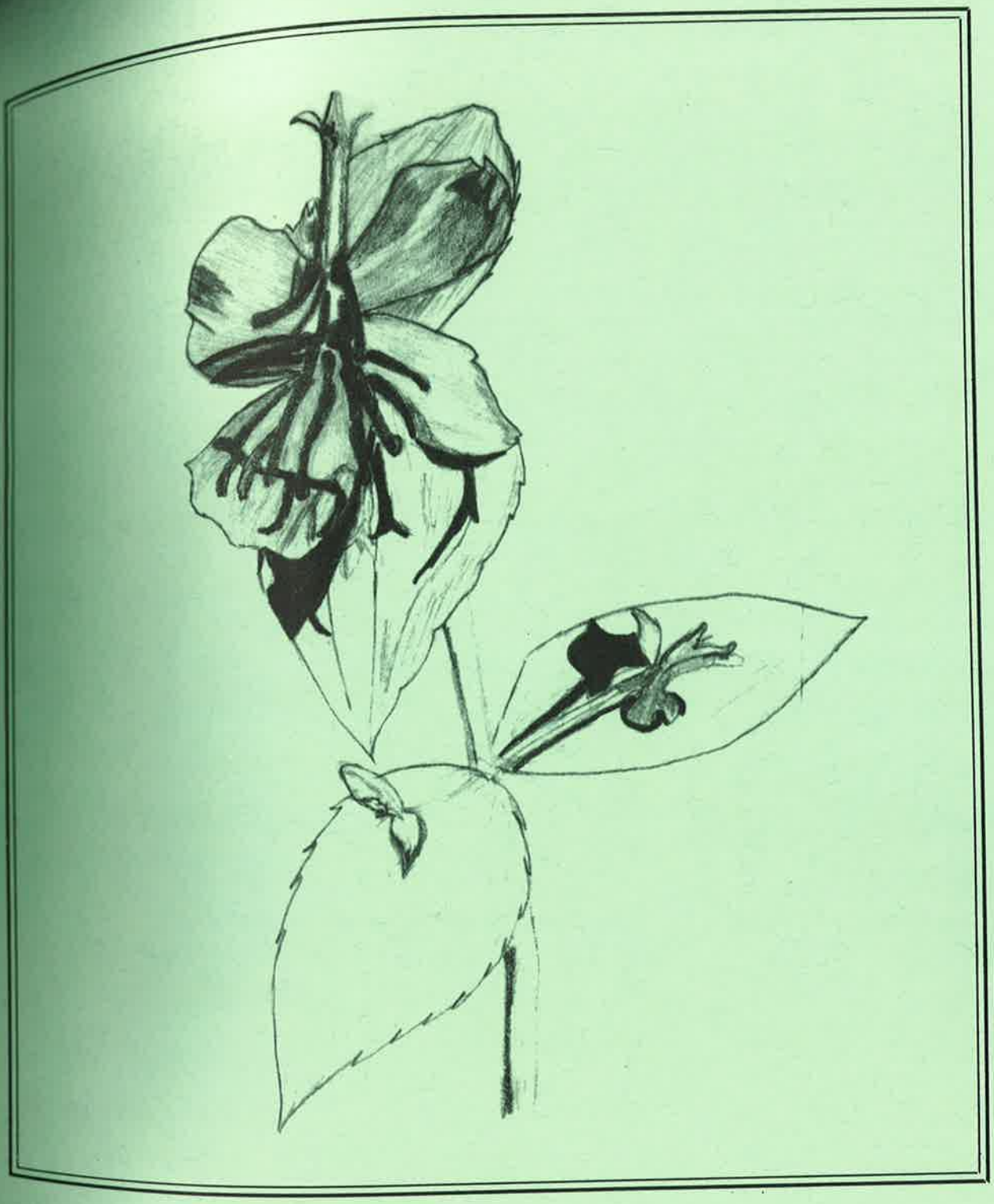
Basically, Alternative C does not provide as much of a potential for economic benefit to the local community as does Alternative B. This alternative would result in a slight positive impact on the local community. Timber harvest and oil production would continue at least at current levels. It is possible that some support facilities would be developed in areas surrounding the refuge.

Traditional uses of the area would still occur with some diversification of program occurring. Restrictions and regulations regarding the use of the refuge would continue and policies geared to reduce conflicts between various user groups enacted.

There may be an increase in local population, especially seasonally, as related to hunting and fishing. There should not be more than a slight increase in year-round population.

Summary

Alternative C provides for at least a moderate level of management for each activity. Under this activity public use would not entirely conform to national and regional goals and objectives but would fall into overall guidelines and policies. The emphasis on fisheries could possibly have a negative impact on other habitat and wildlife populations programs. Even though the potential for fisheries management on Felsenthal NWR is excellent, it is waterfowl and endangered species that are the primary focus of the FWS, and they could possibly be negatively impacted under Alternative C.



# VI: Evaluation of the Alternatives

# EVALUATION OF THE ALTERNATIVES

## INTRODUCTION

The evaluation of the three alternatives is accomplished by looking at them from different points of view. First, the alternatives are compared by management activity. By using Alternative A or the Current Status Alternative as a base, Table VII shows the other two alternatives either increasing, decreasing or remaining the same in management level. Secondly, the alternatives are compared according to the cost of implementing each alternative. Thirdly, the alternatives are evaluated on how well each meets the five criteria listed below.

1) Meets the policies, goals and objectives of the FWS.

2) Fulfills the legal mandates, previous commitments and refuge objectives.

3) Is logical, reachable and practical in relation to funding and personnel levels.

4) Satisfies public concerns.

5) Does not have a negative impact on the resource.

All of the above factors were considered in the evaluation of each alternative and the selection of the preferred.

TABLE VII

COMPARISON OF ALTERNATIVES

| MANAGEMENT ACTIVITY | ALTERNATIVE A | ALTERNATIVE B | ALTERNATIVE C |
|---|---|---|---|
| Public Use | | | |
| Hunting | | | |
| Big Game | All big game (white-tailed deer) hunts are conducted through a limited permit system. Seasons are not the same as the State. | Same as A | Same as A |
| Small Game | State seasons and bag limits. Unlimited permits. | Limit seasons & manage for a quality & biologically sound hunt. | Moderate increase to include additional limits & restrictions. |
| Waterfowl | Limits and seasons same as State. Hunting only until noon and waterfowl sanctuary closed. | Moderate increase to manage for a quality experience, increase in hunter information. Waterfowl sanctuary closed. | Same as A |
| Fishing | | | |
| Sport | Construction of boat ramps and access. State seasons and limits apply. | Same as A | Same as A |
| Commercial | Seasonal management. Permits required. | Same as A | Same as A |

TABLE VII (cont.)

| MANAGEMENT ACTIVITY | ALTERNATIVE A | ALTERNATIVE B | ALTERNATIVE C |
|---|---|---|---|
| Furtaking | Limited seasons. Permit required (unlimited). | Same as A | Same as A |
| Off-Road Vehicling | | | |
| Tire pressure less than 5 p.s.i. | Limited system of designated roads and trails. Maintenance meeting Service standards. | Same as A | Same as A |
| Tire pressure greater than 5 p.s.i. | Not permitted. | Same as A | Same as A |
| Camping | Permitted in designated areas with limited maintenance and facilities. | Same as C | Facility improvement to include basic sanitary facilities and scheduled maintenance. |
| Environmental Education | Limited participation in Project WILD program. Provide teacher assistance as requested. | Increase teacher assistance and workshops to include all local school systems. | Same as A |
| Interpretation | Provide limited outdoor exhibits and on and off-refuge programs. | Increase to include visitor center, trails, wildlife drive and demonstration area. | Same as B |

TABLE VII (cont.)

| MANAGEMENT ACTIVITY | ALTERNATIVE A | ALTERNATIVE B | ALTERNATIVE C |
|---|---|---|---|
| Program Information | Column to local newspapers. Periodic news releases, interviews on request. | Expand distribution range of news releases, utilize other information agencies, conduct media events. | Same as A |
| Other Wildlife/Wildlands Oriented Activities | Provide specific trails & opportunities for hiking, wildlife observation and berry picking. | Provide for and promote wildlife observation opportunities such as hiking and canoeing. | Same as A |
| Non-Wildlife/Wildlands Oriented Activities | Not permitted. | Permit with restrictions. Establish use zones. | Same as B |
| Other Commercial Activities | Permits issued with restrictions. | Increase management by monitoring activity and issuing permits with special conditions as demand warrants. | Same as A |
| Habitat Management | | | |
| Moist Soil Management | No active program. | Increase to manage existing areas. | Same as B |
| Water Management | Complete implementation of water management | Same as A | |

TABLE VII (cont.)

| MANAGEMENT ACTIVITY | ALTERNATIVE A | ALTERNATIVE B | ALTERNATIVE C |
|---|---|---|---|
| Openings Management | Utilize and maintain existing areas. | Increase in acreage to 5% of refuge. | Same as B |
| Croplands Management | No active program. | Plant some openings with selected agricultural crops. | Same as B |
| Timber Management | Utilize an extensive variety of forest management techniques to achieve habitat diversity. | Same as A | Same as A |
| Natural Areas Management | Have unofficially designated areas and maintain them. | Officially designate and maintain areas. | Same as A |
| Fire Management | Prescribe burn about 1/5 of pine acreage annually. Control wildfires. | Increase to prescribe burn 1/3 of pine acreage. Control wildfires. | Same as A |
| Oil & Gas Management | Oil and gas development allowed through the use of permits, special conditions and monitoring to protect habitat integrity. | Same as A | Same as A |
| Cultural Resources Management | Conduct surveys and testing as required by ARPA. Protect and maintain known sites. | Same as A | Same as A |

TABLE VII (cont.)

| MANAGEMENT ACTIVITY | ALTERNATIVE A | ALTERNATIVE B | ALTERNATIVE C |
|---|---|---|---|
| Wildlife Populations | | | |
| Waterfowl | Conduct periodic surveys and studies and limited habitat management (water levels). | Increase to include more habitat management and collection of biological data. | Same as B |
| Endangered Species | | | |
| Red-cockaded Woodpecker | Conduct periodic cavity tree counts and limited habitat management. | Increase in habitat management, surveys & data collection. | Same as A |
| American Alligator | Conduct periodic surveys. | Same as A | Same as A |
| Bald Eagle | Surveys incidental to waterfowl surveys. | Same as A | Same as A |
| Other Native Endangered Species | No active program. | Moderate increase to conduct periodic status surveys. | Same as B |
| Big Game | | | |
| White-tailed Deer | Collect extensive biological data. Manage a healthy balanced herd within carrying capacity. | Same as A | Same as A |
| Black Bear | Conduct periodic incidental surveys. | [illegible] | |

TABLE VII (cont.)

| MANAGEMENT ACTIVITY | ALTERNATIVE A | ALTERNATIVE B | ALTERNATIVE C |
|---|---|---|---|
| Turkey | Conduct surveys and habitat management programs. Restocking as necessary. Predator control. | Same as A | Same as A |
| Small Game and Furbearers | Population control and periodic surveys. | Same as A | Same as A |
| Other Resident/Non-Resident Species | Conduct incidental periodic surveys | Same as A | Increased surveys and habitat management. |
| Fisheries Management | Establish nursery pond, periodic surveys and stocking sponsored by AGFC. | Same as A | Increase to include spawning pool, winter drawdown and vegetation control. |

TABLE VIII

COST COMPARISONS OF THE ALTERNATIVES
(cost in 1,000's of dollars)

| | Alternative A | Alternative B | Alternative C |
|---|---|---|---|
| **Staffing:** Full-time | 10 | 12 | [illegible] |
| Part-time | 2 | 2 | [illegible] |
| **Annual Budget:** Total $ | | | [illegible] |
| Salaries | 450 | 550 | [illegible] |
| Fixed Costs | 387 | 440 | [illegible] |
| Habitat Management Programs | 28 | 32 | [illegible] |
| Public Use Management Programs | 8 | 25 | [illegible] |
| Wildlife Management Programs | 10 | 18 | [illegible] |
| Facility and Equipment Maintenance | 6 | 20 | [illegible] |
| | 11 | 15 | [illegible] |
| **Total Development Costs:** | 14 | 4,380 | 4,310 |
| **Administrative Facilities:** Total $ | 0 | 2,320 | 2,320 |
| Maintenance Facilities | 0 | 700 | 700 |
| Office | 0 | 650 | 650 |
| Sub-headquarters (Bradley Co.) | 0 | 20 | 20 |
| Management Roads | 0 | 950 | 950 |
| **Public Use Facilities:** Total $ | 14 | 2,060 | 1,990 |
| Visitor Contact Station (included with office) | - | - | - |
| Trails (foot, canoe, auto, ORV) | 0 | 50 | 30 |
| Campgrounds | 4 | 10 | 10 |
| Exhibits (VCS and outside) | 10 | 200 | 150 |
| Public Access Roads | 0 | 1,800 | 1,800 |

## RELATIVE COSTS OF THE ALTERNATIVES

When evaluating the cost of each alternative three factors are involved: the number of staff needed to implement the alternative, the needed annual operation and management budget and one time development costs. Table VIII above summarizes and compares the costs of the three alternatives.

## SELECTION OF THE PREFERRED ALTERNATIVE

The management alternative that has been selected as the preferred one is that described as Alternative B. The evaluation of this alternative as shown below best meets the criteria described earlier in this chapter and describes the management direction that Felsenthal NWR should be taking in the next ten to fifteen years. Listed below are six major factors for the selection of Alternative B.

1) Provides the most balanced program between public use, habitat and wildlife populations management with little or no adverse impact.

2) Places the necessary emphasis on waterfowl and endangered species - two major programs of the FWS.

3) Provides for an excellent diversification of habitat which benefits all wildlife species.

4) Provides for a well-rounded and balanced public use program by providing a variety of opportunities in both "consumptive" activities such as hunting and fishing, plus the "non-consumptive" ones such as interpretation and wildlife observation.

5) Overall, Alternative B is reasonable in its approach to managing the resources, allows for phasing in of the various activities and does not call for any significant increase in annual budget or personnel.

6) The full implementation of Alternative B should result in increased levels of public use, wildlife populations and diversification of habitat.

# VII: Master Plan

# MASTER PLAN

## BACKGROUND

The selection of the Preferred Alternative involved a number of people with varying backgrounds and interests. In addition to FWS personnel, there were representatives from local communities, State agencies and the U. S. Army Corps of Engineers. After the three management alternatives were developed, this group met to discuss the pros and cons of each and made a tentative selection.

The three management alternatives were then presented at public meetings in El Dorado, Crossett and Warren, Arkansas, and the public informed of the tentative selection of Alternative B. The public was provided an opportunity to comment on the proposal.

Regional Office staff were given an opportunity to comment on the three management alternatives while reviewing the first five chapters of the Master Plan. They were also notified of the tentative selection of Alternative B. Following concurrence of the Regional Office Wildlife Resources staff, the decision was made to develop Alternative B into the Master Plan. See Figure 13 for Master Plan map.

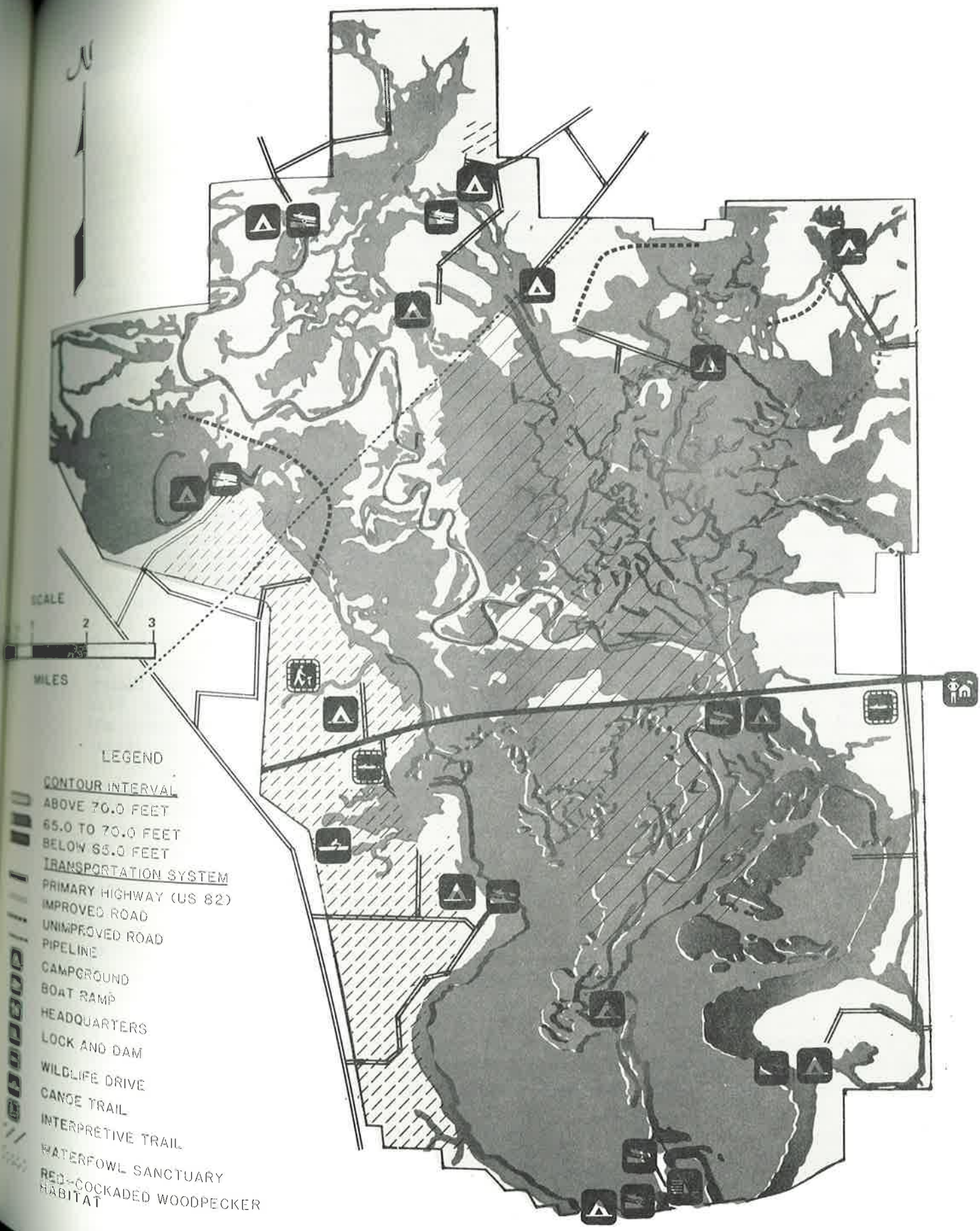
## OBJECTIVES

The major results that would be achieved in the Preferred Alternative are as follows:

- Waterfowl use should increase due to increased habitat management. Increased emphasis on endangered species management.
- Utilization of a variety of management techniques to increase and improve habitat diversity.
- Increase in public use by providing a wider variety of outdoor recreation opportunities.
- Maintain current management levels of big game and fisheries.

FIGURE 13

ALTERNATIVE A



## MANAGEMENT STRATEGY

### Public Use Management

The public use program under the Preferred Alternative would provide a variety of opportunities to the public visiting the refuge. The program would expand to provide opportunities not only to "consumptive" users but also to "non-consumptive" users as well. The Preferred Alternative calls for upgrading current programs, initiating new programs and constructing a number of new facilities. The public use management program in the Preferred Alternative is designed to allow for phasing in of the various activities such as trail development, wildlife observation opportunities and interpretive programs.

### Short-Term Management Implementation

During the first two to five years of implementation of the Master Plan, intensive management of the hunting program and other currently existing activities would continue. During this time those activities which currently do not exist or exist at a very low level (such as wildlife observation, interpretation and trail development) would be incorporated into the public use program.

Regarding "consumptive" activities, the hunting program would continue to be managed as is currently done including the use of limited hunting permits for big game and possible expansion to include waterfowl hunting. Fishing and furtaking would essentially maintain their status quo with no drastic changes anticipated.

The areas in which the greatest change is expected primarily involves the "non-consumptive" activities. The office/ visitor contact station should be completed within the next two years. This facility alone will add a new dimension to the public use program, especially in the areas of interpretation, program information, wildlife/wildlands observation and environmental education. There will also be a phasing in of a comprehensive trail system including walking trails at the headquarters area, a canoe trail and a wildlife drive. During this initial Master Plan implementation, there will be a reduction, and in some cases a phasing out, of non-wildlife/wildlands activities which are not in conformance with FWS policy.

### Long-Term Management Implementation

Long-term implementation of the Preferred Alternative would primarily involve refinements to the program to ensure a quality experience. Expansion of the program as facilities are developed or public needs arise would also occur.

"Consumptive" activities would not be part of the program expansion but efforts would be made to improve and refine the different activities that are permitted. This particularly applies to hunting, fishing and furtaking.

Off-road vehicle use and camping are two activities in which some are likely to continue in order to bring them in compliance with and national policy. Necessary changes involve program reduc improvements of remaining facilities.

In order to elevate the "non-consumptive" activities from their low management level to the intensive level called for in the Alternative, there will be a continual need to provide, upgra expand facilities. Among these would be development of a compre trail system, a forest management demonstration area and possibly struction of observation towers and platforms. The interpretive would continue to expand to include outdoor exhibits and/or plus the development of additional interpretive media including bro and on-refuge programs.

While "consumptive" activities will be stabilized and "non-consump wildlife/wildlands-oriented activities expanded, activities that non-wildlife/wildlands-oriented will be reduced, de-emphasized and possible, eliminated. This should bring the overall public use pro in line with refuge objectives and regional and national policy guidel

Plans Needed

Public Use Development Plan
Refuge Hunting Plan
Refuge Fishing Plan
Refuge Trapping Plan
Sign Plan
Off-Road Vehicle Management Plan

## Habitat Management

Diversification of habitat is the primary overall focus of the habit management program under the Preferred Alternative. The major empha will be on programs benefitting waterfowl, endangered species and game. The Preferred Alternative calls for increased management some activities and the initiation of others that currently are utilized. What follows are the short and long-term strategies for implementation plus a list of necessary specific management plans individual management activities.

### Short-Term Management Implementation

Short-term refers to those management activities that can be accomplished in a two- to five-year period. Since many of the habitat management activities are scheduled to be managed at an intensive level, there will have to be some phasing in, especially in regard to those management activities that are not in the present management scheme for Felsenthal NWR.

The activities of water, timber, and oil and gas management will continue to be managed at an intensive level with a few minor changes and improvements. The water management scheme will continue holding permanent pool at 65' MSL from mid-spring to mid-fall gradually raising the seasonal greentree reservoir to 70' MSL by early winter and gradually lowering to 65' MSL by mid-spring. Timber management is the major habitat management activity on the refuge and should continue to play an important role. Additional emphasis will be placed on wildlife and timber stand improvement, thinning out both the pines and hardwoods to increase the overall health and composition, increase the overall level of management activities and conduct more research and evaluation of management practices. In regard to oil and gas exploration and production activities, they will be administered through special use permits, special conditions and intensive monitoring.

In the short-term scheme the development of openings would continue; however, the 5% figure would not be expected to be achieved. The moist soils and croplands management programs would be initiated but would not reach full implementation. Natural areas, fire, and cultural resource management would be accomplished as needed. Fire management is often dependent upon weather; however, when possible, fire as a management tool will be utilized intensively.

Long-Term Management Implementation

The long-term management implementation covers the five- to fifteen-year period. At the end of the fifteen-year period all of the management activities should be fully implemented. Before all these management activities can be fully in place, some additional planning documents may be required. All of these should be completed by the end of ten years and will specify how these management activities will be accomplished.

In addition to those activities which will be managed intensively under the short-term strategy, openings, natural areas and fire management will also be managed at an intensive level. Openings will comprise 5% of refuge lands. Natural areas will have been selected and officially designated. Both moist soils and croplands management will be fully implemented, although at a moderate level, utilizing existing open areas. Cultural resources will be managed on an as-needed basis for survey and testing in compliance with the Archeological Resources Protection Act of 1979.

Plans Needed

Moist Soils Management Plan
Water Management Plan
Croplands/Openings Management Plan
Timber Management Plan
Natural Areas Management Plan
Fire Management Plan
Oil and Gas Management Plan

## Wildlife Populations Management

Emphasis on waterfowl, endangered species and big game management represents the thrust of the wildlife populations management program. Small game, furbearers and non-game species will benefit from other management programs but will not be specifically managed.

### Short-Term Management Implementation

During the first two to five years of Master Plan implementation, increased emphasis should occur in the areas of waterfowl and endangered species management while continuing the on-going research and data collection on white-tailed deer. Fisheries will be managed primarily under the direction of the Arkansas Game and Fish Commission. All other species such as furbearers, small game and non-game animals will benefit indirectly from other wildlife management programs. Waterfowl, one endangered species (red-cockaded woodpecker) and all big game are scheduled to be managed intensively, thus requiring phasing in of the various management techniques utilized. Initially, the emphasis should be on the collection of much-needed baseline data.

Waterfowl activities, such as production and harvest surveys, data collection regarding disease, and nesting activities (wood ducks), plus predator control should be phased in or increased initially. The red-cockaded woodpecker is the primary endangered species occurring on Felsenthal NWR and the refuge contains the largest concentration in southeast Arkansas. Initial efforts should include increasing the number and type of surveys to gather much-needed additional baseline research and data. The major emphasis on big game will be white-tailed deer. The biological data collection program that is underway should continue in order to maintain a check on the herd health status.

### Long-Term Management Strategy

Once collection of basic data is complete and initial management practices are in place and underway, more advanced techniques for managing the various wildlife species found on the refuge can be employed. Even through long-term implementation the areas of emphasis will continue to be waterfowl, endangered species and big game.

Long-term management for both resident and migratory waterfowl would involve practices to help increase production and provide for brood needs. This could include intensively managing selected beaver ponds and expanding nesting opportunities, as needed, by using wood duck boxes and natural cavity trees. Also, the collection of biological data regarding disease and harvest information would continue and intensify as needed. In regard to endangered species, refinements and improvements in data collection techniques would be developed and utilized in order to analyze and utilize information obtained. This is especially true for the red-cockaded woodpecker. For the other endangered species, the program could be expanded to include not only data collection but

also limited analysis of the information obtained to ascertain species status. As with waterfowl and endangered species, big game management would be expanded to include analysis of biological data collected, especially for white-tailed deer and wild turkeys. There is also a possibility of reintroducting the black bear, which could require monitoring habitat and developing public relations programs.

Fisheries will be managed to avoid adverse impacts on other wildlife populations. Fisheries would benefit from the same water level management that aids waterfowl. The fishery program would continue to be primarily under the direction of the Arkansas Game and Fish Commission and would include such management techniques as surveys, renovations, stocking programs and possibly nursery ponds.

All other species such as furbearers, small game and non-game would continue to benefit from increased management of the three major species groups discussed above.

Plans Needed

Endangered Species - Recovery Plans
Fisheries Management Plan
Wildlife Inventory Plan

# APPENDICES

MASTER PLANNING INFORMATIONAL MEETING
Tuesday, August 6, 1985, 7:00 p.m.
AP&L Reddy Room, El Dorado, AR

FWS Staff Present: Dave Smith, Donna Stanek, Ann Laney - Felsenthal NWR;
Ray Aycock, District Biologist - Jackson, MS; and
Ed Pendleton - National Coastal Ecosystems Team, Slidell, LA

Total Present: 75

General Introduction - Dave Smith
Master Planning Process - Donna Stanek
Slide Presentation - Donna Stanek/Dave Smith

Comments from the floor - Dave Smith
- - - - - - - - - - - - - - - - - - - - - -

1. David Ellen - Does not feel that the public's interests are being represented. Wants to see the Ouachita River bottom left in natural state. Water level should be left at old Lock 6 level where timber and habitat has adapted itself.

2. Only a few people to assist in planning process - these people should not have dominant say so, they should have smaller meetings within their own areas to get the opinions of a greater number of people and a broader viewpoint.

3. In a few years people will see the benefits of long range planning.

4. More control of pollution on the river.

5. Remove road into Gum Ridge made for logging access.

6. Should do something about pollution on rivers.

7. Will there be access to the lower pool?

8. Suggestions about the boat ramp launching into the upper pool. Area being blocked in front of the boat ramp. Needs to be some kind of restriction on the distance you can park from the ramp. Parking too close and making it difficult to get in to unload your boat.

9. What about the poor fisherman that would like to launch a boat without an outboard motor?

11. Better for the public to have one permanent pool level and not have the additional five foot of water during waterfowl season.

12. Tommy Miller - My understanding from the first start that Fish and Wildlife was going to recognize all hunting and fishing regulations as set forth by the State Game and Fish Commission. Were you aware of that? Why don't you have a teal season?

13. Personnally, I don't think we ought to have any users fees, but if we do they should be compatible with State prices and should be seasonal the way the State does.

14. I think you are going to have to dam up the boat accesses; they are going to change the river path.

15. Do you have a plan to follow the hardwood regeneration in bottomlands to make sure the composition does not alter over a period of time?

16. Are parking lots going to be paved on access areas?

17. What is the purpose of that bump at top of ramp at Lock and Dam? It should be removed.

18. Would like to see road on out to ramp paved at the Lock and Dam.

19. Elsie Black - Do you intend to clean up campground area at Jones Lake and mow it off like it was originally?

20. We were told that you would clean up old cars, and junk just inside the refuge line this summer (YCC). So far I haven't seen anyone and I was just wondering if there was any action on that.

21. Will hunting permits this year be printed on smaller piece of paper than last year?

22. Don't cut back on deer hunts so hard.

23. If you have any extra money - Need to develop spawning area for bass.

24. Are you going to have designated skiing areas and designated speed control areas?

25. Need lower ramp but along those lines - need to put river water level markers at each access point to help individuals determine where to go fish without calling the Lock and Dam.

26. Would like to see land south of refuge acquired (Potlatch).

27. What plans do you have for marked boat roads and possibility of marking some channels like up Wildcat, so you can run without hitting a stump.

28. Suggest speed control on the areas where the access ramps are.

29. Henderson Bend cut needs to made deeper.

30. Houseboats on the refuge for the weekends need places to tie up.

31. Would like to see a sand bar built on the south side of the river.

32. What is the thought on marinas - possible plans at Felsenthal. Could one be built on refuge?

33. Put in tie ups near ramps for loading and unloading.

34. What are we doing to get new bass into the river?

35. Any current plans for anything to be done with old block house at Pendleton Dump? If cleaned up it could be used by various groups to get in out of weather or picnic shelter.

36. Unlimited access for off-road vehicles and four-wheeled drive.

37. Designated areas for floating duck blinds to leave them overnight.

38. Put up a gate or signs to keep someone from accidently going into waterfowl sanctuary at Open Brake during waterfowl season.

MASTER PLANNING INFORMATIONAL MEETING
August 8, 1985 7:00 p.m.
Bradley County Courthouse, Warren, AR

Felsenthal NWR Staff - Bob Bridges, Donna Stanek and Ann Laney

Total Present - 27

Comments:

1. Will turkey hunting ever be permitted?

2. Would like to see limitation on horsepower of motors on Saline.

3. Also recommend speed limit and safety distance for passing other boats.

4. Let duck hunters hunt all day and have access to sanctuary during last week of final hunt.

5. Like to keep it open north of L'agles, as it now.

6. Equalization between coon hunters and trappers. Not fair to let trappers go 50 days and hunters only 10.

7. Need access for non-trailer boats at Pereogeethe.

8. Will you allow unloading of boats at places other than ramps - should be allowed to use traditional places. Would like to see regulations printed and stay that way.

9. Need more public notification of opening and closing of road access.

10. Need smaller permit for regulations.

11. Would like to see horses allowed off roads, especially during coon season.

12. Would like to see map of roads designated for three-wheelers.

13. Would like to see coon hunters allowed to have licensed UKC and other association sanctioned hunts.

14. Provide a list of personnel and their areas of responsibility.

15. Coon hunting above the pipeline first five days and both sides after. Trappers try to cooperate with hunters. Would like to see hunting in sanctuary.

16. Would like to see access road into Buck, Straight and Gar Lakes that can be travelled in early spring.

17. Need to put in place real management practices for fisheries due to extensive use and further expansion.

18. Isn't access program to take precedent over nursery pond?

19. Are you going to allow overnight camping at Pereogeethe?

20. What facilities will there be at Pereogeethe?

21. Don't want to see any improvements in camping areas.

22. Would like to leave floating duck blinds on refuge overnight.

23. Need speed limits at Pereogeethe Lake.

24. Want good coon population and hunters to have equal opportunity with trappers.

25. Would like to see some food plots in areas, especially for water-fowl.

MASTER PLANNING SCOPING MEETING

Crossett City Hall Council Chambers
Crossett, Arkansas
August 13, 1985

Bob Bridges began the meeting welcoming everyone. Several dignitaries were introduced: Carmie Henry - Sen. David Pryor's admin. aide; Don Floyd - Sen. Dale Bumper's admin. aide; State Representative Jodie Mahoney; Mayor Les Black, Mayor J. T. Young - Felsenthal Community. Also in attendance were Mr. & Mrs. Carl Hunter (Asst. Dir. AGFC) and Jerry Smith (Fisheries Biologist - AGFC).

Bob then thanked Janice Clark for making the arrangements for the meeting. Janice is a member of the Master Planning Core Group. He then introduced several staff members who were present. (Staff members present: Donna Stanek, Mary Hollis, Larry King, Leon Tuggle, Bill Parker, and Dave Smith.

Guest Register was then passed around for everyone to sign. Not everyone signed but we estimated sixty people in attendance.

Bob explained the two-fold purpose of the public (scoping) meeting to the group. 1) To inform the public that refuge master planning is underway and explain what it's all about. 2) To provide the public an opportunity to give specific comments regarding refuge management, policies, practices and development.

He then read the FWS and the NWR System Mission to the group.

Bob gave the group an overview of remaining agenda and told them we had handout material for their taking.

Donna Stanek then gave an overview of the Master Planning process. She explained the core group's role in master planning and gave each members name.

A general refuge slide program was then given by Donna and Bob. Points covered were:

Agency/Organizational background

NWR System overview

Felsenthal NWR
- Background
- Current objectives
- Habitat types & associated resources
- Management activities/practices
- Current and planned development

After the slide program Bob Bridges set the ground rules for the public comments. He gave examples of what we were looking for in the way of

suggestions or comments. Everyone was allowed to remain seated since acoustics were adequate. He also told the group that we would be accepting written comments until 8/19.

The group then had their turn to speak the following comments:

1. Would like to see unrestricted horse travel on refuge. (Mr. Ferrell).

2. Does not want launching fees at ramp at Crossett Port. Mayor Black said there would be no fee charged.

3. Would like to see longer deer gun hunt.

4. Would like to have hog hunt with dogs, without guns. (Mr. Ferrell).

5. Eliminate nets, traps, webbing. Confine fishing to hook and line. (Mr. Bill Wiggins)

6. To put in place or need better interpretive center for public to use. Visitor Center or nature trails. (Jodie Mahoney)

7. Would like to expedite change of transfer of ownership from COE. (Jodie Mahoney)

8. Improve roads into fish trap. (Jim McCormick)

9. Object to proposed fee of $25.00 for commercial fishing. (This gentleman commented on Mr. Bill Wiggins suggestion concerning commercial fishing.)

10. Recommends that FWS cooperate in not throwing road blocks when fill material is needed by highway department to put shoulders on new highway. Cooperate with AHTD in development and improvements of Highway 82. (Jodie Mahoney)

11. Like to have <u>primary</u> goal of Master Planning process to be <u>public access.</u> (Jodie Mahoney)

12. Keep area primitive and limit public access.

13. Coordinate with COE & AGFC the proper timing of water management levels to discourage rough fish spawning. (Jodie Mahoney)

14. Would like to see more campsites, like at Wheeler Lake.

15. Would like to see more native sportsmen on core group committee. (Mr. Ferrell)

16. Improve the way notice is given to be locked through dam when going up river. (Charles Baxley)

17. Change location of lower ramp at Felsenthal to be in the river and not at Grand Marais. (Charles Baxley)

18. Would like to see more food plots on refuge.

19. Be liberal in how much water stands at a time (bottomland hardwood study). (Jodie Mahoney)

20. More public input or better communications on why decisions are being made about deer hunts or other seasons.

21. Would like to see maximum percentage of homefolks get drawn for the deer hunts.

22. Shade trees in parking areas. (David Marshall)

23. Walkway across cut at Open Brake.

24. People need to be aware of what their rights are regarding violations.

25. Need boat lane south of borrow pit on Union County side. (David Marshall)

26. More use of dogs such as squirrel hunting.

27. Less restraint on dogs in camp.

28. Want dogs to run loose, under supervision.

29. Go back to natural state of pine/hardwood mixture. (Jerry Smith)

30. Cut more pine, less hardwood in mixed timber. Even ratio.

31. Have pecan worms introduced back into refuge. (Mr. Humble)

32. Like to see human beaver dam between Spring Bayou and Dollar Slough removed. (Don Pharr)

At this time Mr. Carmie Henry read a statement by Sen. Pryor (see attachment 1)

Then, Mr. Don Floyd read a statement from Sen. Bumper's (see attachment 2)

Jodie Mahoney then commended the work of our congressional delegates in Washington. He had heard from COE employees in Washington that they had never seen harder working congressmen than Anthony, Pryor and Bumpers

toward the progress of Felsenthal.

Bob thanked each representative for coming and for their input in the meeting.

The comments then continued as follows:

33. More 3-wheeler trails on refuge.

34. Like to see Carter Deer Camp road stay open.

35. Steel shot not wanted (Eddie Cheatam)

36. Have reasonable user fees. Do not let them get out of control. Objects to guide services fees being so high. (Don Pharr)

37. Have contingency plan to control hazardous materials being barged into port.

38. Change 3-wheeler policy to be able to retrieve deer and bring back to road.

39. Would like to see public be able to ride the refuge with refuge staff.

40. Maximum use of renewable resource. (David Marshall)

41. Control pollution entering refuge and find where its coming from. (Dr. Horton)

After comments Donna explained what would happen next after public meetings. She explained that the comments would be looked at by the core group the first of September to evaluate and consolidate them. She said that the comments would be used. Drafting of first draft of Master Plan is now in process. Next spring another series of public meetings on final master plan.

She suggested that each person who would like to keep informed about master planning to make a notation beside their name on the guest register.

Bob then closed the meeting.

Those interested in hearing an explanation of decision on deciding deer seasons stayed for an informal discussion with Bob Bridges.

Minutes from
Master Plan Public Meeting
A P & L Building - El Dorado, AR
March 10, 1986

There were twenty-four people in attendance including Bob Bri[illegible] Smith, Donna Stanek and Mary Hollis from Felsenthal; FWS Repr[illegible] - John Oberheu, RO; Ray Aycock - District Biologist; Robert May - CO[illegible]

Bob Bridges began meeting at 7:25 p.m. because of mix-up in time of [illegible] He began by welcoming everyone to the meeting. He then discussed the [illegible] purposes of the public meetings saying it had a three-fold purpo[illegible] Present to public three management alternatives developed by refu[illegible] and Core Group members; (2) Inform public what we feel the best alt[illegible] is; (3) Elicit comments concerning management alternatives.

Bob asked the group to hold any controversial questions until the [illegible] the program and he would be glad to handle those himself. He asked [illegible] to work together to keep comments pertaining to the Master Plan itself.

Bob then introduced the following dignitaries: Carmie Henry - Senator [illegible] aide; Don Floyd - Senator Bumper's aide; Linda Gillespie - Congressman A[illegible] aide; Crossett Chamber Manager Beverly Pryor; member of the Core [illegible] Mr. Jack Lee and Mr. Shugart; Ray Aycock - District Biologist; Rob[illegible] - COE; and John Oberheu - RO.

After introducing Mr. Oberheu, Bob asked him to speak to the group. [illegible] Oberheu said the reason he was at the meeting was because of the i[illegible] that has been shown concerning Felsenthal. He said that public [illegible] this area will be increasing and there is a great potential for the ec[illegible] He stated that he had only been associated with Felsenthal for two [illegible] and had realized there was a lot of public visibility. He stated [illegible] the Core Group had been a big asset in the Master Planning process. [illegible] alternatives they have come up with are a result of much planning by [illegible] He then thanked everyone again for their presence at the meeting.

Bob introduced Donna Stanek and turned the meeting over to her. She b[illegible] by reviewing the three management alternatives to the group saying she th[illegible] each alternative was excellent. She explained that the Preferred Alterna[illegible] would set the general goals of the future of the refuge. She asked [illegible] their input into these decisions.

She then reviewed the basic goals and objectives for Felsenthal NWR. [illegible] overhead slide presentation including the Mission Statement of FWS was gi[illegible] Donna explained the three alternatives showing three different maps of [illegible] refuge and how each alternative would affect the refuge. Donna told [illegible] group that our staff, as well as the Core Group, feels that Alterna[illegible] B would be the best way to go. It would mean a more balanced program.

Questions were raised about the following:

What would constitute a violation if 3-wheeler trail is unmarked?

Could drawdown affect the fish? (Yes)

Does the higher pool level mean that more timber will be destroyed?

David Ellen voiced his concern for the environment regarding pollution, checkerboard clearcuts and channelization of the Ouachita River.

Are we locked into the 70' level during waterfowl season? (Yes)

When clearcuts are made do you always come back in pine? (Dave Smith gave reason for checkerboard 40's.)

Tommy Miller mentioned complaints from fishermen about skiers on the river. Bob told him that we plan to zone certain sections of the river for skiing. Mr. Miller and Worth Camp are against that. Mr. Camp said he thought the speed boats were the problem, not the skiers. He said a compromise would be to zone cutoffs for fishermen.

Carmie Henry said this is an on-going problem that may not even be FWS's problem.

Is river run by COE or FWS? Bob told them that the Ouachita River was a navigable waterway.

John Oberheu said that we may need a public meeting of its own between fisherman, skiers and boaters.

David Ellen again spoke concerning building a road and bridge and then close it (Buck, Gar & Straight Lake) during waterfowl season. Sportsmen should have wide open access to travel the roads of the refuge.

Ken Short would like to see a limit of one deer during the season instead of allowing 2 or more.

Tommy Miller said he was definitely against Alternative C because of the drawdown.

Reassess current commercial fees.

Carmie Henry wanted the question about public entry in certain areas of the refuge cleared up. Donna told him the waterfowl sanctuary during waterfowl season was closed.

Another gentleman said he would endorse Alternative A, but if Alternative B would help waterfowl he prefers B.

Worth Camp said there was an inadequate amount of land available for off-refuge camping. Does not want to see FWS reduce number of on-refuge campgrounds.

David Ellen said he did like the way we have brought more ducks into the area. Question of steel shot was brought up by David Ellen. Bob said it would probably be the 1987-88 season.

Ken Short made a motion for the meeting to adjourn.

Minutes for
PUBLIC MEETING FOR MASTER PLAN
Bradley County Courthouse - Warren, Arkansas
March 11, 1986

Thirty people were in attendance including Dave Smith, Donna Stanek, Parker and Mary Hollis from Felsenthal NWR. Dave Smith was in charge the meeting substituting for Bob Bridges. He began the meeting by introducing himself and giving his background. He welcomed everyone to the meeting and told of the general direction that Felsenthal NWR will be going in the future. He discussed the three management alternatives and the work the Core Group and Felsenthal Staff have done. He said that we were here to elicit comments from the public as to the direction we should take. He then introduced Donna and told the group that we would open the floor for comments once she had presented the three management alternatives.

Donna began by reviewing the Master Planning process. She discussed the alternatives and told them how the Core Group and our staff felt about the Preferred Alternative. Donna described the Core Group telling them it included about a dozen individuals from Ashley, Bradley and Union County.

She then discussed the basic mission of refuges and asked for any questions that needed clarification.

Donna was asked to explain our timber management and she turned that over to Dave Smith. He explained that our management practices had to do with habitat enhancement.

Donna opened the floor for any comments the group might have. The following comments or suggestions were made:

Former County Judge James Ernest would like to see better access into the refuge. He said he favors Alternative B and asked that we please do something for Bradley County such as opening more roads and improving the ones we have.

Mouth of L'Aigles road needs opening.

Why close roads at all. They've been like that for 30 years. Dave Smith discussed our liability in opening roads that were unsafe for travel and should be brought up to standard before opening. Question of whether Buck, Gar & Straight Lake road had been brought up to standard. If not, why was it now opened?

Is there a chance that the 70' water level during waterfowl season could change? Dave said no, that has already been decided. Questions also asked about an accurate river reading be put in the newspapers.

Would like to have water access from Eagle Lake to L'Aigles.

If you manage level at 70' for waterfowl, why not hold water in May for fish?

What is the fibridam? Dave explained what its purpose was and its construction.

David Ellen joined the meeting about 7:45 p.m. and at this time began to complain about the management practices of Felsenthal and refuges in general. Apparent that he was upset with how things we being done at the refuge.

Rumor out that we were going to trap turkeys and stock other places. This gentleman was strongly against that.

Question of steel shot was brought up and Donna said it would probably be year after next before it was required on the refuge.

Why not raise water level earlier and have it peak earlier so that it would coincide with duck seasons?

Donna and Dave thanked everyone for attending.

Minutes for
PUBLIC MEETING FOR MASTER PLAN
A P & L Reddy Room - Crossett, Arkansas
March 13, 1986

Fourteen people were in attendance including Bob Bridges, Donna [illegible] Mike Murphy, Bill Parker and Mary Hollis from Felsenthal NWR.

Only a small group was in attendance so it was decided to put tables to[illegible] and discuss Master Planning process informally.

Bob introduced staff present and then began telling the group the pu[illegible] of the meeting. He said we would discuss the three management altern[illegible] and give them an opportunity of give their ideas about Master Plan or [illegible] other concerns they might have. He said he would handle any specific compla[illegible] that someone had after the meeting.

Bob then recognized Ken Eastin who is with Arkansas Parks and Tourism [illegible] Little Rock. He then introduced Janice Clark. They are both on the Co[illegible] Group Committee.

Donna then gave background on Master Plan and discussed the work the Co[illegible] Group had done. She said the Core Group consisted of local, County, Sta[illegible] FWS and COE members and included 12 individuals. Their work began in la[illegible] July and have been very helpful.

Donna then discussed the previous public meetings held last August and ho[illegible] we have incorporated those ideas into the Master Plan. Some of their comme[illegible] were used. The group came up with only three viable, usable alternativ[illegible] labeled A, B and C. She then gave hightlights of their major points.

Donna said that that major thrust for the last ten years has been timb[illegible] management. The last year to year and one-half we have been putting emphasi[illegible] on water levels.

Bob was asked about our timber management practices. He discussed our practic[illegible] of wildlife enhancement.

The following questions or statements were made:

What is the policy of horseback riding on the refuge and why? (Henry White)

Billy Rice said that it seems like we want to close the refuge to people.

Larry Linder questioned 5% wildlife openings. What size and how many acres does that involve? Bob said they should be strategically placed and irregularly sized.

Janice Clark wanted to know why we burn regularly? Bob said to enhance wildlife habitat, prevent opportunity for wildfire & for aesthetics.

Donna discussed the direction of alternatives that the Core Group and refuge staff have chosen. She then discussed goals of FWS and the four objectives for Felsenthal NWR.

Other comments:

Sonny Brooks said he thought communication lines between public and refuge staff have definitely improved. He praised the work that Donna has done in reference to news articles. He said anytime a question comes up about something and he discussed it with refuge staff, that there is usually an article about the subject soon after.

Mrs. Nell Cole asked about camping facilities. Donna told her about our primitive camping sites. She was more interested in improved camping.

Janice Clark thinks Felsenthal is a great program and that in ten years would be top notch.

Billy Rice could not think of one good thing the refuge had done for the area.

Larry Linder said he hunted the bottoms quite a bit before it was a refuge and has hunted it this past year. He said there seems to be three times as much game as it was previously. He knew, of course, that there was a lot more hunting pressure than in the past but we had to give a little to get a little. He objects to 3-wheelers running loose everywhere.

Bob told the group that we are trying to blend the best ideas together for better management of the refuge.

There was a general discussion by Sonny Brooks about the improvements at the Crossett Port and what could be expected there.

Bob and Donna thanked everyone for attending.

attachment 1

STATEMENT OF SENATOR DAVID PRYOR
U.S. FISH AND WILDLIFE SERVICE PUBLIC HEARING
CROSSETT, ARKANSAS

7:00 p.m. August 13, 1985

The public hearing process is an absolutely essential element in the development of coherent government policy, and I want to commend the U.S. Fish and Wildlife Service for its efforts in arranging for a series of three public meetings to hear from concerned citizens in El Dorado, Warren and Crossett. The management of the Felsenthal National Wildlife Refuge, and the public policies that are used in that management, will affect the lives of the people of South Arkansas for years to come, and we must be careful to ensure that the best interests of the greatest number of people are provided for.

As one who has been personally involved in the many meetings, both public and private, with the U.S. Army Corps of Engineers over the funding and construction of the recreational sites that will be finally in place when this refuge is complete I can attest to the importance of public input and to the responsibility we all have in making sure the responsible federal officials make correct decisions on the front end. With the legislation the Congress has recently agreed to I believe our problems with the construction portion of this project are behind us. Now we've got to make sure during

the next 40 years of using and enjoying this wonderful recreational facility that we've given to our children and grandchildren the kind of opportunity we'd want them to have.

I urge the officials at the highest levels of the U.S. Fish and Wildlife Service, right on up to the Secretary of the Interior, to listen carefully to the local people of South Arkansas as they express their thoughts and concerns about the management of this resource. The kind of facility that we have and its reputation among recreation enthusiasts in other regions of the nation are going to be determined much more by the attitudes and enthusiasm of the local people than by bureaucrats in Washington.

In my judgement the policies that should guide the Department's decision making processes in the management of the Felsenthal National Wildlife Refuge can be stated very simply. We should have policies that maximize our hunting and fishing opportunities and minimize our regulatory and financial burden. I hope that this refuge can be managed in such a way that old favorite fishing holes and special hunting areas that have been used by local people for generations can continue to be accessible year around. I think we should work to avoid the need for special permits that only a few can receive because of limits on the number. This should be a facility for everyone.

I urge close cooperation between the Fish and Wildlife Service and our Arkansas Game and Fish Commission. South Arkansas is ably represented on the Game and Fish Commission by Beryl Anthony, Senior of El Dorado, and I know he will work hard to look after our interests in Felsenthal.

Lastly, I want to express my strong desire to see that the Department of the Interior budget wisely for Felsenthal. I am not satisfied with the treatment some of our federal fish hatcheries in Arkansas and elsewhere are getting in the budget process, and I do not want to see this facility neglected as well. We will have an immediate need for a visitor's interpretative center. We will need nature trails and other amenities for the non-hunters and fishermen who enjoy the great out-of-doors. I would like to see the Fish and Wildlife Service present a plan, both in the short and long term, for this development.

I appreciate your attention to my concerns, and, once again, urge that every public comment you receive be given thorough and deliberate consideration.

MARK O. HATFIELD, OREG., CHAIRMAN
JOHN C. STENNIS, MISS.
ROBERT C. BYRD, W. VA.
WILLIAM PROXMIRE, WIS.
DANIEL K. INOUYE, HAWAII
ERNEST F. HOLLINGS, S.C.
THOMAS F. EAGLETON, MO.
LAWTON CHILES, FLA.
J. BENNETT JOHNSTON, LA.
WALTER D. HUDDLESTON, KY.
QUENTIN N. BURDICK, N. DAK.
PATRICK J. LEAHY, VT.
JIM SASSER, TENN.
DENNIS DE CONCINI, ARIZ.
DALE BUMPERS, ARK.
J. KEITH KENNEDY, STAFF DIRECTOR
FRANCIS J. SULLIVAN MINORITY STAFF DIRECTOR

United States Senate
COMMITTEE ON APPROPRIATIONS
WASHINGTON, D.C. 20510

STATEMENT BY
SENATOR DALE BUMPERS
PUBLIC INFORMATION MEETING
FELSENTHAL NATIONAL WILDLIFE REFUGE
CROSSETT, ARKANSAS
AUGUST 13, 1985

First, I want to thank Robert Bridges, Refuge Manager, and the Fish and Wildlife Service for arranging and conducting this meeting. I am pleased to have the opportunity to express my interest in the planning process for the operation and management of a facility that when completed will offer an abundance of outdoor activities for the sportsmen of this area.

Secondly, I urge you to make your thoughts known on how you would like to see this refuge managed for hunting, fishing, and other outdoor recreational activities. You should be reminded that once a management plan is finalized it will be several years before those plans can be changed. Therefore, I urge your participation in this planning process by speaking up here tonight or by sending a letter to the Fish and Wildlife service expressing your views.

Finally, I regret that it is taking so long for the Corps of Engineers to complete the recreational facilities in this refuge. However, with the persistence of Senator Pryor, Congressman Anthony and myself, it now appears that funding for these facilities is in place and hopefully the Corps can get on with the completion of this project.

DALE BUMPERS

BERYL ANTHONY, JR.
4TH DISTRICT, ARKANSAS

COMMITTEES:
WAYS AND MEANS
SELECT COMMITTEE ON CHILDREN, YOUTH, AND FAMILIES

17 LONGWORTH HOUSE OFFICE BUILDING
WASHINGTON, D.C. 20515
(202) 225-3772

RECEIVED
AUG 14 1985
FELSENTHAL REFUGE

# Congress of the United States
## House of Representatives
## Washington, D.C. 20515

August 7, 1985

Mr. Robert J. Bridges
Refuge Manager
U.S. Department of the Interior
Fish and Wildlife Service
P.O. Box 1157
Crossett, AR 71635

Dear Mr. Bridges:

I have been informed that you are holding a series of public information meetings regarding the master planning efforts at Felsenthal National Wildlife Refuge. This letter should be incorporated into the public record of those hearings.

As you know, I have had a long association with the efforts to establish the Felsenthal National Wildlife Refuge, both before and after I became a Member of Congress. My law firm did a lot of work on behalf of early efforts to acquire land and easements, and I have hunted and fished extensively in the area which has been incorporated into the Refuge. It is an area I am deeply attached to.

I wish to stress to you, both as the Congressman representing the area and as a citizen who anticipates its recreational potential, the following points:

1. Felsenthal National Wildlife Refuge is a publicly owned and publicly financed facility.

2. It must be managed on a multiple use basis, in which the varied goals of wildlife conservation, recreation, habitat preservation, and environmental integrity are reconciled.

3. It must not become inaccessible to the public and access roads must be maintained and left open unless overriding considerations necessitate other action.

4. The public must be kept involved in the decision-making process and continue to be allowed to express views about the

dges
7, 1985

proper management of the refuge in the future.

am very impressed and pleased with the stewardship of the Fish ildlife Service in regard to Felsenthal. I also want to atulate you and your staff on the fine work you have done in ng the Refuge reach its potential. I commend you for holding ublic meetings and I urge you to listen carefully to omments of local citizens.

Sincerely,

Beryl Anthony, Jr.

Beryl Anthony, Jr.
Member of Congress

Refuge Manager
Asst Mgr (Prim)
Asst Manager
Biology Tech.
Forestry Tech.
Engr. Eq Oper.
Mtnce Worker
Secretary
Clerk
Mail Road

RECEIVED
AUG 9 1985
FELSENTHAL REFUGE

August 8, 1985

Felsenthal National Wildlife Refuge
P.O. Box 1157
Crossett, Arkansas 71635

Dear Sir;

I attended your meeting in El Dorado, August 6 and I agree with all comments and suggestions except keeping the pool at a permanent level. I believe by raising the pool in the winter will help the duck hunting and will also help fishing when it is lowered in the spring. Flooding will provide more area for duck hunters and more food for ducks and will also bring in fresh water and "flush" out the refuge and restock it. I would not like it to be flooded too long, where it would kill the hardwood timber. Hardwood

timber is slowly diminishing.

In earlier meetings, we were told that the reason for flooding was to hold the ducks in south Arkansas and that food plots was to be planted in the refuge. I think we need some kind of wild food because sometimes our acorn crop is scarce, such as last year.

Also, we need the road fixed going in to upper Spring bayou. We need a road into Roop Lake. Both of these lakes are good fishing lakes.

I would appreciate your response.

Sincerely yours,

Thomas W. Stewart

Summary

RECEIVED
AUG 18
FELSENTHAL

I'M A COON HUNTER

I think the Coon Hunter should have at least an equal length season. as the trapper.

Yes 36 No 0

I think that horses should be allowed refuge wide for coon hunting.

Yes 36 No 0

I think the refuge should have a fall and spring dog training season.

Yes 36 No 0

I think the refuge should allow licensed night hunts to be held year around.

Yes _____ No _____

I'm against a limit on Coons. Yes 35 No 1

I'm for as a short of a season as necessary to maintain a good Coon population

Yes 36 No 0

I could live with both trapping and Coon hunting at the same time.

Yes 30 No 6

OCTOBER,31 1985
CROSSETT,AR.

RECEIVED
NOV 6 1985
FELSENTHAL REFUGE

JECT:
SS BOW HUNTING SEASON.

AR MR. BOB BRIDGES

I WOULD LIKE TO SEE SOME CROSS BOW HUNTING TIME INCLUDED IN YOUR STER PLANNING OF THE FELSENTHAL NATIONAL WILD LIFE REFUGE HUNTING GULATIONS FOR THE COMING YEAR. I DONT THINK WE SHOULD HAVE A FIVE NTH SEASON LIKE THE STATE,BUT AFTER ALL WE ARE TAX PAYERS LIKE ALL THER SPORTSMAN THAT USE THE REFUGE.

BOB I THINK YOU AND YOUR STAFF HAVE DONE A SUPER JOB IN THE PAST FEW EARS.I DONT PERSONALLY AGREE WITH ALL YOUR RULES,BUT I KNOW YOU ARE OING WHAT YOU MUST DO TO HAVE A PLACE FOR THE FUTURE GENERATIONS,TO OME TO AND ENJOY THE GOOD HUNTING AND FISHING THAT WE HAVE NOW.

SINCERLY

Bobby Dunn

715 Patton
Crossett, AR

Refuge Manager
Asst Mgr (Prim)
Asst Manager
Forester
Wildl Biol-Plan
Refuge Tech
Forestry Tech
Supvr Ill Officer
Maintenance Worker
Secretary
Clerk
Int Recd

Refuge Manager
Asst Mgr (Prim)
Asst Manager
Forester
Dist'r Rec. Plan
Biology Tech.
Forestry Tech.
Engr. Eq Oper.
Maint Worker
Secretary
Clerk
All Read

RECEIVED
NOV 6 1985
FELSENTHAL REFUGE

November 5, 1985
Dyess, Ark.

To the Personel of Felsenthal Refuge.

I and my son wish to thank all of you for being so nice to us while we were there.

I would like to comment about how some of the people left their area in a mess. there people need to be made and come back and clean it up.

We cleared up our litter and some that was there when we set up camp.

It is not right for some-one to come in and make a mess and leave it, and I think that they should have to clean it up or pay to have it done.

Once again our thanks to all of you for making it pleasant and a good experience.

Looking forward to getting our name in the pot for next year.

Phillip Duncan
and Son.
Rt 1 Box 109 A
Dyess, AR 72330

P.S. Happy Holidays

RECEIVED
AUG 9 1985
FELSENTHAL REFUGE

Dear Sirs:

I have been told that next spring when the water drops out, that the upper level will be held at 65 ft. instead of 63 ft. as it is presently. Does this mean that the channel will be dredged 2' deeper or that the actual level will be 2' higher? If it is held at 65', a lot of timber will be killed. If it is going to be the same level (63') from now on, I would like to suggest that boat lanes be cut and marked. As it is now, a large bass boat cannot manuver without hanging on stumps every few feet. Or small boats for that matter. This has cost me several hundred dollars in repair bills this year.

| Refuge Manager | Asst Mgr (Prim) | Ass't Manager | Forester | O'ldr Rec. Plan | Biology Tech. | Forestry Tech. | Eqpt. Eq Oper. | M'Ntce Worker | Secretary | Clerk | Jr.Jr.Rcad |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ✓ | ✓ | | | | | | | |

Yours Truly,
Bill Blood
716 1/2 E. 3rd.
El Dorado, AR 71730

LIST OF MEETINGS

| Date | Time | Type | Number Present | Location | Comments |
|---|---|---|---|---|---|
| 7/10/85 | 1:00p.m. | Core Group | 13 | Crossett Chamber Bldg. | Initial Core Group Meeting |
| 8/6/85 | 7:00p.m. | Public | 75 | El Dorado | "Scoping" Meeting |
| 8/8/85 | 7:00p.m. | Public | 27 | Warren | "Scoping" Meeting |
| 8/13/85 | 7:00p.m. | Public | 60 | Crossett | "Scoping" Meeting |
| 9/4/85 | 1:00p.m. | Core Group | 12 | Crossett Chamber Bldg. | Evaluate Public Meetings |
| 9/5/85 | 8:00a.m. | Core Group | 7 | Felsenthal NWR | Refuge Tour |
| 10/31/85 | 10:00a.m. | Core Group | 9 | Crossett Chamber Bldg. | Develop Management Activities and Levels |
| 11/21/85 | 10:00a.m. | Core Group | 8 | Crossett Chamber Bldg. | Refined Activities and Levels and Defined Current Status Alternative |
| 1/23/86 | 1:00p.m. | Core Group | 14 | Crossett Chamber Bldg. | Reviewed and Refined Management Alternatives and Selected Preferred |
| 3/10/86 | 7:00p.m. | Public | 24 | El Dorado | Presented Alternatives |
| 3/11/86 | 7:00p.m. | Public | 30 | Warren | Presented Alternatives |
| 3/13/86 | 7:00p.m. | Public | 14 | Crossett | Presented Alternatives |
| 4/24/86 | 1:00p.m. | Core Group | 12 | Crossett | Final Meeting |

CONTRIBUTORS

| | |
|---|---|
| Ray Aycock | FWS District Biologist, Core Group |
| Robert Bridges | Refuge Manager |
| Ken Chitwood | Wildlife Biologist, FWS |
| Janice Clark | Felsenthal Committee,Core Group |
| Ken Eastin | Park Planner, Arkansas Parks and Tourism, Core Group |
| Mary Hollis | Clerk/Typist |
| Clint Huey | Attorney, Core Group |
| H.N. Humble | Town of Felsenthal, Core Group |
| Carl Hunter | Assistant Director, Arkansas Game and Fish Commission, Core Group |
| Jack Lee | El Dorado, Core Group |
| Robert May | Planner, COE, Core Group |
| Michael Murphy | Assistant Refuge Manager |
| Ed Pendleton | National Coastal Ecosystems Team |
| Don Pharr | Town of Felsenthal, Core Group |
| Patricia Podriznik | Refuge Planner, FWS |
| John Robinette | Refuge Biologist |
| H.H. Shugart | Arkansas Audubon Society, Core Group |
| David Smith | Refuge Forester |
| Donna Stanek | Outdoor Recreation Planner, Master Plan Coordinator |

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_____, Felsenthal National Wildlife Refuge Planning Needs Assessment, Revised, January, 1985.

_____, Planning Workbook, 1980.

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## SPECIES LIST

The following vertebrate species are known or expected to occur on Felsenthal National Wildlife Refuge.

### REPTILES AND AMPHIBIANS

Spotted Salamander (Ambystoma maculatum)
Marbled Salamander (Ambystoma opacum)
Mole Salamander (Ambystoma talpoideum)
Small-mouthed Salamander (Ambystoma texanum)
Eastern tiger Salamander (Ambystoma tigrinum tigrinum)
Three-toed Amphiuma (Amphiuma tridactylum)
Red river Waterdog (Necturus maculosus louisianensis)
Dusky Salamander (Desmognathus fuscus)
Dwarf Salamander (Mamculus quadridigitatus)
Central Newt (Notophthalmus viridescens louisianensis)
Western Lesser Siren (Siren intermedia nettingingi)
Dwarf American Toad (Bufo americanus charlesmithi)
Gulf Coast Toad (Bufo valliceps valliceps)
Fowler's Toad (Bufo woodhousei velatus)
Northern Cricket Frog (Acris crepitans crepitans)
Green Treefrog (Hyla cinerea cinerea)
Spring Peeper (Hyla crucifer crucifer)
Squirrel Treefrog (Hyla squirella)
Eastern Gray Treefrog (Hyla versicolor versicolor)
Western Chorus Frog (Pseudacris trisertiata feriarum)
Eastern Narrowmouthed Toad (Gastrophryne carolinensis carolinensis)
Hurter's Spadefoot (Scaphiopus holbrooki hurteri)
Southern Crawfish Frog (Rana areolata areolata)
Bullfrog (Rana catesbeiana)
Bronze Frog (Rana clamitans clamitans)
Pig Frog (Rana grylio)
Pickeral Frog (Rana palustris)
Southern Leopard Frog (Rana pipiens sphenocephala)
American Alligator (Alligator mississipiensis)
Western Slender Glass Lizard (Ophisaurus attenuatus attenuatus)
Carolina Anole (Anolis carolinensis carolinensis)
Texas Horned Lizard (Phrynosoma cornutum)
Northern Fence Lizard (Sceloporus undulatus hyacinthinus)
Six-lined Racerunner (Cnemidophorus sexlineatus sexlineatus)
Southern Coal Skink (Eumeces anthracinus pluvialis)
Five-lined Skink (Eumeces fasciatus)
Southeastern Five-lined Skink (Eumeces inexpectatus)
Broad-headed Skink (Eumeces laticeps)
Ground Skink (Scincella laterale)
Western Worm Snake (Carphophis vermis)
Eastern Scarlet Snake (Cemophora coccinea copei)
Buttermilk Snake (Coluber constrictor anthicus)
Southern Black Racer (Coluber constrictor priapus)
Mississippi Ringneck Snake (Diadophis punctatus stictogenys)
Corn Snake (Elaphe guttata guttata)
Western Mud Snake (Faracnia abacura reinwardti)
Eastern Hognose Snake (Heteroden platyrhinos)
Prairie Kingsnake (Lampropeltis calligaster calligaster)
Speckled Kingsnake (Lampropeltis getulus holbrooki)
Louisiana Milk Snake (Lampropeltis triangulum amaura)
Eastern Coachwhip (Masticophis flagellum flagellum)

Green Water Snake (Natrix cyclopion cyclopion)
Yellow-bellied Water Snake (Natrix erythrogaster flavigaster)
Broad-banded Water Snake (Natrix fasciata confluens)
Diamond-backed Water Snake (Natrix rhombifera rhombifera)
Midland Water Snake (Natrix sipedon pleuralis)
Rough Green Snake (Opheodrys aestivus)
Graham's Water Snake (Regina grahami)
Midland Brown Snake (Storeria dekayi wrightorum)
Northern Red-bellied Snake (Storeria occipitomaculata occipitomaculata)
Western Ribbon Snake (Thamnophis proximus proximus)
Eastern Garter Snake (Thamnophis sirtalis sirtalis)
Rough Earth Snake (Virginia valeriae elegans)
Southern Copperhead (Agkistrodon contortrix contortrix)
Western Cottonmouth (Agkistrodon piscivorus leucostoma)
Canebrake Rattlesnake (Crotalus horridus atricaudatus)
Western Pigmy Rattlesnake (Sistrurus miliarius streckeri)
Texas Coral Snake (Micrurus fulvius tenere)
Common Snapping Turtle (Chelydra serpentina serpentina)
Mississippi Mud Turtle (Kinosternon subrubrum hippocrepis)
Alligator Snapping Turtle (Macroclemus temmincki)
Kell-backed Musk Turtle (Sternothaerus carinatus)
Stinkpot (Sternothaerus odoratus)
Slider (Chrysemys concina hieroglyphica)
Missouri Slider (Chrysemys floridana hoyi)
Southern Painted Turtle (Chrysemys picta dosalis)
Red-eared Turtle (Chrysemys scripta elegans)
Western Chicken Turtle (Deirochelys reticularia miaria)
Mississippi Map Turtle (Graptemys kohmi)
Ouachita Map Turtle (Graptemys pseudogeograhica ouchitensis)
Three-toed Box Turtle (Terrapene carolina triungius)
Midland Smooth Softshell (Trionyx muticus muticus)
Gulf Coast Spiny Softshell (Trionyx spinifer asper)
Western Spiny Softshell (Trionyx spinifer hartwegi)
Pallid Spiny Softshell (Trionyx spinifer pallidus)

MAMMALS

Opossum (Didelphis marsupialis)
Eastern Mole (Scalopus aquaticus)
Least Shrew (Cryptotis parva)
Short-tailed Shrew (Blarina brevicauda)
Free-tailed Bat (Tadauda brasiliensis)
Evening Bat (Nycticeius humeralis)
Northern Yellow Bat (Nycteris intermedius)
Hoary Bat (Nycteris cinereus)
Red Bat (Nyceteris borealis)
Silver Haired Bat (Lasionycteris noctivagans)
Rafinesque's Big-eared (Plecotus rafinesquii)
Eastern Pipistrelle (Pipistrellus subflavus)
Big Brown Bat (Eptesicus fuscus)
Southeastern Bat (Myotis austroriparius)
Nine-banded Armadillo (Dasypus novemcinctus)
Swamp Rabbit (Sylvilagus aquaticus)
Eastern Cottontail (Sylvilagus floridanus)

Nutria (Myocastor coypus)
Beaver (Castor canadensis)
Plain's Pocket Gopher (Geomys bursarius)
Southern Flying Squirrel (Glaucomys volans)
Fox Squirrel (Sciurus niger)
Gray Squirrel (Sciurus carolinensis)
House Mouse (Mus musculus)
Black Rat (Rattus rattus)
Norway Rat (Rattus norvegicus)
Eastern Wood Rat (Neotoma floridana)
Hispid Cotton Rat (Sigmodon hispidus)
Fulvous Harvest Mouse (Reithrodontomys humulis)
Marsh Rice Rat (Oryzomys palustris)
Cotton Mouse (Peromyscus gossypinus)
White-footed Mouse (Peromyscus leucopus)
Golden Mouse (Ochrotomys nuttalli)
Muskrat (Ondatra zibethicus)
Pine Mouse (Microtus pinetorum)
Black Bear (Ursus americanus)
Gray Fox (Urocyon cinereoargenteus)
Red Fox (Vulpes fulva)
Coyote (Canis latrans)
Bobcat (Lynx rufus)
River Otter (Lutra canadensis)
Mink (Mustela vison)
Raccoon (Procyon lotor)
White-tailed Deer (Odocoileus virginiana)

FURBEARERS

Raccoon (Procyon lotor)
Opossum (Didelphis marsupialis)
Beaver (Castor canadensis)
Mink (Mustela vison)
Nutria (Myocastor coypus)
River Otter (Lutra canadensis)
Skunk (Conepatus leuconotus)
Bobcat (Lynx rufus)
Coyote (Canis latrans)
Muskrat (Ondatra zibethicus)
Gray Fox (Urocyon cinereoargenteus)
Badger (Taxidea taxus)

BIRDS

Common Loon (Gavia immer)
Horned Grebe (Podiceps auritis)
Eared Grebe (Podiceps nigricollis)
Pied-billed Grebe (Podilymbus podiceps podiceps)
White Pelican (Pelecanus erythrorhynchos)
Double-crested Cormorant (Phalacrocorax auritis)
Anhinga (Anhinga anhinga leucogaster)
Canada Goose (Branta canadensis)
Mallard (Anas platyrhynchos platyrhynchos)

Black Duck (Anas rubripes)
Gadwall (Anas strepera)
Pintail (Anas acuta)
Green-winged Teal (Anas carolinensis)
Blue-winged Teal (Anas discors)
American Wigeon (Anas americana)
Shoveler (Anas clypeata)
Wood Duck (Aix sponsa)
Redhead (Aythya americana)
Ring-necked Duck (Aythya collaris)
Canvasback (Aythya valisineria)
Lesser Scaup (Aythya affinis)
Bufflehead (Bucephala albeola)
Oldsquaw (Clangula hyemalis)
Ruddy Duck (Oxyura jamaicensis rubida)
Hooded Merganser (Lophodytes cucullatus)
Common Merganser (Mergus merganser)
Turkey Vulture (Cathartes aura)
Black Vulture (Coragyps atratus)
Mississippi Kite (Ictinia mississipiensis)
Sharp-shinned Hawk (Accipiter striatus velox)
Cooper's Hawk (Accipiter cooperii)
Red-tailed Hawk (Buteo jamaicensis)
Red-shouldered Hawk (Buteo lineatus)
Broad-winged Hawk (Buteo platypterus)
Bald Eagle (Haliaeetus leucocephalus)
Marsh Hawk (Circus cyaneus hudsonius)
Osprey (Pandion haliaetus carolinesis)
Peregine Falcon (Falco pergrinus)
American Kestrel (Falco sparverius)
Bobwhite (Colinus virginianus)
Turkey (Meleagris gallopavo)
Common Egret (Casmerodius albus egretta)
Great Blue Heron (Ardea herodias)
Green Heron (Butorides virescens virescens)
Little Blue Heron (Egretta caerulea)
Cattle Egret (Bubulcus ibis)
Snowy Egret (Leucophoryx thula thula)
Louisiana Heron (Hydranassa tricolor ruficollis)
Black-crowned Night Heron (Nyctieorax nyctieorax hoactli)
Yellow-crowned Night Heron (Nyctanassa violacea)
American Bittern (Botaurus lentiginosus)
Wood Stork (Mycteria americana)
King Rail (Rallus elegans)
Virginia Rail (Rallus limicola limicola)
Sora (Porzana carolinia)
American Coot (Fulica americana)
Killdeer (Charadrius vociferus vociferus)
American Woodcock (Philohila minor)
Common Snipe (Capella gallinago delicata)
Upland Sandpiper (Bartramia longicanda)
Spotted Sandpiper (Actitis macularia)
Solitary Sandpiper (Tringa solitaria solitaria)
Greater Yellowlegs (Tringa melanoleuca)
Lesser Yellowlegs (Tringa flavipes)

Pectoral Sandpiper (Calidris melanotos)
Least Sandpiper (Calidris minutilla)
Semiplamated Sandpiper (Ereunetes pusillus)
Western Sandpiper (Calidris mauri)
Herring Gull (Larus argentatus)
Ring-billed Gull (Larus delawarensis)
Least Tern (Sterna albifrons)
Forster's Tern (Sterna forsteri)
Black Tern (Chlidonias nigra)
Rock Dove (Columba livia)
Mourning Dove (Zenaidura macroura)
Yellow-billed Cuckoo (Coccyzus erythropthalmus)
Roadrunner (Geococcyx californianus)
Screech Owl (Otus asio)
Great Horned Owl (Bubo virginianus)
Barred Owl (Strix varia)
Chuck-will's Widow (Caprimulgus carolinensis)
Whip-poor-will (Caprimulgus vociferus)
Common Nighthawk (Chordeiles minor)
Chimney Swift (Chaetura pelagica)
Ruby-throated Hummingbird (Archilochus colubris)
Belted Kingfisher (Megaceryle alcyon alcyon)
Common Flicker (Colaptes auratus)
Pileated Woodpecker (Dryocopus pileatus)
Red-bellied Woodpecker (Centurus carolinus)
Red-cockaded Woodpecker (Dendrocopos borealis)
Red-headed Woodpecker (Melanerpes erythrocephalus)
Yellow-bellied Sapsucker (Sphyrapicus varius varius)
Hairy Woodpecker (Dendrocopos villosus)
Eastern Kingbird (Tyrannus tyrannus)
Great Crested Flycatcher (Myiarchus crinitus)
Eastern Phoebe (Sayornis phoebe)
Acadia Flycatcher (Empidonax virescens)
Eastern Wood Pewee (Contopus virens)
Horned Lark (Eremophila alpestris)
Barn Swallow (Hirundo rustica erythrogaster)
Cliff Swallow (Petrochedidon pyrrhonota)
Tree Swallow (Iridoprocne bicolor)
Bank Swallow (Riparia riparia)
Rough-winged Swallow (Stelgidopteryx crinitus)
Purple Martin (Progne subis subis)
Blue Jay (Cyanocitta cristasta)
Common Crow (Corvus brachyrhynchos)
Fish Crow (Corvus ossifragus)
Carolina Chickadee (Parus carolinensis)
Tufted Titmouse (Parus bicolor)
White-breasted Nuthatch (Sitta carolinensis)
Brown-headed Nuthatch (Sitta pusilla)
Brown Creeper (Certhia familiaris)
House Wren (Troglodytes aedon)
Winter Wren (Troglodytes troglodytes)
Bewick's Wren (Thryomanes bewickii)
Carolina Wten (Thryothorus ludovicianus)
Long-billed Marsh Wren (Telmatodytes palustris)

Short-billed Marsh Wren (Cistothorus platensis)
Mockingbird (Mimus polyglottos polyglottos)
Gray Catbird (Dumeletla carolinensis)
Brown Thrasher (Toxostoma rufum rufum)
American Robin (Turdus migratorius)
Wood Thrush (Hylocichla mustelina)
Hermit Thrush (Hylocichla guttata faxoni)
Gray-cheeked Thrush (Catharus minimus)
Blue-Gray Gnatcatcher (Polioptila caerulea caerulea)
Golden-crowned Kinglet (Regulus satrapa satrapa)
Water Pipet (Anthus spinoletta)
Cedar Waxwing (Bombycilla cedrorum)
Loggerhead Shrike (Lanius ludovicianus)
Starling (Sturnus vulgaris vulgaris)
White-eyed Vireo (Vireo griseus)
Bell's Vireo (Vireo belii)
Yellow-throated Vireo (Vireo flavifrons)
Red-eyed Vireo (Vireo olivaceus)
Philadelphia Vireo (Vireo philadelphicus)
Warbling Vireo (Vireo gilvus)
Black and White Warbler (Mniotilta varia)
Prothonotary Warbler (Protonotaria citrea)
Swainson's Warbler (Limnothlypis swainsonii)
Worm-eating Warbler (Helmitheros vermivorus)
Blue-winged Warbler (Vermivora pinus)
Tennessee Warbler (Vermivora peregrina)
Orange-crowned Warbler (Vermivora celata)
Northern Parula (Parula americana)
Yellow Warbler (Dendroica petichia)
Magnolia Warbler (Dendroica magnolia)
Yellow-rumped Warbler (Dendroica coronata)
Bay-breasted Warbler (Dendroica castanea)
Blackpoll Warbler (Dendroica striata)
Blackburnian Warbler (Dendroica fusca)
Chestnut-sided Warbler (Dendroica pensylvanica)
Nashville Warbler (Vermivora ruficapilla)
Solitary Vireo (Vireo solitarius)
Ruby-crowned Kinglet (Regulus calendula calendula)
Pine Warbler (Dendroica pinus)
Prairie Warbler (Dendroica discolor)
Palm Warbler (Dendroica palmarum)
Northern Waterthrush (Seiurus noveboracensis)
Louisiana Waterthrush (Seiurus motacilla)
Common Yellowthroat (Geothlypis trichas)
Yellow-breasted Chat (Icteria virens virens)
Hooded Warbler (Wilsonia citrina)
Canada Warbler (Wilsonia canadensis)
American Redstart (Setophaga ruticilla)
House Sparrow (Passer domesticus domesticus)
Eastern Meadowlark (Sturnella magna)
Red-winged Blackbird (Agelaius phoeniceus)
Rusty Blackbird (Euphagus carolinus)
Brewer's Blackbird (Euphagus cyanocephalus)
Common Grackle (Quiscalus quiscula)

Brown-headed Cowbird (Molothrus ater ater)
Orchard Oriole (Icterus spuiius)
Northern Oriole (Icterus galbula)
Summer Tanager (Piranga rubra rubra)
Cardinal (Richondena cardinalis)
Rose-breasted Grosbeak (Pheucticus ludovicianus)
Indigo Bunting (Passerina cyanea)
Purple Finch (Carpodacus purpureus)
Pine Siskin (Spinus pinus pinus)
American Goldfinch (Spinus tristis tristis)
Rufous-sided Towhee (Pipilo erythrophthalmus)
Savannah Sparrow (Passerculus sandwichensis)
Vesper Sparrow (Pooecetes gramineus)
Dark-eyed Junco (Junco hyemalis)
Bachman's Sparrow (Aimphila aestivalis)
White-crowned Sparrow (Zonotrichia leucophrys)
White-throated Sparrow (Zonotrichia albicollis)
Fox Sparrow (Passerella iliaca iliaca)
Lincoln's Sparrow (Melospiza lincolnii)
Swamp Sparrow (Melospiza georgiana)
Song Sparrow (Melospiza melodia)

FISH

White Bass (Roccus chrysops)
Yellow Bass (Roccus mississippiensis)
Spotted Bass (Micropterus punctulatus)
Largemouth Bass (Micropterus salmoides)
Smallmouth Bass (Micropterus dolomieui)
Warmouth (Chaenobryttus gulosis)
Redear Sunfish (Lepomis microlophis)
Longear Sunfish (Lepomis megalotis)
Spotted Sunfish (Lepomis punctatus)
Bluegill Sunfish (Lepomis machrochirus)
Flier (Centrarchus macropterus)
Black Crappie (Pomoxis nigromaculatus)
White Crappie (Pomixis annularis)
Sauger (Stizostedion canadense)
Yellow Pikeperch (Stizostedion vitreum)
Paddlefish (Polyodon spathula)
Bigmouth Buffalo (Ictiobus cyprinellus)
Black Buffalo (Ictiobus niger)
Smallmouth Buffalo (Ictiobus bubalus)
River Carpsucker (Carpiodes carpio)
Carp (Cyprinus carpio)
Black Bullhead (Ictalurus melas)
Yellow Bullhead (Ictalurus natalis)
Channel Catfish (Ictalurus punctatus)
Blue Catfish (Ictalurus furcatus)
Flathead Catfish (Pliodictis olivaris)
Freshwater Drum (Aplodinotus grunniens)
Alligator Gar (Lepisosteus spatula)
Shortnose Gar (Lepisosteus platostomus)
Spotted Gar (Lepisosteus productus)
Longnose Gar (Lepisosteus osseus)

Bowfin (Amia calva)
Skipjack Herring (Alosa chrysochloris)
Treadfin Shad (Dorosoma petenese)
Gizzard Shad (Dorosoma cepedianum)
Blacktail Redhorse (Moxostoma poecilurum)
Spotted Sucker (Minytrema melanops)
Golden Shiner (Notemigonus crysoleucas)
Striped Mullet (Mugil cephalus)