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## A. BACKGROUND INFORMATION

1. History of Property Creation

The Fish Lake Wildlife Area (FLWA) with a 14,038.75 acre acquisition goal within approved package boundaries is one of three segments of the Glacial Lake Grantsburg complex, the other two being the Grex Meadows Wildlife Area (acreage goal of 31,620) and the Amsterdam Slough Wildlife Area (acreage goal of 8,380). The long range goal has been for all three segments to be managed primarily for waterfowl as one integrated unit.

In 1945, the Wisconsin Conservation Department, under the authority of Chapter 23.09, Wisconsin Statutes, sought to purchase and restore these lands to a condition highly productive of wildlife. At that time the Conservation Commission approved the acquisition of 3,276.74 acres of tax delinquent land for the FLWA from Burnett County for \$0.75 per acre.

In 1949, the boundaries were extended and the project was approved for funding under the Pittman-Robertson Act. At the present time, 13,126.75 acres have been purchased.

At the time of settlement (1850), the area was a mosaic of large, wet marshes interspersed in brush prairie, savanna uplands dotted with small ponds and marshes. The area then went through many vegetative changes associated with man's drainage, logging, wire grass production, agriculture, and fire exclusion. Management objectives have been to restore the 1850 conditions as much as possible. This involved putting water back on the lowlands and fire on the uplands.

2. Current Management Activities

Development of the property began in 1960 with the construction of the Corduroy Dike, creating a flowage of 514 acres. The next year, the Town Road dike, flowing 62 acres and the Southwest dike, flowing 241 acres were completed. Dikes creating Grettum and Daniels flowages were completed in 1972. The Grettum dike creates a flowage of 501 acres and the Daniels dike will create a flowage of 67 acres.

To date, 90 potholes, averaging 0.05 acre in size, have been constructed. Firebreaks, 100 feet in width, totaling eight miles, have been constructed on the FLWA during 1971, 1972, and 1973. Some prescribed burning has been conducted. Wood products have been sold and harvested through the timber sale process. A 28 by 39 foot steel storage building has been constructed in the NESW of Section 10, T37N, R19W and is used for storage purposes.

In order to accommodate public use of the FLWA, 7.25 miles of roads have been constructed or upgraded to town road standards and two observation areas have been constructed.

## B. GOALS AND OBJECTIVES

## 1. Goal:

To manage the Fish Lake Wildlife Area for waterfowl, sharptailed grouse, timber and forest game production, and to provide for compatible outdoor recreational activities.

## 2. Annual Objectives:

- a. Produce one duckling per acre and one gosling per 20 acres of water. With an anticipated water area of 4,200 acres, full-scale annual waterfowl production would be 4,200 ducks and 210 geese.
- b. Produce, during the cyclic high, a population averaging 500 sharptailed grouse.
- c. Maintain 1,500 acres of timber in a number of tracts to produce an average of 0.5 cords per acre per year. These wooded tracts will be managed to contribute significantly to the objective of maintaining fall populations of approximately 300 whitetailed deer, 400 gray squirrel, and 100 ruffed grouse on the property as a whole.
- d. Accommodate 18,000 man-days of hunting and trapping: 7,000 for deer (5,000 bow, 2,000 gun), 6,000 for waterfowl, 5,000 for upland game, and 2,000 for trapping.
- e. Accommodate 40,000 recreational and educational visitations, including pleasure driving, bird watching, nature study, photography, ski-touring, snowmobiling, etc. (Snowmobiling will be limited to designated cross-through trails as part of the Burnett County trail system. Interpretive signing for natural resources and management measures, as well as an updated brochure, will be developed to facilitate outdoor recreation and add depth to the recreational users experience.)

### C. MANAGEMENT POLICIES

Land acquisition is authorized under Chapter 23.09, Wisconsin Statutes, and the Board of Natural Resources Policy NR 1.40 - Acquisition of Recreational Land. Funding for land acquisition has come from Department of Natural Resources (DNR) segregated funds, Wisconsin Outdoor Recreation Act (ORAP) bonding funds, the Pittman-Robertson (PR) excise tax funds, and the Federal Land and Water Conservation (LAWCON) funds.

Major DNR policies which affect the proposed management of the Fish Lake Wildlife Area are NR 1.13 - Controlled Burning and NR 1.15 - Prairie Grouse.

Another policy which affects the project is the Wisconsin Environmental Policy Act (WEPA), Chapter 1.11, Wisconsin Statutes.

The Fish Lake Master Plan is unique in that it was preceded by the Fish Lake Environmental Impact Statement. The normal course of events is to develop the master plan, then develop the environmental impact statement based upon the master plan.

WEPA became effective on April 19, 1972. The writing of the Fish Lake EIS began during the winter of 1972-73. The Preliminary Environmental Report on the Fish Lake Wildlife Area was released for public comment on July 19, 1974, the same date the Natural Resources Board Policy on Master Plans was approved. On January 22, 1975, a task force was appointed to write the Fish Lake Master Plan. The final Fish Lake EIS was released on March 13, 1975, the public hearing held on April 15, 1975, and the final decision made on July 1, 1975.

The Master Plan Task Force considered the findings and conclusions of the EIS as the limits that would be worked within while developing the master plan. The goals and objectives in this master plan are consistent with the EIS decision.

### D. RESOURCE CAPABILITY

1. Soils and Geology: All of Burnett County was covered with ice during the glacial period. At least three advances of ice came into northwestern Wisconsin from the north or northwest as part of the Keewatin ice shield. The lake which covered this area was the Superior Lake. When the glacier retreated, parts of western Burnett County and the surrounding area were under water. This was Glacial Lake Grantsburg. When the post-glacial waters drained via the St. Croix River, the lake disappeared leaving a vast sandy plain pitted by many marshes. The wildlife area occupies a portion of this area.

The soils are Omega and Vilas sands with sedge peat in the marshes. The "A" horizon on the sands is very thin or missing altogether in many places. The raw sedge peats that overlay the sands are in Soil Conservation Service (SCS) Capability Unit Vn-7b. These soils are nearly level, very poorly drained, shallow to moderately deep, and underlain by sands within 42 inches. There is high water most of the time, and these soils have a severe frost hazard. These soils should not be cultivated according to SCS recommendations.

The sandy upland soils are rapidly permeable and tend to be droughty. They have rather low stability and are subject to blowing. Past agricultural failure using primitive methods and practices demonstrates the general lack of suitability for cropland. These soils are fair for road fill, but lack stability under wheel loads unless confined. They are satisfactory for commercial sand.

2. Fish and Wildlife: The property is presently occupied by species of wildlife common to grass marshes and disturbed forests. Common mammal species usually considered as "game" animals and capable of management would include the white-tailed deer, gray squirrel, snowshoe hare, raccoon, coyote, and red fox. Other mammals present, but considered uncommon include the black bear, cottontail rabbit, fox squirrel, gray fox, and bobcat. Animals that are trapped for their fur or pelt include the mink, muskrat, beaver, otter, skunk, and weasel.

Many birds presently inhabit the wildlife area both permanently and seasonally. Common "game" birds and non-hunted birds that would respond to management include the ruffed grouse, Canada goose, mallard, blue-winged teal, wood duck, ringnecked duck, sandhill crane, great blue heron, and double-crested cormorant (endangered). Less common species include the sharp-tailed grouse, woodcock, green-winged teal, wigeon, pintail, gadwall, great egret, bald eagle (endangered), and osprey (endangered). Complete bird and mammal lists are found in the Environmental Impact Statement (EIS).

Fish Lake contains a population of largemouth bass, panfish, and minnows which are severely limited by frequent winter kill caused by oxygen depletions. Good minnow populations occur in existing flowages and are expected to become established in the proposed flowages.

3. Vegetative Cover: A cover type map (1974) can be found in the Fish Lake Environmental Impact Statement, March, 1975.

There are 6,301 acres of grass marsh, mostly monotypic stands of wire grass (*Carex stricta*) with occasional patches of other sedges (*C. trisperma* and *C. trichocarpa*). A thin layer of peat mosses (*Sphagnum* spp.) exists in some areas of the marshes. A few scattered rushes (*Juncus acuminatus* and *J. brevicaudatus*), cattail (*Typha* spp.), meadow grasses (*Glyceria grandis* and *G. striata*), and blue flag (*Iris* spp.) are present. There are 133 acres of lowland brush, mostly alder (*Alnus rugosa*), willow (*Salix* spp.), spirea (*Spiraea alba*), swamp laurel (*Kalma polifolia*), bog rosemary (*Andromeda glaucophylla*), cassandra (*Chamedaphne calyculata*), and tamarack (*Larix laricina*). There are 15 acres of swamp hardwoods. There are 1,252 acres of upland grass and 55 acres of upland brush. The grassland acreage is mainly abandoned agricultural fields that are still dominated vegetatively by exotic grasses. In some areas the prairie grass such as the bluestems (*Andropogon gerardi* and *A. scoparius*), and Indiangrass (*Sorghastrum nutans*) are re-invading the grasslands. There are 248 acres of open grassy firebreaks.

There are 4,760 acres of forested upland on the project. The type breakdown includes 24 acres of white pine (*Pinus strobus*), 34 acres of red pine (*Pinus resinosa*), 1,882 acres of Jack pine (*Pinus banksiana*), 1,684 acres of oak (*Quercus* spp.), 1,100 acres of aspen (*Populus* spp.), and 36 acres of white birch (*Betula papyrifera*).

Table 1. Vegetation Types on the Fish Lake Wildlife Area

<u>Type</u>	<u>Acreage</u>
Open Water	478
Grass Marsh and lowland brush	6,301
Swamp hardwoods	148
Firebreaks (grass)	248
Grass and upland brush	1,385
Aspen and white birch	1,136
Oak	1,684
Pine	1,940
Total	13,240*

\*Excludes 799 acres of private land within the boundary that was not typed.

4. Water Resources: The headwaters of three streams originate in old defunct drainage ditches in the large marshes. The ditches date back many years and it is impossible to ascertain where the original headwaters were located. The streams into which old drainage ditches discharge are Cowan Creek, Logging Creek, and Canute Creek. They discharge across the south boundary and are confluent to the Trade River.

The watershed drained by the three streams in the project area contains approximately 20,420 acres. This includes only the drainage area north of County Trunk "0". A small drainage area, draining north of the project area, is currently controlled by the Town Road Flowage in the northwest corner of the project. Water quality data for samples taken from Logging and Canute Creeks can be found in the EIS.

The network of old ditches which discharge into Cowan, Logging, and Canute Creeks contain water continuously, but have significant flows only during periods of runoff. During dry periods, there is no discharge to Cowan Creek and practically none to Logging Creek. Only Canute Creek maintains a significant permanent flow. By current standards, Canute Creek and Logging Creek would be considered navigable at the point where they cross CTH "0".

The only fish populations present in the streams are a few minnows. All of the streams are classified as warmwater streams in Burnett County. Farther downstream they receive cool groundwater flows and in Polk County are classified as trout streams.

Fish Lake is the only natural lake within the boundary. It is a pothole lake with a surface area of 94 acres and a maximum depth of six feet. Fish Lake is rather unusual geologically as the basin is perched above the surrounding lands. Construction of flowages flooding marshes on three sides of the lake, has increased the depth and surface area slightly, but a perimeter of high land still separates most of the lake from the flowed area.

5. Historical and Archaeological Features: The site of historical interest is the large Crex Carpet Company Camp in the SWNW of Section 7, T37N, R9W. The camp, which at one time in the early 1900's housed 100 men, has been reduced to a group of building foundations and scattered artifacts located on the six-acre grassy opening.

Another historical site is the location of one of the first homesteads on the wildlife area. The site is a grassy opening containing a few very large Hill's oak (Quercus ellipsoidalis).

A third site of historical interest is the St. Olaf Cemetery established in 1870 and located in the NWNW of Section 2, T37N, R19W. The active cemetery will remain in private ownership within the property boundary.

The final site is both of historical and scientific interest. The five-acre "sand blow" in the NWSW of Section 36, T38N, R20W, contains both Indian and white man's artifacts. It also has a unique vegetative community. The sand blow contains specialized grasses and forbs which serve to stabilize the shifting sands.

6. Ownership: There are 14,038.75 acres within the authorized boundaries. To date, 13,126.75 acres have been acquired in fee title, leaving a balance of 912 acres. Fourteen privately-owned tracts remain to be acquired. One parcel is being actively farmed. The remaining parcels are basically idle lands, some of whose owners have strong recreational interests. There are four permanent, three seasonal and two unoccupied residences. These properties will be acquired by negotiation as they become available. Based upon current values, the estimated cost will be \$195,000.
7. Current Use: The wildlife area is used primarily by hunters at the present time. An estimated 10,000 hunter and trapper visitations are made annually. Bow-deer hunters rank first with 4,000 visitations followed by 2,500 upland game hunter visitations; 1,600 deer gun hunter visitations; 1,400 waterfowl hunter visitations; and 500 trapper visitations.

An estimated 10,000 non-consumptive user visitations are made annually. This includes 2,500 illegal snowmobile visitations and 7,500 other users including people observing wildlife, berry pickers, fuel wood gatherers, etc.

8. Land Use Potential: The uniform classification system of land uses has been used to designate the land use potentials and appropriate symbols are entered on the attached Master Plan Map.

There are two natural areas (N), one a 15-acre stand of large white and red pines located in the SWNE of Section 9, T37N, R19W. The stand is located on a peninsula jutting into the marsh. These trees have an average diameter of 16 inches and were found to be more than 60 years old. The trees will not be cut and the site will be left undisturbed except for a loop hiking-nature trail that will be constructed through the stand.

The other natural area will be an undisturbed wire grass marsh adjacent to the site of the old Crex Carpet Company Camp. The wire grass marsh will add to the understanding of the grass carpet industry.

There are two Habitat Preservation Areas (HP) designated on the Master Plan map. One area is the site of a rookery (an area where birds nest colonially in trees) on Grettum Flowage. In 1975, common egrets, great blue herons, and double-crested cormorants nested successfully in the rookery. These birds are nesting in dead trees within the flowage that are rapidly falling over so necessary nesting tree preservation measures must be undertaken. Cormorants are an endangered species and great egrets are uncommon.

The other Habitat Preservation Area is Fish Lake itself. It was decided that the criteria for wilderness and wild lakes were too restrictive because past construction of adjacent flowages on three sides of the lake has raised the surface water elevation above its original level and because any vegetative management would be precluded within sight of the water (which in three directions is well beyond 400 feet). The lake was put into a HP classification to retain its essentially wild character and yet permit retention of the flowages. The primitive boat landing existing now on the lake will be retained along with out-of-sight parking spaces for five cars and trailers to permit access for limited canoeing and duck hunting.

There are four known Historic and Archaeological Areas (HA). These sites have been discussed in detail in No. 5 of the Resource Capability Section. Plans for protecting these areas, yet making them available to the public, include specialized management to maintain pertinent features, and interpretive signing to provide the public with an understanding of the value of the sites. A cooperative effort with appropriate historical and archaeological groups will be made to identify any additional sites which might need protection.

One Scenic Area (SA) is proposed to act as a buffer for the St. Olaf Cemetery. This privately owned cemetery is of some historical interest and the surroundings would thus remain unchanged from the viewpoint of a visitor to the cemetery.

An Experimental Management Area (RD<sub>1</sub>) is proposed for a 20-acre red pine plantation in the NWNE of Section 3, T37N, R19W. The plantation has evidently suffered heavy pocket gopher damage in the past, resulting in an open, grassy stand of scattered red pine trees. Similar stands in other parts of the county and in Wisconsin have had high use by wildlife. It is proposed to use

relatively cool prescribed fire to prevent unwanted woody vegetation from invading the site and to maintain vigor of the grasses without damaging the red pines.

The bulk of the Fish Lake Wildlife Area is proposed as a Fish and Wildlife Development Area (RD<sub>2</sub>).

Historically, the "barrens" on the sandy soils in what is <sup>either</sup> now western Burnett County were maintained as brush-prairie and/or prairie savanna by fire, started by Indians, <sup>or lightning.</sup> lightning fires had burned here for centuries and, at the time the General Land Office surveys began in the 1850's, the prairie savanna was noted and described by the surveyors. The marshes associated with the area were largely devoid of trees and covered with water and supported a rich community of plants and animals. Indians, through the use of fire, maintained an equilibrium between man and land. 18

White settlement began shortly after 1850 and upset the primitive man-land equilibrium. Logging started seriously in the 1860's and settlers farmed the open brush-prairie land. Beginning in the 1880's ditches were constructed to drain the wet marshes. The Fish Lake marshes were drained by 1905. In later years, wild fires were controlled and a jack-scrub oak forest replaced the brush prairie-savanna.

For the Fish Lake Wildlife Area, the overall wildlife developments planned are: (1) restoration of stable water levels on the marshlands by construction of earthen dikes with appropriate water control structures; (2) restoration of small potholes by removing accumulated deposits from their basins; (3) construction of firebreaks to facilitate controlled burning of the uplands to restore brush prairie savanna vegetation; and (4) clearing and cultivation of suitable uplands for game food production in the proposed 1,200 and possibly eventually 2,500 acre refuge.

In accord with the final EIS decision, approximately 1,500 acres of forested upland are proposed as Forest Production Areas (RD<sub>3</sub>). About 1,000 acres of pine, 250 acres of oak and 250 acres of aspen will be managed primarily for timber products and forest wildlife. The timbered acreage will be in separate tracts at various locations to optimize edge effect, provide a variety of forest types and to maintain ecological stability. The forest will be managed to provide a sustained yield of wood products and good habitat conditions for wildlife species found in forested areas.

Timber sales on the wildlife area will be intended to serve as a tool in the attainment of total land management for public benefit. Silvicultural guidelines used in determining the time, methods, and details of timber harvest will be administered by local forest management personnel. Detailed stand recommendations will be made in the implementation plan. All timber sales will give adequate consideration to long-term maintenance of cover types and aesthetic values and will be in accord with the property objectives.

Prescribed burning will be used in site preparation for direct seeding for regeneration. Minimal application of herbicides for site preparation will be employed only if mechanical methods should prove to be impractical. The herbicides will be approved by and used according to rules of the Division of Environmental Standards, Laboratory Services Section of the Wisconsin Department of Natural Resources.

The reforestation objective following a timber sale will be to maintain species suited to the site and consistent with wildlife management goals. First consideration will be given to natural regeneration encouraged, as necessary, by site treatment measures such as seed bed preparation through scarification in the case of oak and conifers and post harvest stand removal in aspen stands. Second consideration will be given to direct seeding techniques, where natural regeneration is thought to be unlikely or has proven a failure. Tree planting will be used only where the above listed methods have failed or have been determined to be biologically or financially unfeasible. In all cases, tree species native to the area will be used.

Timber stand improvement such as pruning, thinning, release, etc., will be done with timber and wildlife production and the enhancement of aesthetics as goals. Thinnings will be done mechanically. Minimal chemical release will be used only if mechanical release is shown to be impractical.

Construction of trails, parking lots, observations areas, and picnic facilities are also planned to serve the public. A more detailed description of proposed developments can be found in the EIS.

There are eleven Intensive Recreation Development Areas (IRD): one day use or picnic area; two observation areas; three combination boat landings and parking lots; and five parking lots. The day use area will contain a well, toilet facilities, picnic tables and grills, and a 20 car capacity parking lot. The area will overlook the proposed Logging Creek Flowage just south of the Corduroy Dike. Two observation areas with a combined capacity of 30 cars have been constructed overlooking the Grettum Flowage and the Logging Creek marsh.

Three combination boat landings-parking lots with a combined capacity of 20 cars and boat trailers will give hunters, trappers, and other users of the property access to Fish Lake and the proposed Logging Creek and County "0" flowages. An additional five parking lots with a combined capacity of 30 cars are proposed for construction. Two gated, loop hiking and nature trails totalling four miles will be constructed; one beginning and ending in the picnic area; the other in a parking lot west of Grettum Flowage.

There are two Administrative Areas Identified on the Master Plan Map. The first being the project Headquarters Site (AD<sub>1</sub>), the metal building located on Grettum Flowage dike and used primarily for storage purposes. The other area is classed as Miscellaneous (AD<sub>8</sub>) and is the site of the proposed diversion pump on the Corduroy Dike. The high capacity pump will permit water from the Logging Creek basin to be transferred into the Fish Lake basin. Water from the Canute Creek basin can now be transferred to the Logging Creek basin by gravity flow from an existing structure in the Grettum dike. Water transfer decreases dependence on precipitation and permits better management of the marshes.

#### E. RESOURCE MANAGEMENT PROBLEMS

Current wildlife habitat conditions are not favorable to most species of wildlife. The existing grass marshes for the most part are too wet for wildlife species inhabiting uplands and too dry for wetland wildlife species. The uncut upland forests are proceeding successionaly to a stage of maturity which is undesirable as white-tailed deer and ruffed grouse habitat. Intensive management is needed to counteract these conditions.

Water quality is fair. There is the "orange water" problem existing in Logging Creek where it crosses CTH "0". The color is caused by iron oxide or bog iron suspended in the water. It appears that the old drainage ditches were dug through a deposit of bog iron. Now water flowing through the ditch erodes the iron sediment and it is carried downstream. There is no known solution and the problem is likely to continue in the future.

Water fertility or the lack of fertility is another minor problem. Canute Creek headwaters are in intensively farmed agricultural lands. Agricultural runoff is rich in nutrients which in turn promotes the growth of vegetation attractive to waterfowl. The headwaters of Logging and Cowan Creeks originate in wild, forested land. The runoff here is medium to low in fertility making the proposed flowages less attractive to waterfowl on an acre-by-acre basis. However, with the transfer of nutrient-rich water from the Canute Creek basin to the other basins as proposed, this problem can be minimized. Also, runoff from brush prairie savanna is more abundant and contains more nutrients than runoff from an equal area of forested land. Thus, the waters of the proposed County "0" and Logging Creek flowages can be enriched.

Due to the shallow nature of Fish Lake and the existing and proposed flowages, there is little hope for any significant fishery to become established. Good minnow populations (the food base for a wetland ecosystem) are established in existing lakes and flowages and are expected to become established in proposed flowages. The lack of a sport fishery and sport fishermen will minimize any potential conflict with a primary objective, waterfowl production.

A major concern has been to protect the locally produced population of giant Canada geese, which originated from the Crex Meadows flock. Good production on the Fish Lake Wildlife Area, and particularly on Grettum Flowage, has been steadily increasing. In 1978, the Burnett County Goose Closed Area was reduced in size by 32 percent; this change opened the area south of Highway 70 and west of 87 to goose hunting. However, simultaneously, a 1,154 acre wildlife refuge was established on Grettum Flowage to provide needed protection for local and migrating ducks and geese. The original refuge (15.01) was recently modified to a waterfowl closed area (11.04), which allows gun deer hunting while still protecting the local goose flock.

There are many problems of misuse on the project. There are recurring problems of littering, vandalism, fuel wood and topsoil theft, illegal snowmobile, motorcycle and four-wheel drive vehicle use, and unauthorized camping. With a potential state ownership of approximately 80,000 acres (Crex Meadows Wildlife Area - 30,098; Fish Lake Wildlife Area - 14,039; Amsterdam Slough Wildlife Area - 7,236; Danbury Wildlife Area - 2,866; and St. Croix State Forest - 25,000) in western Burnett County, there is a need for additional law enforcement, particularly of the park ranger type.

There are several private inholdings that present potential problems. None are located where major developments are proposed with the exception of the proposed Canute Creek Flowage, so the continued private ownership can be considered a minor problem. A concerted acquisition effort should lessen the problem. The St. Olaf Cemetery should be designated as a non-purchase area. The buffer zone surrounding the cemetery and the location of the proposed wildlife refuge should prevent any problems from developing on this tract.

Crop damage to nearby private lands caused by wildlife given protection in the refuge is a potential problem expressed by local residents. This can be avoided or minimized by a depredation control program using propane exploders, manipulation of food supplies within the refuge and manipulation of hunting pressure.

## F. LONG-RANGE RESOURCES, RECREATION NEEDS AND JUSTIFICATION

The 1970 census indicated that Burnett County has a population of 9,276 people. The population has declined from 11,382 in 1940. Population projections by the Department of Rural Sociology, University of Wisconsin, indicate little change for the next two decades. The local census figures do not, however, indicate the pressure being exerted on Burnett County from the vast metropolitan complex of Minneapolis-St. Paul, a scant 1 1/2 hours driving time from the wildlife area. The Minneapolis-St. Paul metropolitan area had a 1970 population of 1,704,423. The metropolis is growing and will continue to grow in the future.

In 1970, a summer recreational travel survey was conducted by the Wisconsin Department of Transportation. The survey was published in 1970. According to the survey, there is an average of between 30,000 to 50,000 nonresident users on the peak day of an average weekend. Of this total, 48 percent are from Minnesota, 48 percent from Illinois, 2 percent from Iowa, one percent from Indiana, and one percent from other places.

### Picnicking

Regional resident per capita participation is 50 percent above the state average. The number of non-resident picnickers far exceeds local participants. Regional picnicking opportunities appear to be adequate until 1990, but a continued effort to maintain facilities must be made.

Additional picnicking facilities would be justified on the wildlife area as the new flowages are developed and public visitations increase. Sanitary facilities and drinking water will also be needed if additional picnic areas are developed.

### Sightseeing

Many scenic recreational resources occur in Burnett County, including the St. Croix National Scenic Riverway, the St. Croix River State Forest, several state wildlife areas, and several historic sites.

Residents in Region 14\* generate sightseeing recreation occasions at a rate above the state average. Almost 60 percent of this participation is satisfied within the region. In addition, non-resident sightseeing participation accounts for 65 percent of the total demand. The majority of this demand comes from Minnesota.

Sightseeing, more than other recreation activities, requires a resource and protection of that resource in the form of preserving a particular resource view and preventing land use changes that destroy a scenic view or historic site. The resource base for historic and archaeological sites is essentially nondynamic and if these resources are lost or destroyed they cannot be replaced.

Participation in this activity is expected to increase from 15,060 occasions per average weekend day in 1970 to 18,433 recreation occasions per average weekend day in 1990. Many sightseers will take advantage of the scenic views and wildlife activity on the Fish Lake Wildlife Area. As habitat is developed and wildlife increases, public use will also increase. Better information systems will be needed to accommodate sightseers, people driving for pleasure, photographers, and bird watchers. A better signing program to direct public use and to inform the public is needed at Fish Lake. The brochure describing the area should be updated. Naturalist assistance would aid in interpretive development work on the wildlife area.

### Hiking and Nature Study

Adequate trail mileage or potential corridors are available in Region 14 to meet present and future demands for this activity. However, general trail layout and signing of existing trails and corridors can be improved.

With increased use at Fish Lake Wildlife Area, designated walking trails will be needed to control pedestrian use. The trails can be signed with interpretive markers to explain the natural resources and the management of the wildlife area. Proposed trails can lead to many interesting destinations within the wildlife area.

### Canoeing

Region 14's outstanding supply of canoeable waters generates sufficient participation to tax the resource if use is concentrated on recognized canoe streams. Much use, however, is carried out on lakes and flowages. Fish Lake will be open for canoeing or rowing. Motors will be prohibited on Fish Lake.

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\*From the State Comprehensive Outdoor Recreation Plan. Region 14 includes Burnett, Washburn, Sawyer, Price, Rusk and Taylor Counties.

### Snowmobiling

Sparse population densities, large acreages of public land, and climatic conditions enable, and in fact, encourage snowmobiling in Planning Region 14. Public lands designated for snowmobiling are well distributed. Potential trails and riding areas are abundant.

The exceptionally good snowmobiling conditions found in Planning Region 14 generate levels of participation which exceed those of every other region in the state.

Currently and in the future, there is no shortage of snowmobiling opportunities. However, if the present informal use patterns should change to a system where machines will be restricted to designated areas, an additional 192 miles of trail will be needed in the region to meet the anticipated 1990 demands.

Snowmobiling will be prohibited on the Fish Lake Wildlife Area except on unplowed town roads where there is no control. Snowmobiling is provided on the nearby St. Croix River State Forest. If a need develops to link snowmobile trails outside the wildlife area, consideration could be given to allowing the construction of a connecting trail on a fire lane along the west boundary of the property or parallel to Stolte Road if that town road is plowed in the winter.

### Off-the-Road Motor Sports

An additional 86 miles of trails are needed in Planning Region 14 to meet the 1990 demand for off-the-road recreational vehicle trails. Some informal motorcycle and minibike use has taken place in the past on the Fish Lake Wildlife Area on upland areas. Due to the light, sandy soils, erosion is taking place. The use of these vehicles should be stopped on the wildlife area.

### Hunting

With one and a quarter million acres of land open for hunting, Region 14 does not lack adequate space for pursuit of game animals. More critical is the decline of game densities in certain coverts below the point where hunters are attracted. Habitat quality has deteriorated in forest stands that lack adequate interspersions of age classes or are losing stands of shade-intolerant species. Highly productive waterfowl habitat consisting of brood water and undisturbed, grassy upland cover for nesting is in very short supply.

Per capita hunting participation of Region 14 residents is twice the state average. Wildlife and habitat resources of the region supply adequate local opportunities; hence, levels of participation are high. If the necessary habitat change takes place, use may increase beyond the following projections:

Table 2. Number of Annual Hunting Occasions - Region 14

1970 -	290,450 occasions
1980 -	288,425 occasions
1990 -	286,667 occasions

Hunting opportunities have declined during the past several years. Loss of quality of the hunting experience, lower game densities in some locations, and loss of human population in Region 14 have each had a negative effect.

To preserve a semblance of hunting quality, remaining vestiges of habitat must be protected through acquisition or other means and managed more intensively for wildlife production. Control of hunter numbers in relation to the productivity of the resource and to improve hunter satisfaction will also have to be considered.

## G. ANALYSIS OF ALTERNATIVES

### I. Status Quo:

One alternative is to do nothing and to leave the area "as it now exists". This alternative would leave a major game management project in partial development and would not realize the full potential for which the land was purchased.

The existing forest growing on the uplands has good potential economic value. If natural succession were permitted because the timber was not managed, aspen would probably soon disappear, to be followed by low quality hardwoods. This would reduce both the value to wildlife and the potential value of the available forest products. The pine stands would mature over a long period of time and continue as closed canopy forest.

The existing grass marshes, for the most part, would continue to be too wet for upland game species and too dry for waterfowl and aquatic furbearers.

2. Enlarge project:

With the currently approved boundaries and the scope of the proposed action, no enlargement is practical or feasible except to construct some satellite flowages around the major flowages. This would have to wait until all the current proposed developments are completed and the feasibility and need for additional flowages can be determined.

To significantly enlarge the wildlife area or program, the boundaries would have to be extended and the purchase acreage increased significantly. There are extensive marshlands adjacent to the south which are suitable for similar development. For the immediate future, such a course of action is not necessary, nor is it desirable from the socio-economic point of view of Burnett County.

3. Reduce project:

Since the vast majority of the lands necessary for the presently proposed program are already in state ownership, it is not desirable to reduce the program and still attempt to attain the goal of maximum wildlife productivity desired when the project boundaries were set in 1949. This would also be contrary to the intent of the Wisconsin Conservation Commission when it approved the existing boundaries.

4. Manage for timber production:

One alternative would be to manage the uplands for timber production. Currently, there are approximately 3,000 acres of land in merchantable or potentially merchantable forest cover. Much of it is mature or soon-to-mature aspen and jack pine. The remaining forest acreage is in merchantable types.

While some of the timber is located on islands or in small inaccessible patches, most of it is readily available for harvest. At the present time, there is an estimated 15,000 cords of aspen and 11,000 cords of pine pulp of merchantable size.

If the forest rotation were to be perpetuated, natural regeneration would follow cutting of aspen stands. In the case of jack pine, approximately 50 percent could restock itself naturally, while the remainder would require planting or direct seeding. Once restocking was completed, the uplands should produce wood products on a long-term basis at the same rate as a well managed county or state forest. Intensive management for forest products would also require the conversion of the non-merchantable types (mostly scrub oak) and the open area to red pine plantations. This would be very detrimental to wildlife.

While feasible, such an alternative would completely defeat the planned purpose of the wildlife area. Prior attempts to drain the marshes to create farmlands were not successful. The area was mostly acquired by Pittman-Robertson funds for development of a prairie waterfowl habitat. If this plan is not pursued, the federal government could require a refund of PR monies provided for the project. Flooding of the marshes (as proposed) but managing the uplands for timber would be contrary to the purpose of which the flowages are to be constructed. Without the complementary prairie habitat for nesting, the flowages would not be productive of waterfowl. Open lands around the flowages are essential for waterfowl production and food patch management for geese.

5. Combination of open water, prairie, and timber.

It would be possible to conduct the development so that the uplands would present a compromise between forest and prairie environments. The areas surrounding the marshes and in the refuge could be cleared and burned routinely to restore prairie species, while retaining some forested blocks. Aspen, important to deer and grouse, is in short supply in the area. This alternative would also permit retention of some of the heavy conifer cover which enhances deer use during open winters. This would limit the potential for maintaining a high prairie grouse population, but would probably suffice for most other species.

This is a viable compromise to a complete prairie-waterfowl oriented development versus a complete timber-oriented development. Neither ideal of management would be reached, but neither would the habitat requirements for any wildlife species be completely eliminated. It should be noted here that forests surround most of the wildlife area. Timbered habitats are abundant in Burnett County. A prairie waterfowl habitat is scarce everywhere in the Midwest.

If this proposal were to be completely implemented, there would be a transition period between forest and prairie. The development will proceed in an orderly manner, one segment at a time. This will permit most of the timber to be harvested at a merchantable stage, so the projected value will be recovered before prescribed fire is utilized to convert the lands to prairie. Some scattered, open stands of both pine and oak will undoubtedly remain. Both of these species are found in a fire influenced ecosystem in this latitude.

#### H. RECOMMENDED ALTERNATIVE ACTION

The recommended alternative action is to implement Alternative 5 (combination of open water prairie and timber). To do so, acquisition within approved boundaries will be completed and development consisting of a series of shallow flowages and potholes on the lowlands and a combination of brush prairie savanna and forest on the upland will also be completed. The Findings and Conclusions of the Fish Lake EIS explains the action in detail.

The proposed land use classes are shown on the attached Master Plan Map. Proposed land acquisition, development, and major operations are also shown on the map.

Land will be acquired as rapidly as negotiations, acquisition procedures and available funds permit. Fourteen tracts totalling 912 acres remain to be acquired at an estimated cost of \$195,000. No privately-owned tracts are within the proposed flowage areas of County "O" and Logging Creek.

Initial major developments will consist of the County "O" and Logging Creek flowages which are budgeted for the current biennium. Engineering plans for County "O" have been drafted and Logging Creek plans are nearing completion. Estimated development costs for County "O" are in the neighborhood of \$70,000 and preliminary estimates for Logging Creek are in the vicinity of \$350,000.

The final major wetland development proposal is Canute Creek Flowage which is likely to cost between \$75,000 and \$100,000. Restoration of approximately 220 small prairie potholes costing \$20,000 to \$30,000 is also proposed.

An additional 12 miles of firebreaks, essential to the management of brush-prairie nesting cover, remain to be built at an estimated cost of \$13,000.

Ten parking lots with a total capacity of 200 vehicles, three observation areas, and two picnic areas are also proposed.

When the Fish Lake Wildlife Area is completely developed, there will be 4,200 acres of flowed area and ten water control structures to operate and maintain. Prescribed fire will be a primary management tool with an average of 1,800 acres burned annually. Firebreak maintenance will be required on an annual average of five miles of firebreak. Between 50 and 100 acres of goose food patches will be grown each year. Public use facilities maintenance will be required at ten parking lots, three observation areas and two picnic areas.

Operations using current costs will be approximately \$15,000 annually from the Fish and Wildlife Management budget. An additional two man-years of personnel will be required for operations once the plan is totally implemented. This does not include desired naturalist assistance, timber sale administration, added law enforcement workload or assistance from fire control during prescribed burns.

The Proposed Acquisition and Development of the  
Fish Lake Wildlife Area  
Burnett County, Wisconsin

DESCRIPTION OF THE PROPOSED ACTION

1. The Department of Natural Resources proposes to complete the acquisition and development of a prairie waterfowl complex on the bed of Glacial Lake Grantsburg in western Burnett County. The development will consist of a series of shallow flowages and potholes. The uplands will be managed to a combination of prairie/savannah and upland forest.
2. The Fish Lake Wildlife Area includes portions of T37N, R19W, and R20W, and portions of T38N, R19W, and R20W. This general description involves the towns of Anderson and Grantsburg, Burnett County.
3. The acquisition goal for the Fish Lake Wildlife Area is 14,011 acres of which 13,127 acres have either been purchased or are under option to be acquired. Fourteen tracts encompassing 944 acres remain to be purchased under the long-range plans.

ENVIRONMENTAL IMPACTS

1. The flooding will create flowages with controlled water levels and will increase aquatic vegetation and wildlife common to wetlands. The establishment of prairie/savanna areas will restore most of the land to its original condition (circa 1850) and encourage wildlife common to prairie/savanna areas.
2. The retention of a combination forest/prairie on some of the uplands will lessen the adverse impact on the production of timber and the decline of wildlife species common to upland forests but it will lessen the potential for production of waterfowl and wildlife species associated with wetlands.
3. Some minor soil erosion will occur during development.
4. Some stimulation of business will occur because of the development of work and from the influx of hunters, trappers, and visitors.
5. On the basis of the entire wildlife area, the tax return to local units of government, with the land under state ownership, does compare favorably with the present tax return under private ownership. There are state payments in lieu of taxes to local units of government under Section 70.113, Wisconsin Statutes.
6. State ownership and proposed development will permit a wide selection of alternatives for future land uses other than that proposed.
7. In order to effect the alternative of a combination of prairie/savanna forest, approximately 1,500 acres will be retained in upland forest. All other merchantable timber will be offered for sale prior to development. Immature stands will be allowed to mature wherever feasible prior to development.
8. It will enhance opportunities for hunting, trapping, and recreational uses that are compatible with the goal of the property.

ALTERNATIVES CONSIDERED

1. Do nothing or Status Quo.
2. Enlarge the size beyond the proposed 14,011 acres.
3. Reduce the size below the proposed 14,011 acres.
4. Manage for timber production.
5. Modify management by utilizing a combination of forest and prairie in some of the upland.

SHORT-TERM USE OF THE ENVIRONMENT VS. MAINTENANCE  
AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Short term use of the environment as proposed, constitutes a reversible change in the course of long-term ecological productivity (species diversity and abundance). The course of action chosen for this proposal and attendant developments will establish and maintain conditions of early ecological succession. As such, the enhanced productivity of flora and fauna will reflect early succession, largely to the exclusion of biota associated with later successional stages. There will be some sacrifice of forest resource productivity as upland forested areas are converted to prairie savanna; this partial conversion will be transitional and will permit harvesting of merchantable timber.

IRREVERSIBLE & IRRETRIEVABLE COMMITMENTS OF RESOURCES

1. Construction materials.
2. Labor, equipment wear, and fuel used in the construction.
3. Fuel, labor, and equipment wear used in management and maintenance.

CONCLUSIONS

1. The Department of Natural Resources has fulfilled the procedural requirements of the Wisconsin Environmental Policy Act (WEPA) Section 1.11, Wisconsin Statutes.
2. The Department of Natural Resources has determined that the EIS for this proposal is adequate for use in the decision-making process.
3. As a result of the environmental impact statement procedures, it has been found that the long-term beneficial effects of the management proposal altered by use of the alternative "Combination of Forest and Prairie" outweigh the adverse effects on the environment.
4. The Department of Natural Resources will proceed with the implementation of the actions as proposed in the Environmental Impact Statement modified by application of the alternative "Combination of Forest and Prairie".

Dated at Madison, Wisconsin this 19th day of June, 1975.

State of Wisconsin  
Department of Natural Resources  
For the Secretary

By \_\_\_\_\_  
S. W. Welsh, Administrator  
Division of Forestry, Wildlife & Recreation

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