

CORRESPONDENCE/MEMORANDUM

STATE OF WISCONSIN

Date: August 2, 1985

File Ref: 3600

To: Dale Urso - Rhinelander

RECEIVED

AUG - 7 1985

From: James R. Huntoon

*JRH/ab*BUREAU OF
REAL ESTATE

Subject: Approval of the Neenah Creek, Adams and Marquette Counties, Fishery Area Master Plan

On February 27, 1985, the Natural Resources Board ratified the Neenah Creek, Adams and Marquette Counties, Fishery Area Master Plan, following approval of the plan by Secretary Besadny. The Master Plan Task Force consisting of Chairman Scot Ironside, Jim Keir and Nina Stensberg recommended establishing an acreage goal of 805.7 acres. The 230.44 acres already acquired were through the federal Fish and Wildlife Restoration Acts monies. The fishery area is 28.6% complete with 572.26 acres left to acquire from willing sellers.

Attached are 20 copies of the approved master plan and the original maps for your district files, to answer inquiries from the public and for future use.

The implementation element of the master planning process should be completed next. You are requested to supply this office with a copy on or about January 1, 1986. Please convey my appreciation to the task force for a job well done in completion of this master plan.

RB:mg

Attach.

cc: James T. Addis - FM/4

→ Carl Evert - OL/4

Vern Hacker, Oshkosh

Craig Karr - AD/5

NEEMAH CREEK FISHERY AREA
ADAMS AND MARQUETTE COUNTIES

MASTER PLAN

PT ELEMENT



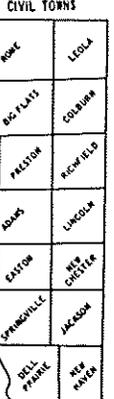
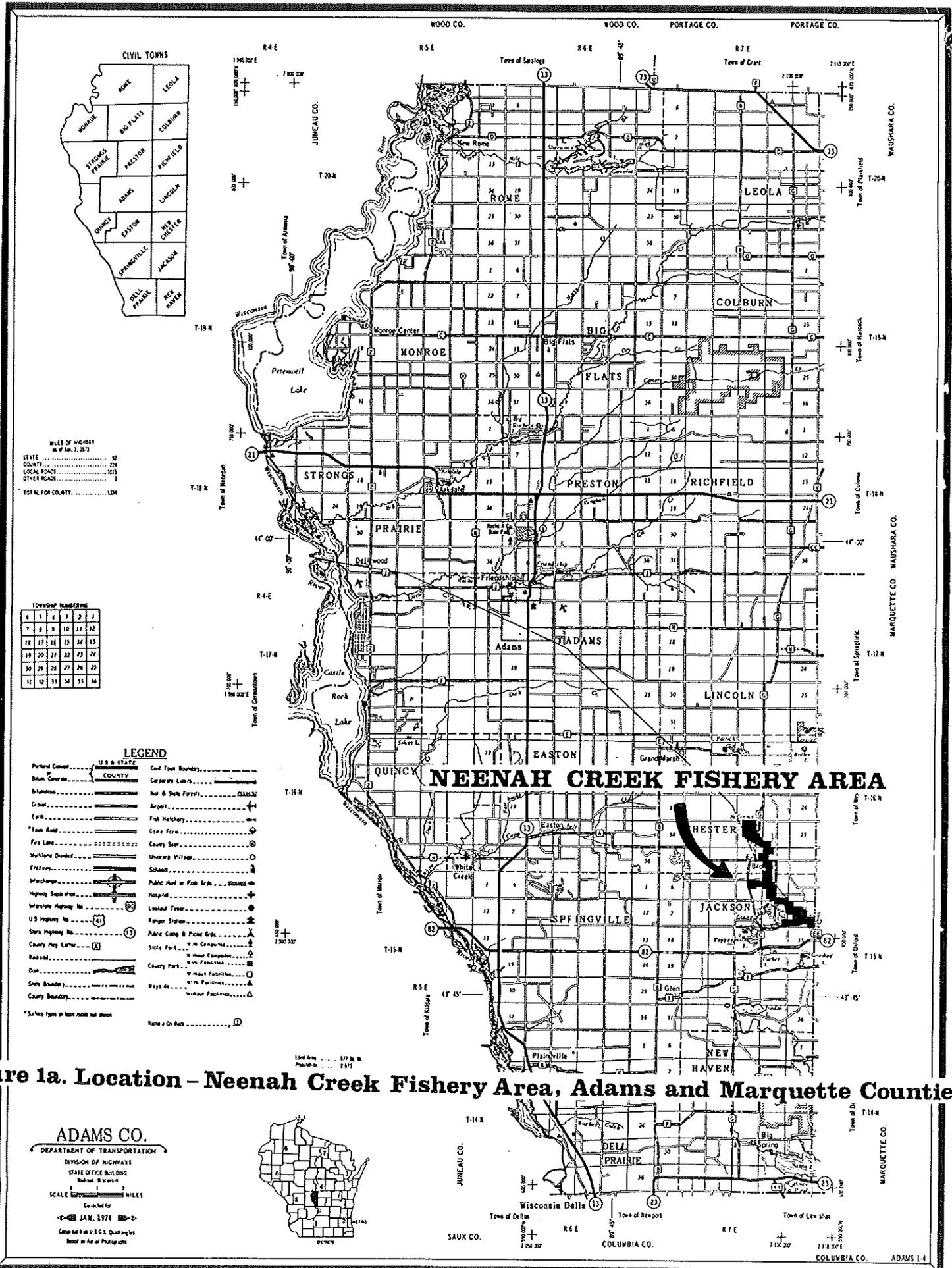
Property Task Force

Leader- Scot Ironside, Fish Manager
Jim Keir, Wildlife Manager
Nina Stensberg, Forester

Approved:

C.D. Besadny
C.D. Besadny - Secretary

2/85
Date



MILES OF HIGHWAY
as of Jan. 1, 1974

STATE	52
COUNTY	22
LOCAL ROADS	205
OTHER ROADS	7
TOTAL FOR COUNTY	186

TOWNSHIP NUMBERS

6	1	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
32	31	33	34	35	36

LEGEND

- | | | | |
|------------------------|--------------|--------------------------|---------|
| Portland Canal | U.S. & STATE | Coal Town Boundary | --- --- |
| Beam Concrete | COUNTY | County Limits | --- --- |
| Gravel | | Oil & Gas Forest | --- --- |
| Earth | | Airport | --- --- |
| *Town Road | | Fish Hatchery | --- --- |
| Fire Lane | | Cane Farm | --- --- |
| Highland Drive | | County Seat | --- --- |
| Freeway | | University Village | --- --- |
| Interchange | | School | --- --- |
| Highway Separation | | Public Mall or Fish Crk. | --- --- |
| Interstate Highway No. | | Hospital | --- --- |
| U.S. Highway No. | | Unleaded Fuel | --- --- |
| State Highway No. | | Ranger Station | --- --- |
| County Pay Letter | | Public Camp & Point Grk. | --- --- |
| Roadbed | | State Park | --- --- |
| Dike | | County Jail | --- --- |
| State Boundary | | County Jail | --- --- |
| County Boundary | | County Jail | --- --- |
- *Some types of lines made not shown

Figure 1a. Location - Neenah Creek Fishery Area, Adams and Marquette Counties.

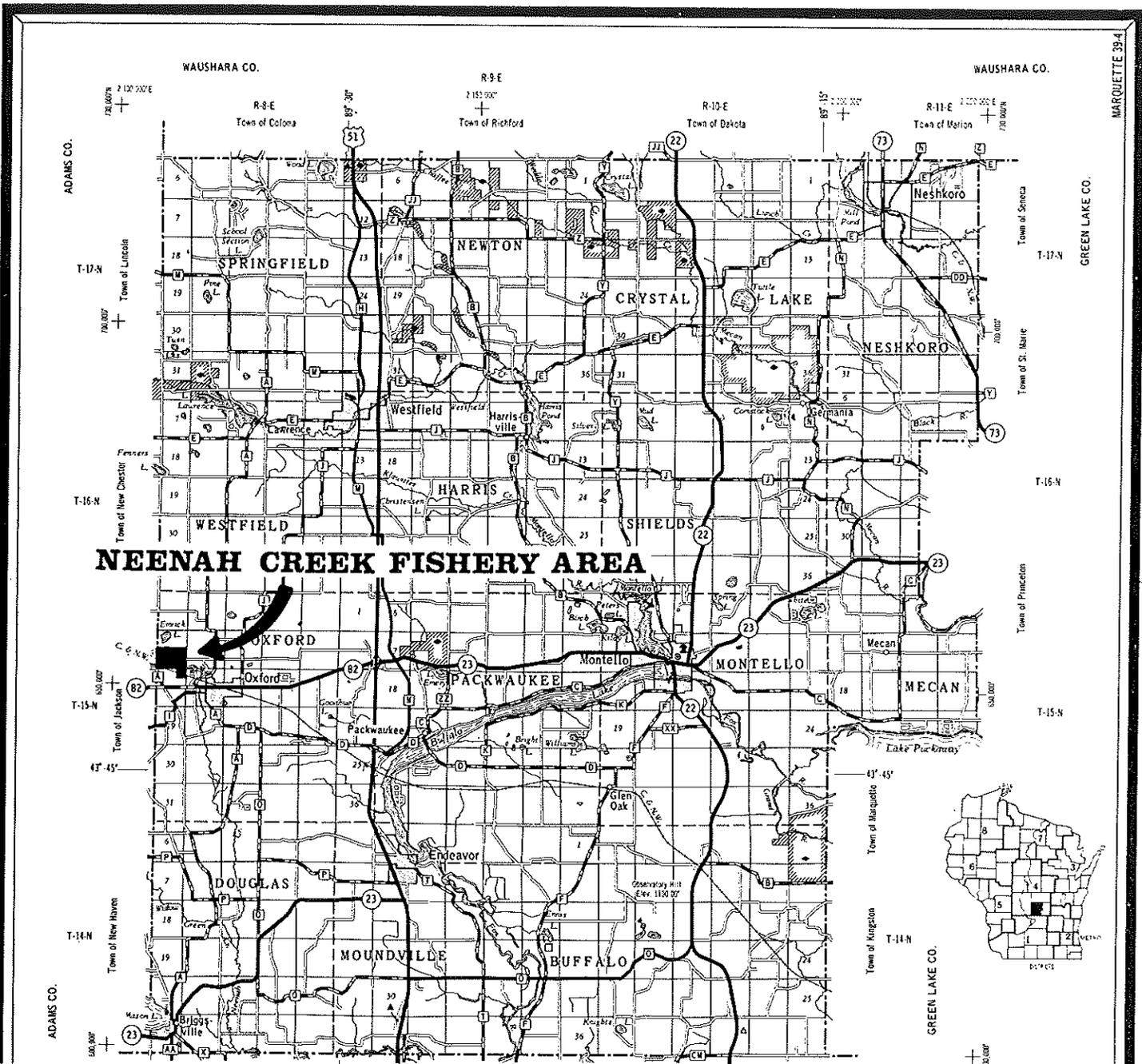
ADAMS CO.
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STATE OFFICE BUILDING
Madison, Wisconsin

SCALE 1" = 1 MILE

Corrected for
JAN. 1974

Comp. by U.S.C.E. Quinlan
Based on Aerial Photographs





NEENAH CREEK FISHERY AREA

Figure 1b. Location - Neenah Creek Fishery Area, Adams and Marquette Counties.

LEGEND

Portland Cement	U.S. & STATE	Civil Town Boundary
Bitum. Concrete	COUNTY	Corporate Limits
Bituminous		Not. & State Forests
Gravel		Airport
Earth		Fish Hatchery
Stone Road		Game Farm
Fire Lane		County Seat
Multiple Divided		Uncorp. Village
Freeway		Schools
Interchange		Public Hunt or Fish Grds.
Highway Separation		Hospital
Interstate Highway No.		Ranger Station
US Highway No.		Public Camp & Picnic Grds.
State Highway No.		with Campsites
County Hwy. Letter		without Campsites
Railroad		County Park
Dam		without Facilities
State Boundary		with Facilities
County Boundary		without Facilities

CIVIL TOWNS

SPRINGFIELD	NEWTON	CRYSTAL LAKE	NESHKORO
WESTFIELD	HARRIS	SHIELDS	
OSFORD	PACKWAUKEE	MONTELLO	MECAN
DOUGLAS	MOUNDVILLE	BUFFALO	

Land Area..... 457 Sq. M.
Population..... 8,367
Co. Seat..... Montello

TOWNSHIP NUMBERING

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

MARQUETTE CO.
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STATE OFFICE BUILDING
WISCONSIN, WISCONSIN

SCALE 0 1 2 MILES
Correct for JAN. 1976

Compiled from U.S.G.S. Quadrangles
Based on Aerial Photographs

* Surface types on town roads not shown

+ Grid based on Wisconsin coordinate system, south zone

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SECTION I - ACTIONS
GOALS, OBJECTIVES AND ADDITIONAL BENEFITS

Goals

To manage the Neenah Creek Fishery Area in Adams and Marquette Counties primarily for the preservation and enhancement of the trout fishery and various other outdoor recreational and educational activities that are consistent with maintaining an aesthetically pleasing area.

Annual Objectives

1. Provide opportunities for 1,800 angler-days of brown trout fishing.
2. Provide opportunities for 335 participant days of hunting for white-tailed deer, ruffed grouse, rabbits, squirrels and waterfowl, and 200 participant days of trapping raccoons, mink, muskrats, and beaver.
3. Manage timberlands to provide a potential harvest of 5 cords of firewood, 20 cords of pulpwood, and 200 board feet of lumber on a rotational basis (this equates to an actual larger harvest but less often than yearly).

Annual Additional Benefits

1. Provide 55 participant-days of other recreational and educational activities including sightseeing, berry and mushroom picking, photography, picnicking, hiking and cross-country skiing.
2. Preserve the habitat of migratory endangered and threatened species.
3. Benefit nongame species utilizing the area.

RECOMMENDED MANAGEMENT AND DEVELOPMENT PROGRAM

The recommended management and development program for the Neenah Creek Fishery Area in Adams and Marquette Counties (Figures 1a and 1b) will be to acquire lands by fee title or perpetual easement from willing sellers at fair market prices and the continuation of intensive trout habitat development.

Approximately the lower 50% of stream within the property boundary (Figure 2) has the greatest potential for trout habitat development. The farthest downstream point of development (Figure 3) will be where Fern Road makes a sharp bend in Section 7, T15N, R8E, and no longer parallels the Neenah, and will continue approximately 3 miles upstream to the Fawn Court bridge crossing. Trout habitat improvement will consist of conventional methods of stream improvement including brush bundles, boom covers and deflectors that have proven their effectiveness on many similar streams throughout the state. Habitat improvement will be directed at increasing the quantity and quality of instream cover for trout and creating desirable narrowing and deepening of the stream. Stream velocities will increase slightly, thereby exposing gravel for spawning and providing a firm substrate for benthos organisms important as food for the trout.

- 2 - NEENAH CREEK FISHERY AREA

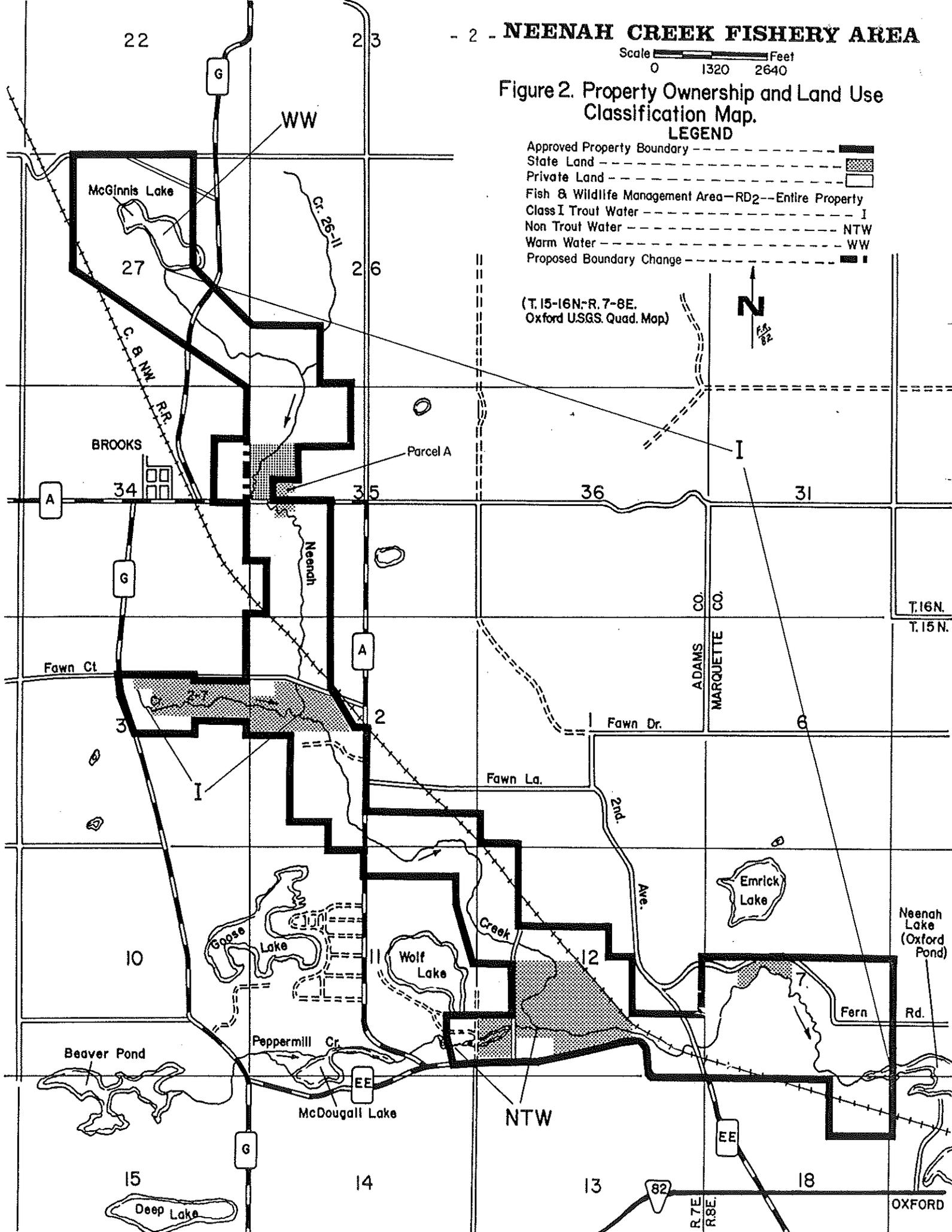
Scale Feet
0 1320 2640

Figure 2. Property Ownership and Land Use Classification Map.

LEGEND

- Approved Property Boundary - - - - -
- State Land - - - - -
- Private Land - - - - -
- Fish & Wildlife Management Area—RD2—Entire Property
- Class I Trout Water - - - - - I
- Non Trout Water - - - - - NTW
- Warm Water - - - - - WW
- Proposed Boundary Change - - - - -

(T.15-16N-R.7-8E.
Oxford U.S.G.S. Quad. Map)



T.16N.
T.15N.

Neenah Lake (Oxford Pond)

OXFORD

R.7E
R.8E

82

G

EE

EE

A

A

N

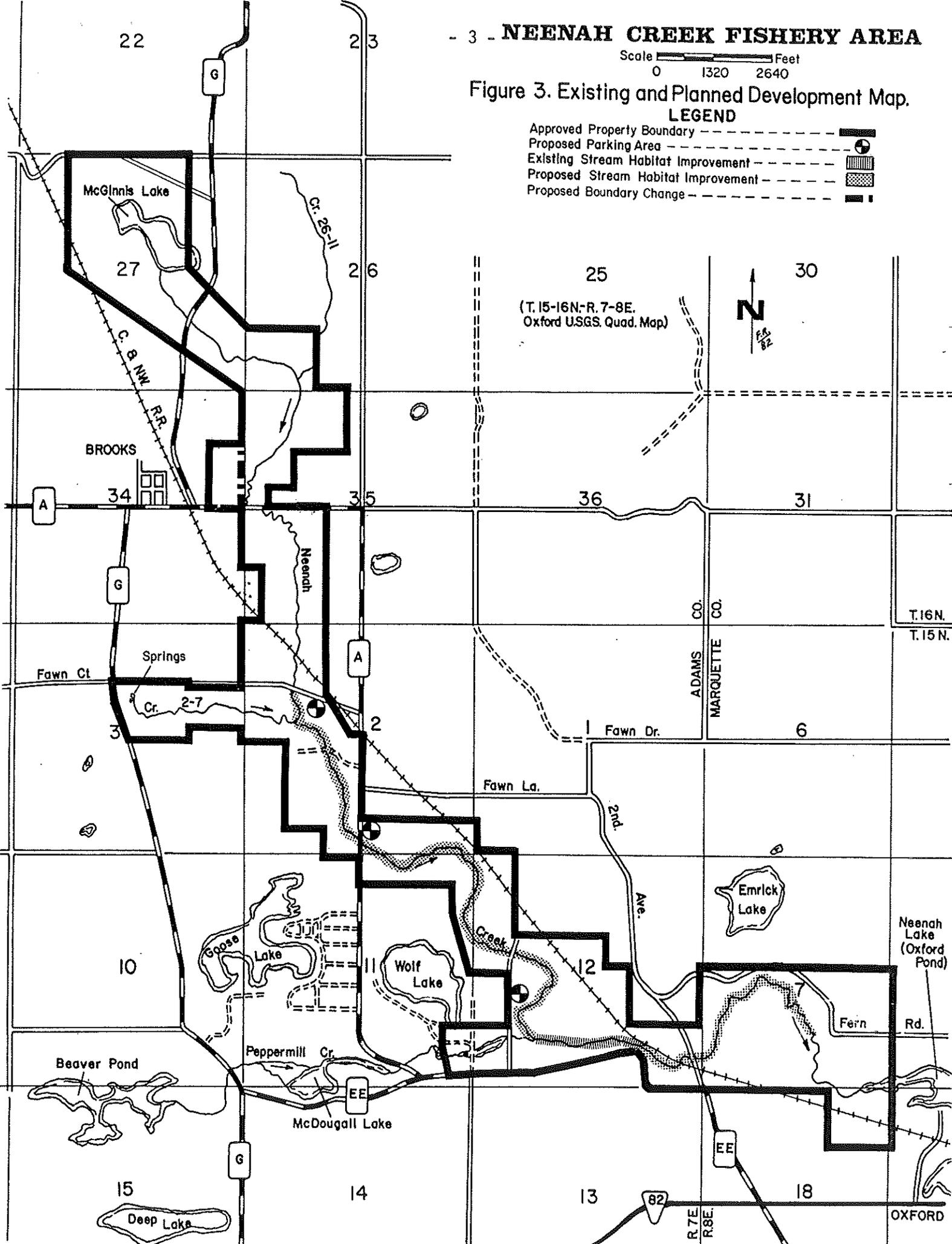
- 3 - NEENAH CREEK FISHERY AREA

Scale Feet
0 1320 2640

Figure 3. Existing and Planned Development Map.

LEGEND

- Approved Property Boundary - - - - -
- Proposed Parking Area - - - - -
- Existing Stream Habitat Improvement - - - - -
- Proposed Stream Habitat Improvement - - - - -
- Proposed Boundary Change - - - - -



The cost of habitat improvement is estimated at \$54,120.00. The estimate was determined by assuming the development would involve approximately one-third (1/3) of the lineal footage of stream and would cost approximately \$10.25 per foot (average 1984 costs) throughout the 3-mile area of improvement. Funding will come from trout stamp monies.

The remaining habitat development work on the 230.44 acres already under Department control should begin as soon as plan approvals, money, manpower and supervision are available. Habitat development should be expanded to include other lands recommended for purchase as soon as they are under state ownership.

One proposed boundary change is recommended, to delete approximately 20 acres that have homes. The stream was previously incorrectly shown to pass through that parcel. The property owned in that area is sufficient to adequately protect and preserve the stream and provides opportunity for habitat improvement. Minimal acreage of agricultural land will be acquired with the present property boundary. Any agricultural land that is acquired could be sharecropped as long as it is consistent with the goals and objectives of the fishery area and there is interest from local landowners.

Parcel A shown on Figure 2 consists of 9 acres outside of the boundary acquired with an adjoining property inside the boundary. The parcel will be held for future trading purposes. It currently is being used as an alfalfa field.

Three small, crushed rock parking lots, each having capacity of 5-10 cars, will be developed through the area of stream improvement (Figure 3). The parking lots are located where public use has been, and is expected to be, the heaviest. The sites for the parking lots were selected where disturbances to the land and vegetation and cost of development will be minimal. It is advantageous to provide safe, off-road parking where access can be better regulated and centralized at several points. Overnight camping will not be allowed.

Signs will be posted along the boundaries of the state-owned land that will designate which areas are open to public use to help reduce unintentional trespass problems onto adjacent private land.

All areas proposed for development will be examined for the presence of endangered and threatened wild animals and wild plants. If listed species are found, development will be suspended until the District Endangered Resources Coordinator is consulted, the site evaluated, and appropriate protective measures taken.

A complete biological inventory of the property will be conducted as funds permit. Additional property objectives may be developed following completion of such an inventory.

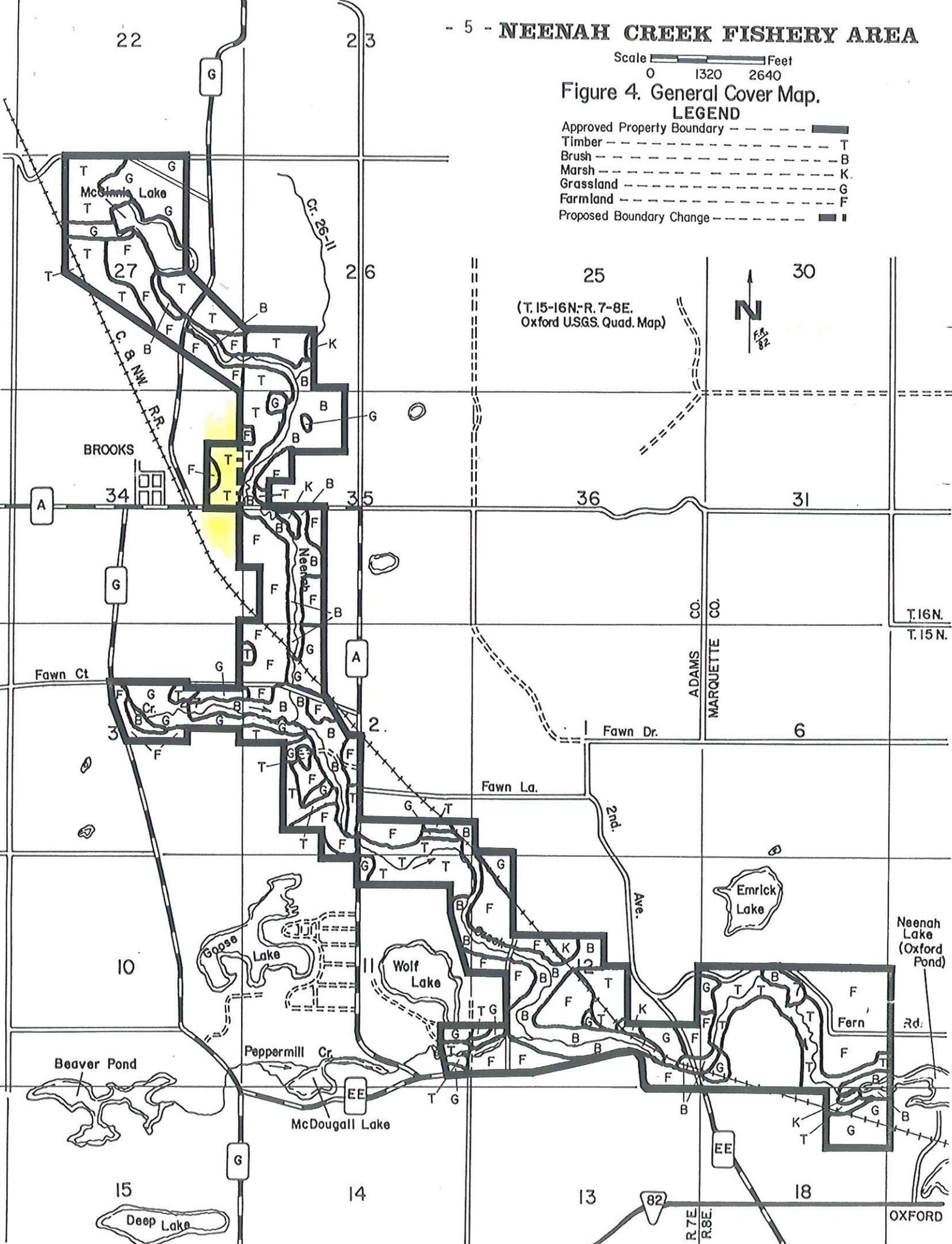
- 5 - NEENAH CREEK FISHERY AREA

Scale 0 1320 2640 Feet

Figure 4. General Cover Map.

LEGEND

- Approved Property Boundary - - - - -
- Timber - - - - - T
- Brush - - - - - B
- Marsh - - - - - K
- Grassland - - - - - G
- Farmland - - - - - F
- Proposed Boundary Change - - - - -



(T. 15-16N; R. 7-8E, Oxford USGS Quad. Map)



ADAMS CO. MARQUETTE CO.

T. 16N. T. 15N.

82

R. 7E R. 8E

OXFORD

Vegetative cover types (Figure 4) will be managed consistent with the best silvicultural and aesthetic techniques. Management of the present timber stand will include maintaining the current species composition and, where necessary, increase the ability of the stand to protect the watershed. Seedlings will be planted in critical areas to enhance water quality and provide additional and varied wildlife habitat. This will be done mainly in the grassland areas.

Timber types on the Neenah Creek Fishery Area will be managed to maintain both species and age-class diversity. At least 2 den trees per acre will be left during any clear-cut operation. If firewood permits are issued, care will be taken not to remove an excessive amount of the blow-downs or standing dead trees. Both provide valuable wildlife habitat for non-game species. Consideration will be given to the use of firewood permits as an alternative to pulping for timber harvest, particularly oak and aspen.

Open fields within the boundary have good potential for conifer planting. An estimated 10-20% of this acreage can be planted to red pine with resultant benefits to both wildlife (in the form of habitat diversity and green cover establishment, which is presently lacking) and the forest management program. Individual planting sites must be carefully selected with wildlife needs in mind. Pruning of lower branches on conifers will be limited to internal trees. Maintaining lower branches on the outsides of the stand will provide wildlife cover.

There will be enhancement of "old field" situations that contain a mixture of grasses and forbs to provide needed habitat for many bird and mammal species. These open areas afford cover, nest and breeding sites, and feeding or loafing areas for many types of wildlife.

The opportunity exists on the Neenah Creek property to do some habitat development work in the form of hedgerow establishment and "odd corner" planting. This opportunity exists because of the interspersed open fields throughout the property, a characteristic of many fish management properties. One wildlife species that would benefit particularly in the Neenah Creek area is the bobwhite quail.

Hedgerows will be at least 4 rows wide and contain species suited to the area such as ninebark, dogwoods and white spruce. The amount and quality of existing habitat will be evaluated before deciding what to plant in the "odd corner" areas. Depending upon need, it could be more conifer cover, additional shrubs, or a grass type suitable for nesting cover.

Sharecrop agreements are not presently being used on Neenah Creek Fishery Area nor are there any current plans to do so. Adequate use of open field areas will be realized through conifer planting, hedgerow and odd corner establishment, and natural development of old field habitat.

Beaver control will be carried out by implementation of current Departmental policies toward beaver. First priority will be to encourage trapping during the special early trapping season and regular season. Secondly, contract trappers will attempt to remove beavers from any problem areas identified by Department employes. Thirdly, Department employes will remove beaver and/or dams from Class I or Class II waters on state-owned land.

SECTION II - SUPPORT DATA

BACKGROUND INFORMATION

Neenah Creek is recognized to be one of the finest trout streams in central Wisconsin. The stream meanders southeasterly through relatively undisturbed marshes, woods and agricultural lands and provides excellent habitat for a tremendous diversity of plants and animals. The cool, clear waters of exceptionally high quality support a naturally reproducing population of brown trout that provides excellent angling opportunities for many people. The headwaters of Neenah Creek are formed by the outlet structure on McGinnis Lake. The stream flows 42.8 miles through Adams, Marquette and Columbia Counties before joining with the Fox River on its way to Lake Michigan.

In 1957, the State of Wisconsin, through authority of the Wisconsin Conservation Department under Chapter 23.09 of the Wisconsin Statutes and with federal aid from the Fish and Wildlife Restoration Acts, initiated a land acquisition program. The primary purpose was to insure public access to the waterway and provide land for outdoor recreation. On December 11, 1969, the Natural Resource Board approved the Tyler-Helland Committee's report which listed all parcels statewide. The exact property boundaries and acreage were not established at that time. On October 9, 1970, the Board approved the present property boundary as shown on the map. The goal of .805.7 acres for the Neenah Creek Fishery utilizing the 14 acres have been permanently acquired by the Angell-Johnson monies. The most recent acquisition purchase title, December, 1983. However, the 9 acres of agricultural lands among those acquired are shown as Parcel A (Figure 2).

1983
Recommended
\$15.70
acres.
Leave this!

815.70

The only other significant change to the fishery area since its creation was the implementation of trout habitat development throughout 2,800 feet of stream in 1982 (Figure 3) from the confluence with Peppermill Creek downstream to the lower boundary of state-owned land.

RESOURCE CAPABILITIES AND INVENTORY

Fish and Wildlife

Electro-fishing stream surveys of Neenah Creek and its tributaries within the fishery area were initiated in 1974 and completed in 1975 which covered 8.5 miles of stream prior to habitat improvement. In preparation for the 1982 stream improvement, a population estimate through the 2,800 feet of stream

proposed for development was also conducted. The surveys indicate that brown trout are abundant and reproducing naturally from County Highway "A", near Brooks downstream to the lower limits of the property boundary (Figure 2). The surveys found an average of 194.7 trout per acre throughout the 7.2 acres of water from County Highway "A" downstream.

A post-development population estimate of the trout population in August of 1983 showed that the population of yearlings and older had tripled throughout the 2,800 feet of stream. Additional population estimates will be conducted to further monitor the response of the trout population to improved habitat.

Poor water quality from McGinnis Lake is responsible for a noticeable lack of trout in the upper 2 miles of the Neenah above County Highway "A". The stream also has a few largemouth bass. Panfish present include rock bass, green sunfish, bluegills, black crappies and brown and yellow bullheads. Forage species found include mottled sculpins, white and spotted suckers, blacknose, longnose and redbelly dace, mudminnows and brook sticklebacks.

Peppermill Creek was surveyed and found to be a warmwater stream inhabited by common warmwater predator and panfish species including largemouth bass, brown and yellow bullheads, bluegills, rock bass and green sunfish. Forage species included longnose dace, rainbow and Iowa darters, mottled sculpins and white suckers. The warmwater discharge from Peppermill Creek is not believed to be causing a detrimental excessive warming of the Neenah because of its relatively small size. The only other stream of consequence is Tributary 2-7 which contains only species usually found in cold waters including a few brook trout, mottled sculpins and brook sticklebacks.

Fish populations in McGinnis Lake were surveyed by electro-fishing in 1980. The dominant species is an extremely abundant, slow-growing bluegill population. A modest population of predator fish such as northern pike and largemouth bass are also present.

The McGinnis Lake survey and the Neenah Creek stream surveys are on file at the Department of Natural Resources Wisconsin Rapids Area Headquarters.

A wildlife inventory has not been completed for the Neenah Creek Fishery Area. Common game mammals present include white-tailed deer, red foxes, beaver, cottontails, gray squirrels, raccoons, muskrats and mink. Common nongame species include woodchucks, masked shrews, star-nosed moles, eastern chipmunks and white-footed mice. Uncommon species include the opossum.

Common avian game species include mallards, wood ducks, blue-winged teal, woodcocks and ruffed grouse. Common nongame species on the area include great blue herons, red-tailed hawks, mourning doves, bobwhite quail, bluejays and chickadees. Many other bird species are present during all or part of the year.

Geology and Soils

The geology and soils of the Neenah Creek Fishery Area were formed when the Green Bay lobe of the continental glacier covered the area. The glacial drift formed a belt of terminal moraine having irregular hills that rise 50-75 feet above the general level of the plain and basins. Upper Cambrian sandstone is the bedrock formation which is covered with glacial drift and sandy alluvium. The extensive sandy soils provide excellent conditions for infiltration of rainfall, therefore, runoff and subsequent flooding of the creek is very minimal. Flows in Neenah Creek are like that of any good trout stream and remain fairly constant regardless of wet or dry periods.

The predominant soil type found in the floodplain surrounding Neenah Creek is classified as Alganese loamy sand. Typically, the surface layer is dark brown, loamy sand about 9 inches thick. Two general soil classifications, each having several specific soil types, surround the long narrow floodplain of Neenah Creek. They are: 1) Coloma-Wyocena and Okee soils which are typified as being gently sloping to steep, well drained and somewhat excessively drained soils that have a sandy and loamy subsoil underlain by sandy outwash deposits on sandy glacial till. 2) Kewaunee-Poygan soils which are typified as being nearly level to moderately steep, well drained and poorly drained soils that have a silty and clayey subsoil underlain by clayey glacial till or clayey lacustrine deposits.

Vegetative Cover

A reconnaissance survey of the vegetation on state-owned lands on the fishery area was completed in February 1982 and is shown in Table 1. It identifies the present timber and other vegetative conditions and assists in preparing the future management prescription for the area. The predominant vegetative cover is lowland brush with tag alder as the main species. The higher ridges along the Neenah Creek are composed of stands of black and white oak with some white birch. The annual growth of the forest is approximately 0.33 cords/acre/year for the hardwoods. This growth rate will improve as management is applied to the various stands.

Table 1 - Timber types on state-owned tracts of the Neenah Creek Fishery Area as determined by reconnaissance survey.

<u>Types</u>	<u>Acres</u>	<u>Percent</u>
Oak sawtimber	17.00	9.2
Oak poles	11.00	5.9
Oak saplings	10.00	5.4
Swamp hardwood poles	7.00	3.8
White birch poles	6.00	3.2
Open upland	42.00	22.7
Lowland brush	92.44	49.8
Total	185.44	100.0

Endangered and Threatened Species

No endangered or threatened species of fish, amphibians, mollusks, mammals, birds, reptiles or wild plants are known to be present on the property. All areas proposed for development will be examined for the presence of endangered and threatened wild animals and plants. If listed species are found, development will be suspended until the District Endangered Resources Coordinator is consulted, the site evaluated, and appropriate protective measures taken.

Surface Water Resources

Neenah Creek originates in eastern Adams County and flows southerly 42.8 miles before entering the Fox River in Columbia County. The Neenah Creek Fishery Area is located on the upper 7.4 miles of stream.

Its main sources of water through the fishery area are: McGinnis Lake, tributary 26-11, tributary 2-7, Peppermill Creek and numerous small springs which are summarized as Tables 2a and 2b.

McGinnis Lake, the source of Neenah Creek, was a small (10-acre) spring fed marl lake prior to 1966. Marl was dredged from the lake in the 1930's for agricultural fertilizer and resulted in a maximum depth of 28 feet. In 1966, enlargement of the lake was authorized for development purposes and the lake surface was increased to its present size (32.6 acres). The enlargement was created by relocating the outlet dam, which flooded an adjacent marsh. The addition of 22 acres of shallow, weedy water has led to a serious deterioration of water quality in the headwaters of Neenah Creek.

McGinnis Lake since has had a history of water quality problems. Water samples collected in August of 1971 indicate high levels of nitrogen and phosphorous. The excessive fertility is caused by the flooding of the outlet marsh which contains a great deal of vegetation. The vegetation released its nutrients into the water as it died and decayed. A very rich soil condition in the newly flooded area also contributes to the high fertility. The newly flooded area is very shallow and a continuous exchange of nutrients from the bottom soils occurs. The excessive quantities of nitrogen and phosphorous have resulted in heavy growths of rooted aquatic vegetation. The excessive amounts of decaying aquatic vegetation have caused dissolved oxygen levels to drop so low that winterkills have occurred during several winters.

Neenah Creek has clear, slightly alkaline (pH 7.4) hard water with a total alkalinity of 160 ppm CaCo₃. Its specific conductance averages 326 mmhos at 77°F. Sand is the primary bottom material with gravel also present. Lack of instream cover is the primary limiting factor for trout in the section of stream downstream of County Highway "A". Above County Highway "A", excessively cold water during the period of trout egg deposition, warm water in summer and/or low dissolved oxygen levels are the primary limiting factors inhibiting the trout population and natural reproduction. The stream has an average flow of 12.7 cfs.

Tributary 26-11 (Figure 4) contributes a very minimal amount of water to Neenah Creek. The total length of stream is 0.6 mile with the lower 0.1 mile falling within the property boundary. The rate of flow is so slow, that determination of flow by the floating chip method was not possible. The stream was frozen over during the February, 1963 aerial groundwater survey. This small tributary is inhabited by forage species and is not classified as trout water.

Tributary 2-7 (Figure 4) is an important spring-fed stream with an average flow of 2.1 cfs that contributes an excellent supply of cold, oxygenated water to the Neenah. The importance of this tributary was recognized in 1970 when the property boundary was designated in order to totally encompass this tributary. The majority of the land surrounding it has already been acquired by the state and is providing much needed protection from nearby intensive agricultural practices. The only brook trout captured during electro-fishing surveys of the entire fishery area were found in it.

Peppermill Creek (Figure 4) is a warmwater stream with an average flow of 1.85 cfs that originates at the overflow structure on a 50.6-acre flowage known as Beaver Pond (Peppermill) Lake. The creek flows 1.6 mile and passes through 3 additional small impoundments before entering the Neenah. Peppermill Creek supports an abundant population of warmwater forage fish species. The flow of warmwater from Peppermill Creek is not considered to create detrimental warming of the Neenah. Healthy populations of brown trout are commonly found in the Neenah immediately below the confluence, even during warm summer weather.

Table 2 - Water areas within the property boundary of the Neenah Creek Fishery Area.

Table 2a - Streams

<u>Stream</u>	<u>County</u>	<u>Length in Miles</u>		<u>Warm-water</u>	<u>Surface Acres</u>
		<u>Class I</u>	<u>Class II</u>		
Neenah Creek	Adams	6.0			
Neenah Creek	Marquette	1.4			6.20
Creek 2-7	Adams	1.0			2.50
Peppermill Creek	Adams				1.00
Creek 26-11	Adams			0.5	.60
				0.1	.01
TOTALS		8.4		0.6	10.31

Table 2b - Lakes

<u>Name</u>	<u>County</u>	<u>Surface Acres</u>	<u>Maximum Depth</u>	<u>MPA</u>	<u>pH</u>
McGinnis Lake	Adams	32.6	28	175	8.8

Historical and Archaeological Features

Information was requested of the State Historical Society of Wisconsin so that the master plan could properly identify and preserve any significant historical, architectural or archaeological areas. The Society indicated that two prehistoric campsites have been discovered within the boundary of the fishery area, but neither area has been evaluated by a qualified archaeologist to determine if it is eligible for listing in the National Register of Historic Places. The exact location of both sites will be recorded in the files of the task force and the State Historical Society.

Specific surveys have not been made for any of the 3 categories and there are probably other sites in the fishery area whose locations are presently not known. Therefore, it is recommended that prior to any movement of soils or buildings, the Department of Natural Resources contact the State Historical Society to determine whether a pertinent survey should be made.

Ownership

The approved acreage goal for the Neenah Creek Fishery Area is ^{815.20}805.7 acres. The Department of Natural Resources owns a total of 230.44 acres in fee title, all except 9 acres within the property boundary. None of the state-owned land is owned by either lease or easement. An additional 575.26 acres remain to be acquired. The estimated cost to acquire the additional acreage is \$575,260. The estimate was determined by assuming the average appraised value of land is \$1,000 per acre (1984 value).

Current Use

Present fishing pressure within the Neenah Creek Fishery Area is estimated to be 600 participant days per year. If all of the property within the fishery area is acquired and stream habitat improvement is completed, future fishing pressure is expected to increase to approximately 1,800 angler days per year.

Present trapping, small game and big game hunting throughout the fishery area is estimated to be 167 participant days of annual use. If all of the property within the fishery area is acquired and wildlife habitat improvement is completed, hunter and trapper usage of the area is expected to increase to approximately 335 visitor-days per year.

Land Use Classification

The physical and biological features of the Neenah Creek Fishery Area and their potential for resource development and recreational use indicate that the entire property should be classified as Resource Development - Fish and Wildlife Management Area - RD₂ (Figure 2).

RESOURCE MANAGEMENT PROBLEMS

Need for Stream Habitat Improvement

A major problem restricting trout populations are the wide, shallow, sandy conditions that are creating a shortage of cover and gravel for spawning. Habitat improvement through this area will create cover and will narrow the stream, increasing velocity and scouring away deposited sands to expose additional gravel for spawning.

Beaver Control

Beaver create problems on the stream by raising water temperatures above the preferred range for trout in summer, and more seriously, by lowering water temperatures in trout spawning areas during the winter to the level that all trout eggs deposited die.

Other Thermal Pollution and Excessive Fertilization

The waters flowing out of McGinnis Lake since surface acreage was tripled are now causing serious problems to the upper portion of stream including excessively low winter and high summer water temperatures, excessive nutrient levels and at times, dissolved oxygen levels so low that fish kills result.

RECREATION NEEDS AND JUSTIFICATION

Adams and Marquette Counties are prime recreational centers and are heavily used. In 1980, the population of Adams County was 13,457, while Marquette County's population was 11,672. An additional 274,845 people reside in the seven counties surrounding Adams and Marquette. Adams County has experienced a 45.7 percent population increase within the last 20 years. This trend appears to be related to the increase in rural nonfarm dwellings, artificial lake developments and a trend toward year-round recreational activities. The increasing recreational demand dictates the intensive management of existing public areas and the acquisition of additional public land. By 1990, some recreational activities may be limited without intensive management or increased acquisition.

The recommendations for continued acquisition and intensive management are consistent with the 1977 Wisconsin Outdoor Recreation Plan.

ANALYSIS OF ALTERNATIVES

Do Nothing

If all management practices were suspended, deterioration of fish habitat would occur in future years. Brush and fallen trees would encroach into the stream causing habitat deterioration and difficult fishing conditions. Any existing and future erosion problems would go uncorrected. Sand and silt would decrease the overall depth of the stream, fill in holes and cover spawning beds. The fishery and natural reproduction of trout would diminish.

Vegetative cover would eventually reach the climax stage of succession causing the habitat for game and nongame species to deteriorate. Animal populations would decline, thereby reducing recreational opportunities for enjoying wildlife.

Enlarge Property

Enlargement of the property boundary is neither necessary nor recommended. The present property boundary is adequate to meet the Goals and Objectives and will preserve and protect the water quality of the stream.

Reduce Property

Attainment of the goals and objectives would be impossible if the area was reduced. This would also be contrary to the property goal set by the Natural Resources Board.

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Appendix: Comments of outside reviewing agencies or persons.

During the 45 day review period of this master plan, comments were received from several outside reviewing agencies or persons. Their comments, and DNR responses, where necessary, follow:

Herbert Theisen, Chairman, Adams County Conservation Congress, Wisconsin Dells, WI

The stream has been neglected for many years. With the area probably being the fastest growing recreation area of the state should prove to give many man hours of recreation. I feel your present plan is using this area to its fullest capacity as it is not a big area. It should be an asset to the area.

Forest Stearns, Chairman, Scientific Areas Preservation Council

We have reviewed the Neenah Creek Fishery Area Master Plan and find that the goals, objectives, and proposed management are compatible with our program interests.

Thank you for providing the opportunity to comment.

Stan Nichols, U. S. Geological and History Survey, Madison.

Page 6, par. 5 - Would suggest that hedgerows be more than two rows wide for better wildlife habitat.

DNR response: Agreed, changed to four rows wide.

Page 6, par. 6 - Conifer planting doesn't allow the old field succession to occur. Brushy old-fields often make good wildlife habitat.

DNR response: A limiting factor for wildlife on the area is a lack of conifer cover.

Page 9, par. 1 - Kewaunee-Poygan soils are clay soils which have severe use limitations.

DNR response: The species planted are expected to be compatible with soil types.

Cynthia A. Morehouse, Director, Bureau of Environmental and Data Analysis, Department of Transportation, Madison.

Our review of the master plan for the Neenah Creek Fishery Area in Adams and Marquette Counties indicates that no significant adverse effects would accrue to the State Trunk Highway System. We recommend however, that you coordinate land acquisitions abutting county trunk or township highways with the officials in those levels of government. This would help minimize future problems when structures over Neenah Creek need to be replaced or other roadway improvements are made within the Fishery Area.

DNR response: Agreed, this will be done.

Roy C. Willey, Jr., Executive Director, East Central Wisconsin
Regional Planning Commission, Menasha, WI.

The East Central Wisconsin Regional Planning Commission has reviewed the Neenah Creek Fishery Master Plan as it relates to regional plans and programs for Marquette County. The Commission has no comments on the plan at this time other than to support the plan recommendations.

Wild Resources Advisory Council.

The area provides no opportunities within the scope of the Council or the wild resource definitions. However, the Council felt that a greater effort should be made to gain land control and suggest means by which the boundaries of the property could be expanded.

(For All DNR Type II Actions, Except Regulatory)

FORM 1600-2

REV. 1-78

DEPARTMENT OF NATURAL RESOURCES

DISTRICT OR BUREAU

DNR NUMBER

ENVIRONMENTAL IMPACT ASSESSMENT SCREENING WORKSHEET

(Attach additional sheets if necessary)

Title of Proposal: Master Plan for the Neenah Creek Fishery Area

Location: County Adams, Marquette
Township 16, 15 North, Range 7, 8 East, ~~West~~
Section(s) 27, 26, 35, 34, 23
Political Town New Chester, Jackson, Oxford

Project:

1) General Description (overview)

A 805.7-acre area containing a Class I brown trout stream plus valuable habitat for wildlife. The area is managed for fish and wildlife and provides a variety of outdoor recreational opportunities.

2) Purpose and Need (include history and background as appropriate)

State management is required to preserve and protect this valuable stream and its surrounding watershed. State ownership and management ensures the resource will not be degraded by farming, urban development or harmful land use practices. The area is surrounded by two counties having a population of 25,413 people. It provides recreational opportunities for many people.

Authorities and Approvals:

- 1) Statutory Authority to Initiate Administrative Code. Wisconsin Statutes 23.09 and 30.12. Chapter NR 80, Wisconsin Administrative Code.
- 2) Permits or Approvals Required by Natural Resource Board. Stream improvements by District Director, project boundaries
- 3) Participants notified of above requirements? Yes No
- 4) Does this proposal comply with floodplain and local zoning requirements? Yes No

Estimated Cost and Funding Source:

Land acquisition to complete the property goal will cost about \$496,000 (based on \$800 per acre). Costs are covered by a variety of programs. Habitat work would be done under the Trout Stamp Program.

Time Schedule:

Continuing land acquisition and habitat improvement based upon need and funding.

EXISTING ENVIRONMENT

1) Physical (Topography-soils-water-air-wetland types)

Neenah Creek originates in Adams County and flows easterly through hilly terrain created by glacial moraines before entering the Fox River in Columbia County. Soil types are predominately sandy loams with sandstone bedrock underlying. The watershed consists of relatively undisturbed marshes, woods and agricultural lands. The major source of water for Neenah Creek is McGinnis Lake, Peppermill Creek, two small tributaries and numerous springs. Water quality is excellent. Flows are strong and reliable, averaging 17 cfs. Refer to the Neenah Creek Master Plan for additional information regarding the existing physical environment.

2) Biological

a) Flora

Forest vegetation is primarily composed of oaks, swamp hardwoods and red pine plantations. Interspersed among the forest vegetation are openings of grass, brush and agricultural fields. No known rare and/or endangered species are known to inhabit the area. Aquatic vegetation is primarily potamogeton species, ranunculus species and elodea species. Refer to the Neenah Creek Master Plan for additional information regarding the existing biological environment.

b) Fauna

The stream contains brook and brown trout and other fish species characteristic of a cold water stream and aquatic invertebrates. Adjacent lands contain white-tailed deer, fox, raccoon, squirrel, bobwhite quail, ruffed grouse, woodcock and a wide variety of nongame birds and animals typical of central Wisconsin. No known rare and/or endangered species are known to inhabit the area.

3) Social

The fishery area is popular among local and state trout fishermen and receives fishing pressure all through the season. Big game and small game hunting attracts additional visitations in the fall of the year. Hiking and cross-country skiing are on the increase.

4) Economic

The economy in this area is based around agriculture, primarily alfalfa, beans and corn. Dairy farming is also common.

5) Other (include archaeological, historical, etc.)

The State Historical Society reported that two prehistoric campsites were discovered in Section 12 of Jackson Township. Neither site has been evaluated by a qualified archaeologist to determine if it is eligible for listing in the National Register of Historic Places. The State Historical Society further indicated it is most likely that there are many other archaeological sites within the Fishery Area whose locations are presently not known. They recommended that prior to ground disturbing activities, the Historical Society should be contacted to determine whether an archaeological survey should be made of the project area.

PROPOSED ENVIRONMENTAL CHANGE

1) Manipulation of Terrestrial Resources (include quantities – sq. ft., cu. yds., etc.)

Management of the area will result in a manipulation of vegetation. Management activities will be conducted on the acreage already under state ownership, and will expand to the acreage within the acquisition boundary as they become state-owned. Timber management will involve the harvest of 10 cords of round wood products per year and will be consistent with wildlife management objectives. Wildlife management will be directed towards creating a diversity of habitat types. Along selected sections of the stream bank, woody vegetation such as tag alder, willow and elm trees will be removed and sprayed with Ammate X-NI to prevent regeneration. Application of the Ammate X-NI would only be used in the presence of licensed applicators and according to label instructions. Off-road vehicle access will be restricted so as to prevent destruction of the vegetation and illegal camping.

2) Manipulation of Aquatic Resources (include quantities – cfs, acre feet, MGD, etc.)

The proposed stream habitat spot development will involve brushing and the installation of brush bundles and boom covers throughout nearly 3 miles of stream. Approximately 100 brush bundles and 40 boom covers are proposed per mile of stream. Stream thalweg will be changed; average width decreased and average depth increased. Construction of habitat devices will generally be according to recommendations made in the Guidelines For Management of Trout Stream Habitat in Wisconsin, Technical Bulletin Number 39, R. L. White and Oscar Brynildson. Wing deflectors boom covers installed will average 15 cubic yards per device. Presently, beaver are not creating significant problems but in the event they begin damming the stream, their dams will be removed and the beaver thinned.

3) Structures

Extensive instream habitat improvements will be developed on the Neenah Creek. Future plans include improvement of 3 miles of stream. Signs posting the property as open to public hunting and fishing will be posted. Signing the property will indicate which areas are open to the public and will minimize unintentional trespass onto adjacent private land.

4) Other

Three small parking lots each with 5-10 car parking capacity with crushed rock surface are proposed. Each parking lot is located just off an existing town road so as to minimize adverse effects upon aesthetics and wildlife. Acquisition of land within the approved acquisition boundary will be carried out as the parcels become available.

5) Attach maps, plans and other descriptive material as appropriate (list)

Attachment 1 - Location of the Neenah Creek Fishery Area.

PROBABLE ADVERSE AND BENEFICIAL IMPACTS (Include Indirect and Secondary Impacts)

1) Physical Impacts

The installation of instream structures will result in temporary turbidity and disturbance to the stream bed and banks. Permanent physical impacts to the stream will include: increased water velocities, scouring, narrowing and deepening. Removal of woody vegetation and application of herbicide will result in grasses becoming established along the stream bank. Development of 3 small parking lots adjacent to existing roads will cause compaction of the soil and destruction to vegetation at the site. Wildlife management will involve cutting and planting to promote a wide variety of plant species and age classes to increase the edge factor. Timber management will include the harvest of 10 cords or round-wood products per year.

2) Biological Impacts

Beneficial biological impacts of habitat work will strongly outweigh any adverse impacts. Stream side brush removal could have a minor effect on grouse and woodcock. This removal is very small, however, in relation to similar habitat available elsewhere on the property. Brush will be replaced by reed canary grass and other native grasses which will provide escape cover for wildlife while stabilizing stream banks. Brush removal allows more sunlight to reach the stream thus increasing plant growth which provides cover and food for invertebrates.

Rocks and lumber used in the construction of deflectors and structures will provide a permanent substrate for invertebrates as well as providing cover for trout. The narrowed stream channel with increased flow will expose new gravel spawning areas and keep others free of silt and sediment. Adverse biological impacts will come from the temporary disruption of the stream bottom during construction. This will have no serious effect on the aquatic community. Beaver populations will be kept to a minimum through trapping in order to prevent beaver dams from being constructed.

3) Socioeconomic Impacts

a) Social

There will be an increase in land available for outdoor recreation as acquisition continues. The increased recreational opportunity will attract more outdoor recreationalists to the area. The modifications to the stream and vegetative cover along the bank will improve navigability by creating easier wading and improved fishability. Posting signs indicating the property is state-owned will reduce unintentional trespass onto adjacent private lands.

b) Economic

The effect of this property on the local economy should not be significant. Slightly increased expenditures for gas, food, bait and lodging might be expected. Property taxes will no longer be collected after state ownership. However, there will not be any adverse economic impacts upon the community. The state will continue to make payments in lieu of taxes at a rate declining 10% each year. In no year shall the payment fall below \$.50 per acre, or 10% of the present tax, whichever is greater.

4) Other (include archaeological, historical, etc.; if none, so indicate.)

Surveys coordinated with the State Historical Society will be conducted at each site prior to development. If development threatens any significant historical or archaeological sites, appropriate protective measures will be taken.

PROBABLE ADVERSE IMPACTS THAT CANNOT BE AVOIDED

Habitat development projects will temporarily increase turbidity and disturb the stream bottom and banks. The heavy equipment used for instream structures will disturb stream side vegetation for the length of one growing season. Improvements to the area may result in increased public use but this should cause only minor adverse impacts, such as littering and vandalism. The proposed parking lots will cause soil compaction and destruction of vegetation at the parking site. Removal from the tax roll will cause a loss of revenue, but the financial loss will be absorbed by the entire state, not just the local community. The alteration in vegetation for Fish, Wildlife, and Forestry Management is not considered an adverse impact.

RELATIONSHIP BETWEEN SHORT-TERM USES OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Fish Management projects are short-term in nature but will increase and maintain long-term productivity. Brushing and structure placement will have positive effects on trout and invertebrate populations. Once completed, projects will require only minor maintenance. Management surveys will enhance long-range productivity by providing information required to sustain population numbers. Wildlife Management practices that will benefit upland game and will maintain and enhance long-term productivity are: shrub plantings and tree plantings in open and edge areas for food and cover. Selective cuttings for forestry and/or wildlife purposes will be of short-term duration. New growth will be stimulated which will effect various bird and animal species positively regarding long-term productivity.

IRREVERSIBLE OR IRRETRIEVABLE COMMITMENTS OF RESOURCES IF ACTION IS IMPLEMENTED

1) Energy

Fuel for vehicles and machinery used in habitat work is irretrievable.

2) Archaeological and historic features or sites

The State Historical Society reported two prehistoric campsites within the fishery boundary and further stated that there are likely to be more. Surveys will be coordinated with the State Historical Society at each site prior to development so as to properly protect all significant historical features.

3) Other

The planting of shrubs and trees could be considered irretrievable. No irreversible management activities are planned for the project area. Structures for fish habitat and plantings for forestry on wildlife can all be removed or replaced, if necessary.

ALTERNATIVES (No Action-Enlarge-Reduce-Modify-Other Locations and/or Methods. Discuss and describe fully with particular attention to alternatives which might avoid some or all adverse environmental effects.)

1. No Action
Fish and game populations would remain at current levels for awhile, then drop slowly. This would vary with hunting and fishing pressure, weather and natural disasters.

Lands not purchased by the state will be sold for subdivision, farming, campgrounds or some similar use. Habitat would slowly deteriorate due to natural succession, beaver dams, forest diseases, etc.
2. Enlarge
Project goals as outlined in the Master Plan are adequate at the present level.
3. Decrease project size
Any decrease in size would be detrimental to the purpose of preserving and providing lands and water for public benefit. Public recreational lands will become more and more important in future years.
4. Modify
Management practices and principals have been proven to be effective and economical. Modification would not be necessary unless research develops new practices which offer more benefits.
5. Other locations
Does not apply.

EVALUATION (Discuss each category. Attach additional sheets and other pertinent information if necessary.)

- 1) As a result of this action, is it likely that other events or actions will happen that may significantly affect the environment? If so, list and discuss. (Secondary effects)

Habitat Management will improve environmental conditions for fish and wildlife and populations will benefit. Removal from the tax roll will cause a loss of revenue, but the financial loss will be absorbed by the entire state, not just the local community.

- 2) Does the action alter the environment so a new physical, biological or socio-economic environment would exist? (New environmental effect)

No.

- 3) Are the existing environmental features that would be affected by the proposed action scarce, either locally or statewide? If so, list and describe. (Geographically scarce)

Good trout waters are not common statewide. Protection and preservation for the future by state purchase or easement is desirable.

- 4) Does the action and its effect(s) require a decision which would result in influencing future decisions? Describe. (Precedent setting)

No. This program has been in effect in Wisconsin for many years.

- 5) Discuss and describe concerns which indicate a serious controversy? (Highly controversial)

None are known.

- 6) Does the action conflict with official agency plans or with any local, state or national policy? If so, how? (Inconsistent with long-range plans or policies)

No. It is consistent with the Master Plan for this property, and with state and national concerns for the protection and enhancement of our natural resources.

7) While the action by itself may be limited in scope, would repeated actions of this type result in major or significant impacts to the environment? (Cumulative impacts)

Yes. This is an excellent program and project. It should be encouraged and expanded statewide and nationwide. Trout stream environments and adjoining wildlife lands would definitely be benefited.

8) Will the action modify or destroy any historical, scientific or archaeological site?

Any historical or archaeological sites located on land owned by the Department will be protected.

9) Is the action irreversible? Will it commit a resource for the foreseeable future? (Foreclose future options)

Nothing has been done or will be done which cannot be changed. All changes are very slight and only for environmental improvements. The loss of fossil fuels through vehicles and machinery is irreversible.

10) Will action result in direct or indirect impacts on ethnic or cultural groups or alter social patterns?
(Socio-cultural impacts)

No.

11) Other

None.

FOCF AGENCIES, GROUPS AND INDIVIDUALS CONTACTED REGARDING THE PROJECT
Include DNR Personnel and Title

#1831

Date	Contact	Comments
1982	Jim Keir	Wildlife Manager in agreement with the project
1982	Nina Stensberg	Forester in agreement with the project

RECOMMENDATION

EIS Not Required

Analysis of the expected impacts of this proposal is of sufficient scope and detail to conclude that this is not a major action which would significantly affect the quality of the human environment. In my opinion therefore, an environmental impact statement is not required before the Department undertakes this action.

Refer to Office of the Secretary

Major and Significant Action: Prepare EIS

Additional factors, if any, affecting the evaluator's recommendation:

SIGNATURE OF EVALUATOR <i>[Signature]</i> 8007 Ironside <i>[Signature]</i>	DATE 2/28/83
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CERTIFIED TO BE IN COMPLIANCE WITH WEPA DISTRICT OR BUREAU DIRECTOR (OR DESIGNEE) <i>[Signature]</i>	DATE 3/4/83
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one comment favorable WK

APPROVED (if required by Manual Code) DIRECTOR, BEI <i>[Signature]</i>	DATE 12/12/84
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This decision is not final until approved by the appropriate Director and/or Director, BEI.

*cc this page
Ironside
Hacker
Addis*