Form 1100-1
Rev. 10-77

Item _____ Minutes of _____

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Madison, Wisconsin

ITEM RECOMMENDED FOR NATURAL RESOURCES BOARD AGENDA

TO THE SECRETARY: C. D. Besadny

Date March 25, 1981

FROM: James T. Addis

SUBJECT: MASTER PLANNING - Approval of Conceptual Master Plan for Hay Creek Fishery Area, Chippewa County.

1. *To be presented at* April, 1981 *Board meeting by* Vern Hacker.

2. *Appearances requested by the public:*

Name	*Representing whom?*

3. *Reference materials to be used:*
Memorandum dated March 25, 1981, from James T. Addis to C. D. Besadny
Hay Creek Fishery Area, Chippewa County Master Plan.

4. *Summary:*
The final draft of the Conceptual Master Plan for this property has been prepared and is presented for review and approval. At present, the approved acreage goal is 196.45 acres. Of this amount, 26.87 acres have been acquired in fee title and 134.76 acres in perpetual easement totalling 161.63 acres, with 34.82 acres yet to be acquired. The Task Force also recommends that an additional 73.18 acres be added to the acreage goal, with the acreage added to the fishery area to be subtracted from the Eau Claire County remnant acreage goal.

5. *Recommendation:* That the Master Plan be approved by the Natural Resources Board.

APPROVED:

J. R. Huntoon, *Administrator* — *Date* 4/7/81

A. C. Damon, *Deputy Secretary* — *Date* 4/7/81

Secretary C. D. Besadny — *Date* 4-8-81

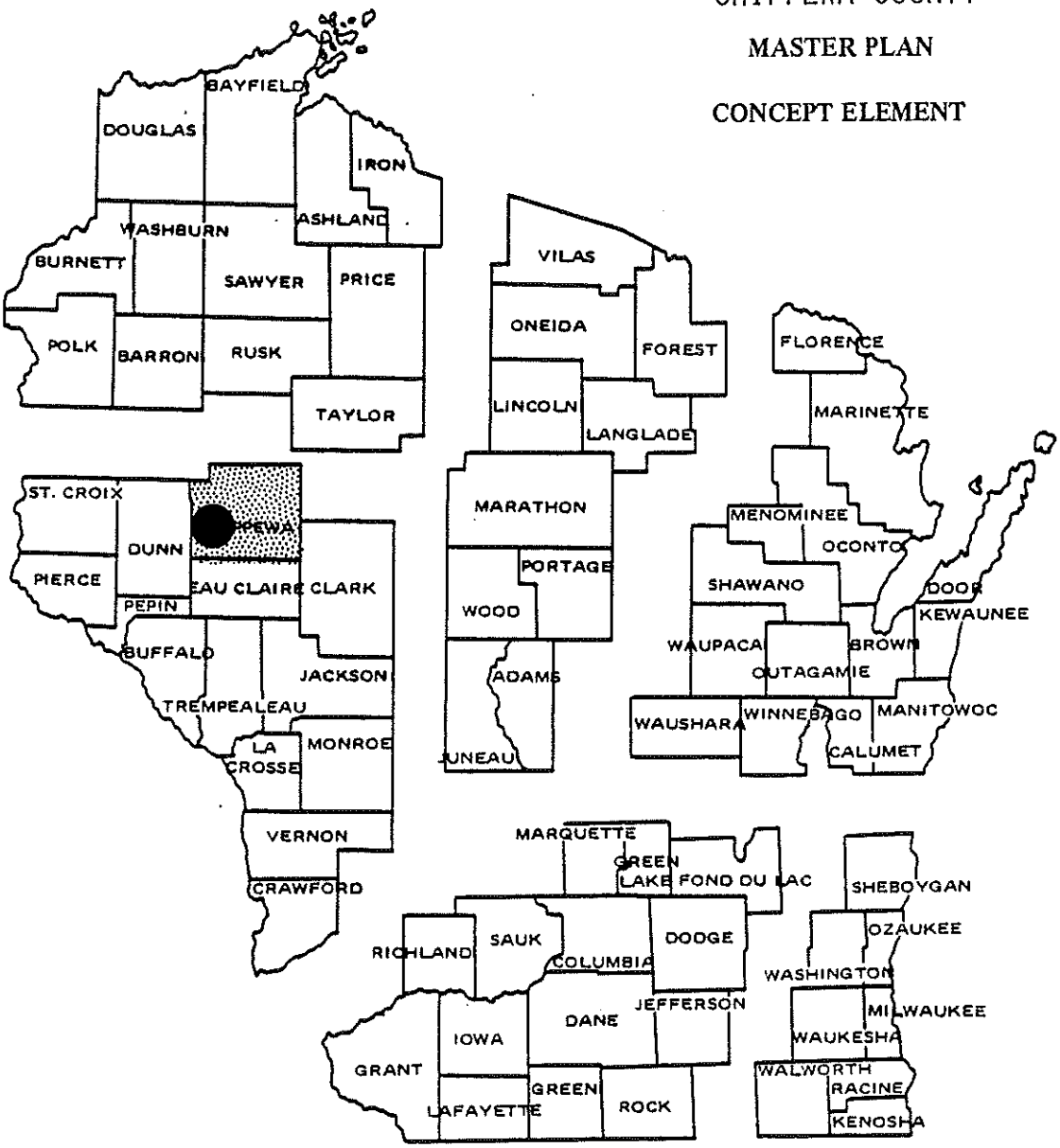
Signed:
James T. Addis, Director
Bureau of Fish Management

cc - Judy Scullion - ADM/5
Ron Nicotera - ADM/5
James Lissack - Eau Claire
C. W. Threinen - FM/4
Ed. Faber - RE/4
Vern Hacker - Oshkosh
James Addis - FM/4

HAY CREEK FISHERY AREA
CHIPPEWA COUNTY

MASTER PLAN

CONCEPT ELEMENT



Property Task Force

Leader – DOUGLAS ERICKSON, FISH MANAGER
ROLLAND NESBIT, WILDLIFE MANAGER
BRIAN MARINELLO, ASSISTANT AREA FORESTER
NORMAN PAZDERSKI, RECREATION AND PARKS MANAGER

Approved by Natural Resources Board

_____
Date

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
MADISON, WISCONSIN

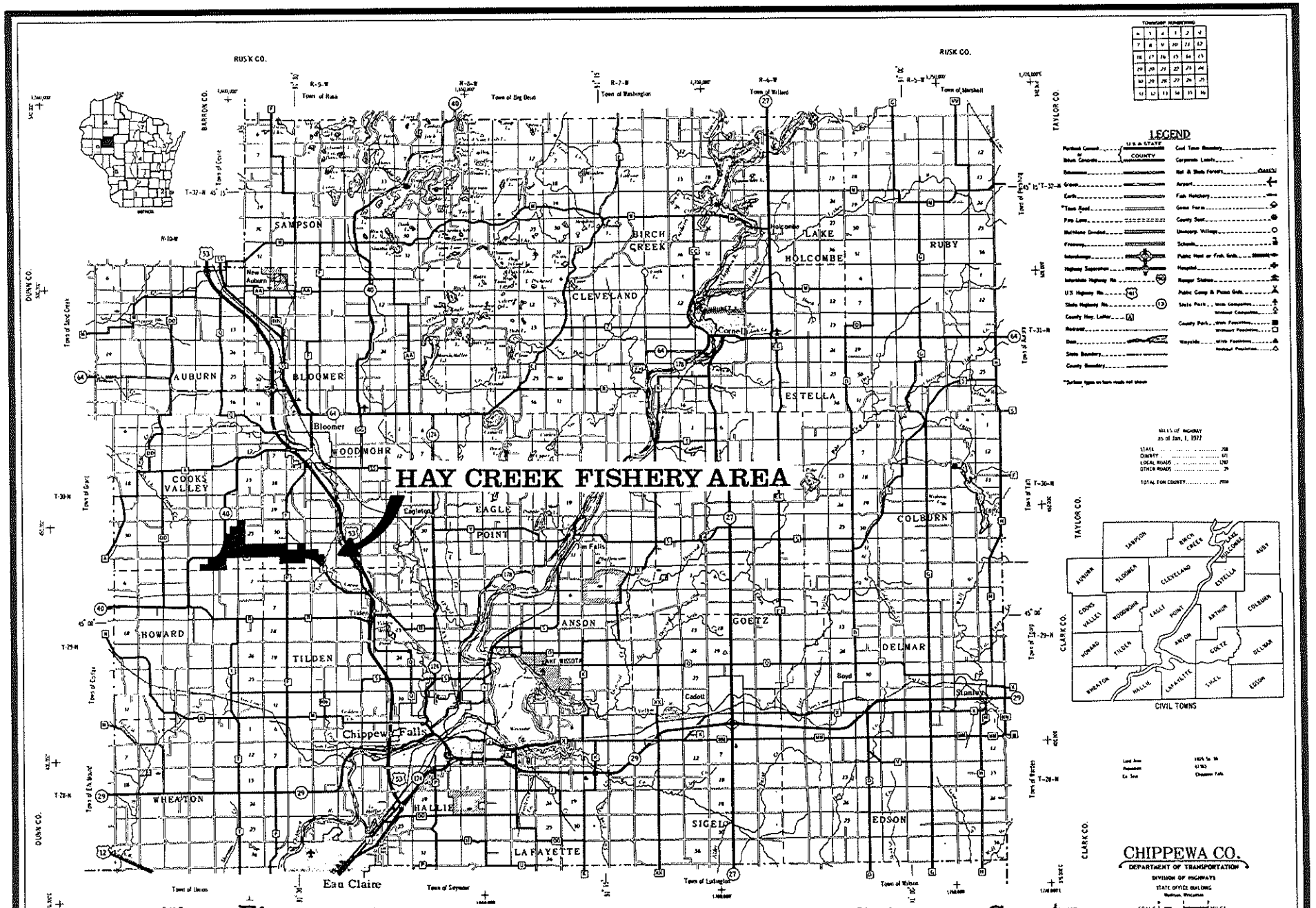


Figure 1. Location – Hay Creek Fishery Area, Chippewa County.

CORRESPONDENCE/MEMORANDUM

STATE OF WISCONSIN

Date: March 25, 1981 *File Ref:* 2100

To: C. D. Besadny

From: James T. Addis

Subject: Hay Creek Fishery Area, Chippewa County Master Plan

Attached are the Conceptual Master Plan and the Environmental Assessment Screening Worksheet for the Hay Creek Fishery Area, Chippewa County. A public meeting regarding the master plan was held on March 2, 1981, and it was attended by seven members of the public and two DNR personnel. The EASW was also available for public scrutiny during the period of the 45-day review, and has been approved by the district and has been placed in the Bureau of Environmental Impact files at the Central Office.

The master plan was supplied for comment to internal bureaus and other interested parties during the 45-day review period. Comments from internal bureaus were considered, and revisions made where appropriate. Comments from outside reviewing agencies and DNR responses are shown in the Appendix attached to the master plan.

73.18

The Task Force recommends that the present approved goal of 196.45 acres be expanded by 73.13 acres in order to acquire the remaining streamside property in perpetual easements 10 rods wide on each bank. To date 26.87 acres have been acquired in fee title, and 134.76 acres in perpetual easement, with 34.82 acres yet to be acquired on the property.

73.18

If the proposed expansion of the acreage goal by 73.13 acres is approved, a similar amount will be subtracted from the Eau Claire County remnant acreage goal. The new Hay Creek Fishery Area acreage goal will be 269.63 acres with no changes to the property boundary.

Because the fishery area consists primarily of perpetual easements 10 rods wide on both banks of the stream, management for forestry and wildlife is limited. To date, all acquired portions of stream have had habitat management techniques applied to them and all acquired areas will be improved similarly with fencing, devices, half-logs, and stabilization of erosion by rip-rapping and seeding. Some planting of clusters of shrubs and conifers will take place where possible to improve habitat for game and non-game species.

Your approval is requested to submit the plan to the Natural Resources Board at the April, 1981 meeting.

cc - Judy Scullion - ADM/5
Ron Nicotera - ADM/5
James Lissack - Eau Claire
C. W. Threinen - FM/4
Ed. Faber - RE/4
Vern Hacker - Oshkosh

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SECTION I - ACTIONS

GOALS, OBJECTIVES AND ADDITIONAL BENEFITS

GOALS:

To obtain land control, and to manage, preserve and protect streamside corridors within the boundary of the Hay Creek Fishery Area in Chippewa County; to enhance fishing and other recreational and educational activities.

ANNUAL OBJECTIVES:

1. Provide opportunities for 650 participant days of fishing for brown and brook trout.
2. Manage and increase the aquatic resource to supply a standing crop of 80 pounds of trout per acre as measured in the fall.
3. Provide the opportunity to catch 0.5 trout per angling hour.

ANNUAL ADDITIONAL BENEFITS:

1. Provide limited hunting for deer, rabbit and ruffed grouse and trapping for muskrat.
2. Provide 500 participant days annually of other forms of recreational and educational use including sightseeing, berry picking, photography, hiking, bird watching, nature study, cross-country skiing and snowshoeing.
3. Supply habitat to protect and enhance resident or migratory non-game species, and endangered or threatened species passing through the area.
4. Enhance the quality of water and the stream bottom through streambank protection and erosion control on easement and fee title lands.

RECOMMENDED MANAGEMENT AND DEVELOPMENT PROGRAM

The recommended management and development program for the Hay Creek Fishery Area, Chippewa County, is to continue acquisition of lands either by perpetual easement or fee title until the acreage goal is met, and to develop acquired parcels as they become available.

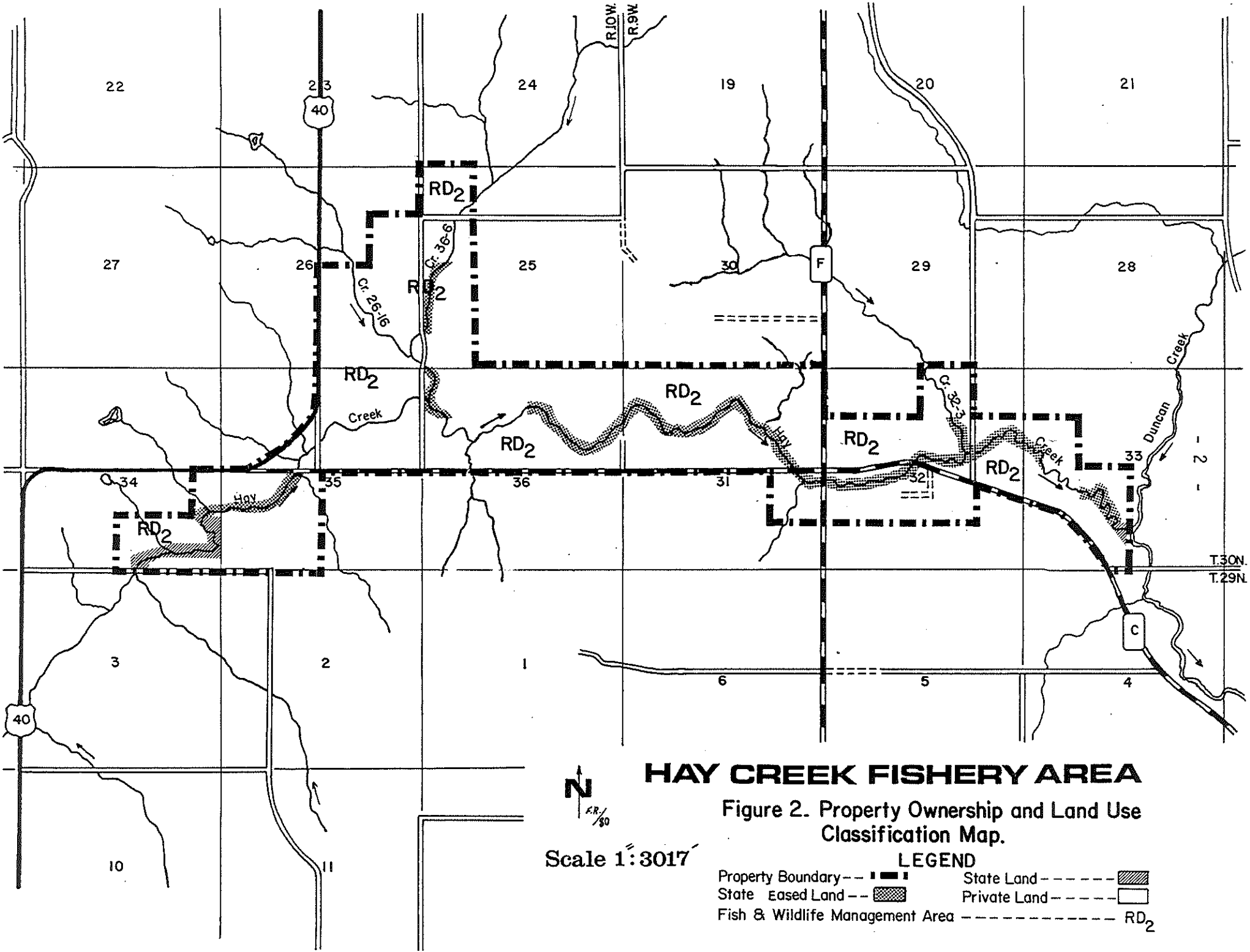
To date, a total of 26.87 acres have been acquired in fee title, and 134.76 acres in perpetual easement for a total of 161.63 acres on this property (Figure 2). A total of 34.82 acres on 11 tracts are yet to be acquired to complete the approved goal of 196.45 acres. In order to acquire 10 rod easements on the remaining properties within the boundary, the Task Force recommends that the acreage goal be increased by an additional 73.18 acres. The new acreage goal would then be 269.63 acres. The 1981 cost to acquire the remaining 34.82 acres and the proposed increase of 73.18 acres is estimated at $60,000.

Habitat management has been completed on all stream sections acquired, with the last work being done in 1978 and includes installation of boom covers, wing deflectors, rip-rap, cattle crossings, flood gates, brushing, fencing and fence maintenance (Figure 3). Where necessary, similar management techniques using trout stamp monies will be applied to lands acquired by fee title or perpetual easement. Anticipated fisheries management for newly acquired lands will include intensive instream development including wing dams, boom covers and half-logs. Half-logs and brushing will be continued where required on the upper end, while eroded banks will be stabilized by rip-rapping and reseeding. The majority of public land has been fenced, and this will be the initial management measure as new parcels are acquired.

Current and future needs will include property surveillance and maintenance. An estimated 20 man days per year will be required for sign posting, beaver removal, cattle crossing repair and streambank fence maintenance. This will cost an estimated $75 per mile of stream.

Stream survey work evaluating fishery response to habitat improvement will continue on an irregular basis on acquired areas, and on a regular basis every 10 years on stream sections not under state control to determine trends in the fish population.

Stocking of legal and fingerling brown trout will continue on an annual basis as natural reproduction in the stream at the present time is minimal. Current plants in the stream include 1,000 legal and 5,000 fingerling brown trout annually.

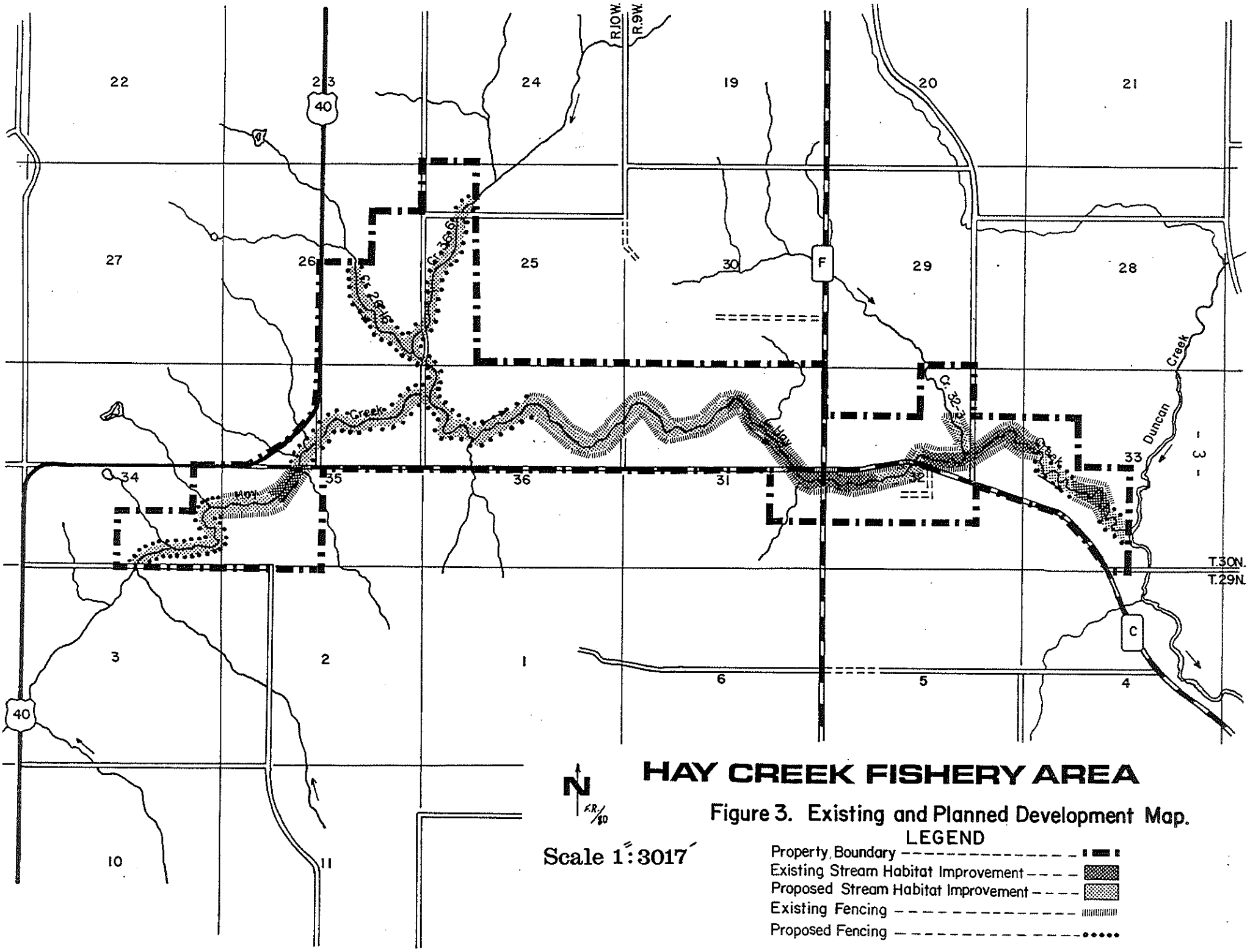


HAY CREEK FISHERY AREA

Figure 2. Property Ownership and Land Use Classification Map.

LEGEND

Property Boundary
State Leased Land
Fish & Wildlife Management Area
State Land
Private Land
RD2



HAY CREEK FISHERY AREA

Figure 3. Existing and Planned Development Map.

Because the fishery area consists primarily of perpetual easements 10 rods wide on both banks of the stream, management for wildlife and forestry is extremely limited. Wildlife development areas are primarily "edge" sites adjacent to the stream thread. Portions along Creeks 36-6 and 32-3 have provided the necessary habitat requirements for puddle ducks and will be maintained in their present condition. Wood duck houses will be added by sportsmen's groups where recommended. Succession may have a minor effect on small non-game mammals, but is not expected to significantly reduce the productivity of these areas for wildlife in the next ten years. Some cluster conifer and wildlife shrub plantings may take place by local organizations; however, this is expected to be on a small scale. It will provide some erosion control and field edge cover for wildlife including non-game species.

SECTION II - SUPPORT DATA

BACKGROUND INFORMATION

Hay Creek (Figure 1) is a small trout stream located in west central Chippewa County. It flows in an easterly direction through an extensively farmed watershed to its confluence with Duncan Creek, four and one-half miles south of Bloomer, then into the Chippewa River and ultimately into the Mississippi River. The fishery area was formally approved for acquisition by the Wisconsin Conservation Commission on December 11, 1969, and was subsequently approved for federal aid funding on May 23, 1973.

Louis Hennepin and his companions were probably the first white men to traverse Chippewa County in 1680. No one attempted to settle the area, however, until 1822, when the first sawmill was built on the Chippewa River. Lumber was the main product of early Chippewa County. Great forests of 400-year-old white pines throughout the Chippewa valley drew lumbermen from Maine, Canada, and other localities. The first farm in the county was begun by a German, George Meyers, in 1847. Current industry in the county still reflects the vast forest resources of days past, including paper, furniture, and other wood products.

34.82 what?

The land acquisition goal of 196.45 acres has not been met with 350 acres still remaining to be acquired within the 1919.2 acre fishery area boundary. (Figure 2). Stream frontage under public control totals 161.45 acres with 134.76 acres under perpetual easements, mostly 10 rods wide on each side of the creek. An additional 26.87 acres are owned in fee title. Costs to date include $24,850 for perpetual easements and $7,500 for fee title purchases.

161.63

Hay Creek is a Class II brown trout stream, though some natural reproduction of brown trout occurs in the two feeder springs flowing into Hay Creek. The main stream sustains light to moderate angler use from local residents, however, pressure is expected to increase proportionately to Chippewa and Eau Claire county's continuing population growth.

In the early 1960's fish managers realized that Hay Creek was in need of improvement. The banks were overgrazed by cattle and extensively eroded throughout much of its 6 mile length. Fencing began in early 1972, with funding available to landowners through the Rural Environmental Assistance Program (REAP). Bank erosion has been controlled by sloping, riprapping, sodding, planting, or a combination of the techniques on state-controlled land. Approximately two miles of stream has been intensively developed (Figure 3) using approved instream habitat improvement structures, i.e. wing deflectors and boom covers. Periodic maintenance is required on these structures. Nine road crossings provide access to the stream. There have been no parking facilities or entrance road development.

RESOURCE CAPABILITIES AND INVENTORY

Soils, Geology and Hydrology:

All surface waters of Chippewa County are within one of Wisconsin's major drainage systems, the Chippewa River. Hay Creek drains a predominantly sandy loam watershed that comprises a 14.10 square mile area.

The bedrock topography of the Hay Creek watershed was carved by running water in pre-glacial times. The landscape is hilly with large valleys. The area was subsequently over-run by one or more ice sheets, the last completely covered the county although it did not alter the landscape to any large degree. It did, however, have some effect. Although erosion at this time was minimal, deposition occurred causing blankets of rich sediments to accumulate on the hills. Glacial melt waters also deposited sand and gravel in the valleys.

The most recent glaciation, often referred to as the Wisconsin Glacier, occurred approximately 15,000 years ago and did not completely cover the county as did the previous ice sheet. Though it only advanced to within 15 miles northwest of Hay Creek, it did have an affect on the soil composition of the Hay Creek watershed.

As the glacier retreated, outwash filled the entire Chippewa Valley and the Duncan Creek Valley, damming Hay Creek and all other tributaries entering the Chippewa River. With the gradient reduced on Hay Creek, large amounts of alluvial sediments were deposited.

Subsequently, an enormous amount of loess was deposited on many of the hills and uplands along both sides of the Chippewa River. This silt was 10 feet thick in many areas, and extended along the uplands of the Hay Creek watershed. In post-glacial times, a considerable amount of erosion has occurred in this area. Much of this silt was then deposited along the Hay Creek valley floor, which produced the present sandy loam soil type.

Due to the low gradient, little stream entrenchment has occurred along Hay Creek since the last glacial period. One exception is the lower end near the confluence with Duncan Creek where the channel is deeper and the velocity is higher. Here, the stream has cut through the 20-30 feet of alluvial deposits and is beginning to show more of the sand-gravel type of bottom associated with the last glacial period of 28,000 years ago.

Soil survey interpretations provided by the Soil Conservation Service indicate an Onamia-Billett-Shiffer-Antigo soil association. Nearly all of these are moderately deep, well drained (except for the somewhat poorly drained Schiffer), level-to-sloping loamy soils underlain by sand or sand-gravel and are used for growing farm crops, pasture, woodlands and for wildlife. When exposed near streams, these soils are susceptible to severe erosion.

The state-controlled land upstream from County Trunk Highway F is mostly a well drained Meridian loam and well drained Hixton loam. The lower stretches of Hay Creek consist of well drained Gotham loamy sand and well drained Billett sandy loam.

Soils in this association are well suited for growing food and cover plants for upland game. They have moderate limitations for hardwood production and slight limitations for conifers. Seedling mortality ranges from slight to moderate due to plant competition.

Hay Creek is a small tributary to the Chippewa River. Of the 1,042 square miles of land and water in Chippewa County, the Chippewa River watershed includes 997 square miles. The drift area of the terminal moraine in the northeast section of Chippewa County is distinct in that it has a typical hilly appearance, with a large number of kettle holes, bogs, irregularly shaped lakes, numerous swamps of many types and is poorly drained. The southwestern part of the county, which includes Hay Creek, is comprised of rolling prairies and has the hilly features that are characteristic of sandstone outcrop. It has a well developed drainage pattern and few swamps. The maximum elevation of Chippewa County is about 1,550 feet above sea level, and the minimum is 795 feet above sea level.

Within the fishery area, the meandering stream has an average width of 8 feet and an average depth of 0.8 feet. The stream gradient of 9 feet per mile is not sufficient to prevent sand and silt deposition. The water source is provided by a combination of springs, groundwater seepage from upland headwaters, and watershed runoff. The base flow is 10 c.f.s. with a slight suspended silt load. The average annual flood crest is approximately 4 feet. The waters of Hay Creek are slightly acidic with a pH of 6.8 and have a total alkalinity of 44.0 p.p.m. indicating borderline hard water. Hay Creek is considered navigable.

Fish and Wildlife:

The Hay Creek Fishery Area is comprised of the main stream, Hay Creek which is Class II brown trout water, and two major feeder streams which are Class I brook and brown trout water.

Fish surveys conducted in the 1960's indicated very low numbers of trout and a low total biomass of fish with the majority consisting of white suckers. Stocking of brown trout produced the only fishing opportunities and overwinter survival of the stocked fish was marginal. Water quality and growth potential for trout was considered good, but instream habitat was a limiting factor. As acquisition progressed, followed by streambank fencing and ORAP financed instream habitat improvement work, the fish population responded favorably. Surveys in the early 1970's indicated increases in brown trout numbers by almost 600 percent following habitat improvement. In the mid 1970's the total fish biomass was approximately 80 pounds per acre with brown trout accounting for approximately 22 pounds per acre and brook trout another 1 pound per acre. This total biomass figure is quite low which reflects the deteriorated condition of the stream. Brook trout account for approximately 5 percent of the trout population and are found in greatest abundance in the upper half of the stream.

Other fish species known to be present in the Hay Creek system include pumpkinseed and green sunfish, largemouth bass, mottled sculpin, blacknose dace, longnose dace, reside dace, blackside darter, fantail darter, Johnny darter, river shiner, common shiner, creek shub, brook stickleback, northern brook lamprey and Americam brook lamprey.

The fishery area is presently occupied by the species of wildlife common to grass and alder marshes, streams and disturbed prairie. Common mammal species include moles, bats, rabbits, squirrels, woodchucks, muskrats, white-footed mice, weasels, deer, red fox and man.

Many birds inhabit the project area both permanently and seasonally. Many passerines will respond to the newly created edge established by fencing. The ring-necked pheasant and ruffed grouse are common upland game birds within the boundary.

At the present time, no intensive surveys of songbirds, amphibians, or reptiles have been made. Observations will continue to be made by trained personnel to compile complete lists of the various species.

No fish, bird or mammal species found on the fishery area is known to be endangered or threatened. If any are found through the observations of trained personnel, the District Endangered and Non-Game Species Coordinator will be contacted for advice on their management.

Vegetative Cover:

Young pole and sawtimber stands such as red oak, aspen, and red maple comprise the bulk of the acreage within the boundary (Figure 4). Approximately eight acres of merchantable red pine and 23 acres of seedlings and small saplings are found here as well as a small white pine stand is found adjacent to the stream. Ten acres of streambank are covered by scattered swamp hardwoods such as willows, elm, and swamp white oak.

The only forest lands on which the Department of Natural Resources has jurisdiction over its total management is the fee title parcel located in the SE 1/4, SE 1/4 and SW 1/4, SE 1/4 of Section 34 - T30N - R10W, Town of Cooks Valley, Chippewa County (Figure 4). The parcel contains 24.53 acres (Table 1).

TABLE 1 - Vegetative Cover Types on Fee Title Lands of the Hay Creek Fishery Area, Chippewa County

Type	Acreages	Description
KG	12.80 acres	Marsh grasses
LBA	10.53 acres	Lowland brush, tag alder
NH 5-11' O 11-15'	1.20 acres	Poor quality northern hardwoods mixed with larger, low quality black oak small sawtimber.
TOTAL	24.53 acres	

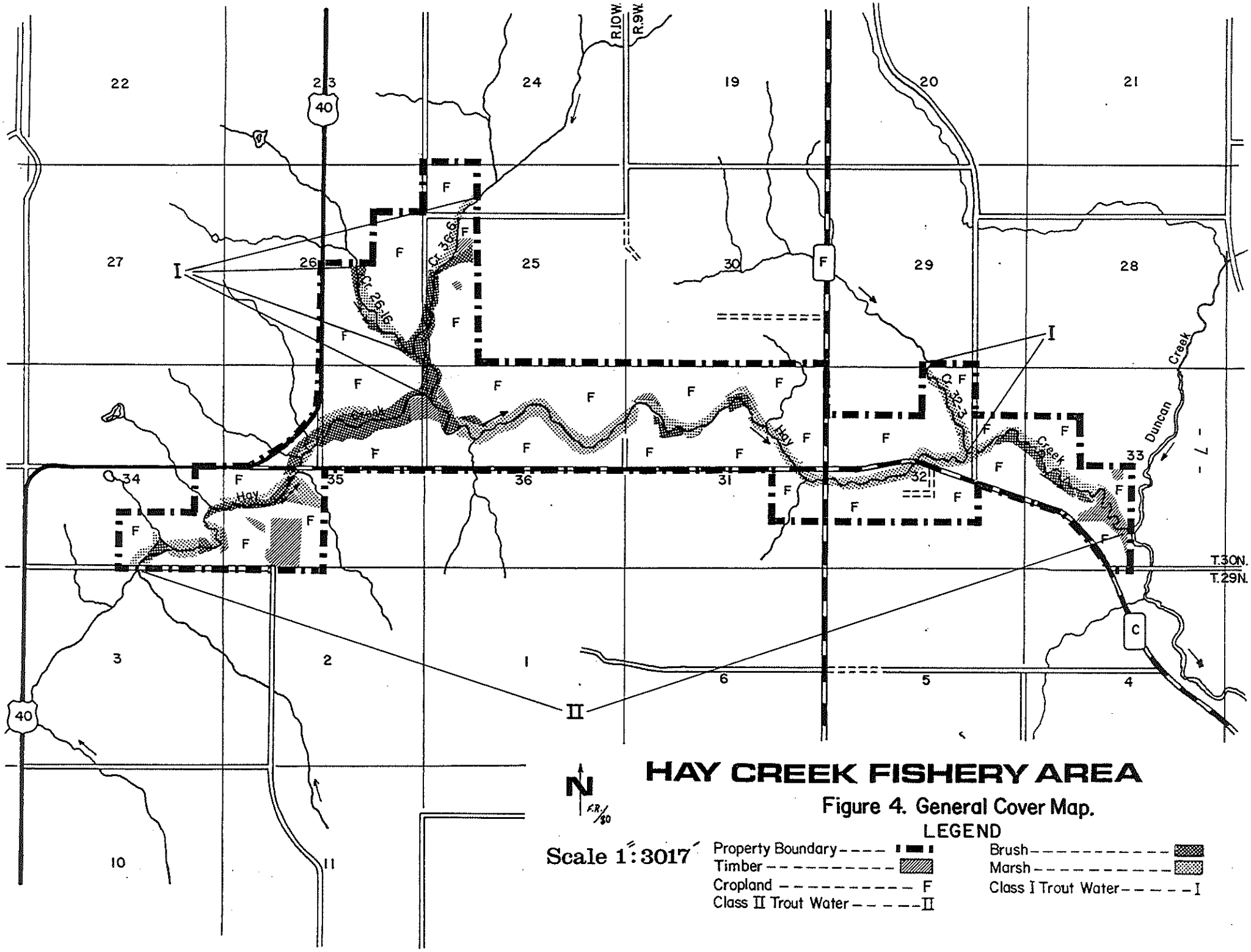
The forest types are predominantly tag alder with some willow species interspersed. The acres are situated on organic muck type soils and are subject to periodic flooding. Scattered American elm and slippery elm are also found throughout these pockets of brush. The elms are succumbing to Dutch elm disease. The volume of elm is negligible, unaccessible and, in non-merchantable quantities.

This area should be left as is for wildlife cover and habitat. The old, dead elms provide nesting cover and food sources for wildlife such as woodpeckers, bird life, and a variety of non-game species.

Also found in this fee title area are pockets of non-commercial lowland grasses which are subject to periodic flooding. The major species present is reed canary grass. These areas are of no commercial forestry value and should be maintained for streambank stabilization and wildlife cover. The only forested parcel of land in this fee title tract is approximately 1.2 acres predominated by black cherry, black oak and some aspen.

These trees range in age from 30 years for some of the aspen, to 68 for the larger oak. This stand should technically be selectively logged in the future; however, stocking is only 50 sq. ft. of basal area/acre which is understocked for this type of woodland (ideally 65 to 70 sq. ft./acre for pure red oak and approximately 80 sq. ft./acre for northern hardwoods). Volumes currently are 5.4 cords of pulpwood and 860 board feet of sawtimber per acre. This is poor quality material. The oak is highly defective (short boles, crooked stems, heart rot). The cherry is also very crooked. This 1.2-acre tract should be left alone and kept for wildlife use. The tract is too small to be commercially harvested in the foreseeable future.

None of the plant species on the fishery area are known to be endangered or threatened. Observations will continue to be made during visits to the area by trained personnel. If endangered or threatened species are found, the District Endangered and Non-game Species Coordinator will be contacted for advice and future management recommendations.



HAY CREEK FISHERY AREA

Figure 4. General Cover Map.

LEGEND

Water Resources:

The fishery area is longitudinally bisected by Hay Creek and Creeks 36-6 (T30N, R10W), and 32-3 (T30N, R9W). Hay Creek has a length of 6.0 miles and covers 5.8 surface acres, all which lie within the fishery area boundary (Table 2). The water is cool, borderline hard water (MPA=44ppm), slightly acidic and clear in color. A considerable amount of erosion has occurred in the Hay Creek watershed due to the unstable sandy loam soil. Several areas utilized by livestock have acted as a pollution source in the past. However, organic waste has been cut to a minimum since the construction of cattle crossings in state-controlled easement areas.

Creek 36-6 (T30N, R10W), is considered a Class I brook trout stream and enters Hay Creek at the northwest end. It is 1.03 mile long, has an average width of 5 feet and an average depth of 2.5 inches. The entire stream is part of a 3.15 square mile watershed. The water is clear, cold, soft, and slightly acidic. Unlike Hay Creek, the bottom is sand and rubble, with 30% silt in some areas. There is some erosion that has been promoted by livestock using the area. Creek 36-6 contains a high density of caddisflies, stoneflies, mayflies and Gammarus. Creek 26-16 is a major hardwater feeder of Creek 36-6 and enters from the northwest. It is a Class I brook trout stream and extends for 0.64 mile within the boundary while averaging 2 feet in width and 1 inch in depth.

Creek 32-3, T30N, R9W, enters Hay Creek on its lower end from the northwest. Of the 1.4 mile of stream length, 0.53 mile is within the project boundary. Creek 32-3 is a Class I brook and brown trout stream. It has an average width of 3.5 feet and an average depth of 2.5 inches. The stream drains a 1.4 square mile agricultural watershed. The water is clear, cool, soft and neutral.

Combined, Hay Creek (Figure 4) and its feeders total 8.2 miles of trout water within the fishery area (Table 2). Of this amount, 2.2 miles are Class I and 6.0 miles are Class II trout waters.

A number of other streams without names or numbers are shown flowing directly into the fishery area on Figure 4. All are intermittent streams that do not contribute spring water to Hay Creek or the feeders.

TABLE 2 - Streams Within the Hay Creek Fishery Area, Chippewa County

Name	Length (Miles)	Classification
Hay Creek	6.00	Class II
Creek 36-6, T30N, R10W	1.03	Class I
Creek 32-3, T30N, R9W	0.53	Class I
Creek 26-16, T30N, R9W	0.64	Class I
TOTAL	8.20	

Historical and Archaeological Features:

There are no known historical or archaeological features on the state-controlled land, or the private lands within the project boundary, because no systematic survey has been completed. Prior to any operations in which soils or buildings are removed, the State Historical Society will be consulted.

Ownership:

A total of 161.63 acres of land is controlled by the state with 26.87 acres purchased in fee title and 134.76 acres in perpetual easement. Eleven privately owned parcels remain to be acquired. At current values, the estimated 1981 cost for the 34.82 acres of additional land needed to complete the acreage goal is $19,345.

Current Use:

The Hay Creek Fishery Area is used primarily by anglers. Limited creel census statistics indicate an estimated 200 trips/acre of water/year of fisherman use. Trappers, bird watchers, swimmers, hikers, and hunters presently account for approximately 150 participant days of other recreational uses, well below annual objectives.

Land Use Potential:

The uniform classification system of land uses has been used to designate the land use potentials of the Fishery Area (Figure 2). The entire area comprising Hay Creek and the adjacent feeder springs are classified as a Resource Development Fisheries and Wildlife Management Area (RD_2) and will be managed accordingly, as outlined previously in the recommended management and development program section of the master plan.

Analysis of the fishery area by qualified Scientific Areas Preservation Council personnel shows that no portion qualifies as a scientific, scenic or natural area.

RESOURCE MANAGEMENT PROBLEMS

Private Ownership:

Public use is insured within the 10 rod eased areas along the stream thread, but state control is divided seven times by private ownership totalling approximately 35 acres, which are posted prohibiting public use.

Loss of Lands to Other Uses

There are 22 private farms and 10 private homes within the fishery area. No development has taken place to date near public easement locations. The soil type is mostly suited to agriculture and future developments such as housing subdivisions will be at a minimum within the project boundary. Timber and wildlife areas within the boundary have been lost to agriculture and other uses.

Siltation:

While the water quality of Hay Creek is good, and the water fertility is borderline hard and moderately productive, the bottom is primarily shifting sand and loam which is relatively unstable for aquatic plants and invertebrate production. Streambank brushing to increase light penetration and promote aquatic plant growth, and installation of deflectors for narrowing and deepening the channel on lands acquired should help to alleviate these problems.

Erosion:

The soil of the fishery area, especially sandy loams, promotes a considerable amount of erosion in the Hay Creek watershed. Such management practices as riprapping, sloping, sodding and seeding have been applied to the banks adjacent to the stream. Where cattle cause erosion and pollution problems, additional fencing and crossings may be necessary. Good land use practices should be promoted throughout the watershed to protect the main stream and headwaters areas, which serve as important aquifers and trout spawning areas. They are beneficial in retarding the rate of runoff, in the storage of water for equalized flow, and act as purifiers trapping sediments. These areas are subject to damage without protection. Once the organic topsoil is compacted by cattle, their ability to store water is reduced significantly.

RECREATION NEEDS AND JUSTIFICATION

Today's recreation is viewed as an integral part of our lives. The society in which we live has developed technologically to the point where long working hours and vigorous physical labor have become the exception rather than the rule for most people. As a result, there is a need for various forms of outdoor activities to fill our increasingly longer leisure hours.

The population distribution in Chippewa County is currently shifting. While the villages and cities marked a 6.35% population increase from 1977-1980, the townships not in the urban area noted a 4.06% decrease in population. Population distributions in the future indicate that the shift to the incorporated communities will continue at a fairly rapid pace. In the 20-year period from 1980-2000 it is projected that the urban villages and cities will increase 73.81% while the townships not in the urban area will increase at 7.13%.

The impact of this shift in population distribution will have a significant affect on the educational and recreational resources of the county. In general, rural people create less impact on the recreational resources as they tend to use their own property for recreational activities. On the other hand, the people living in the cities, villages (and urban areas) do not have access to large open spaces as rural people do. Consequently, recreational areas must be provided for them. As the population distribution becomes more oriented toward cities, villages (and urban areas), more public recreational and educational areas will have to be provided by various units of government.

The Hay Creek Fishery Area is within a half-hour drive of Chippewa Falls and Eau Claire. These two cities will have an estimated combined population of 75,729 by 1990. Since these cities are exprected to grow rapidly in the future, higher demands will be placed on recreation facilities such as the Hay Creek Fishery Area.

Fishing

Surface water resources (450 lakes and 61 named streams comprising 21,037 surface acres) in Chippewa county provide ample fishing opportunities. Only 45 of the 183 named lakes do not have populations of game fish. Trout fishing is excellent in the county on streams managed for this purpose. Twenty-one streams extending 74 miles are designated as trout water.

A total of 11,148 fishing and 4,453 sportsmen's licenses were sold in the county in 1979. An additional 4,958 of these licenses were purchased by non-residents, an indication that the county's fishing resource attracts many tourists in the area, particularly from the Twin Cities, Minnesota, area with its population of 1.5 million people. A total of 1,871 trout stamps were sold in Chippewa County in 1979. Fishing supply, demand and needs estimates indicate the improvement and development of existing fishery facilities is currently more important than the development of new waters. Protection of fishery habitat and availability of access should be priority management goals to meet the anticipated 15% increase in the number of recreation outings by 1990.

Wildlife

Approximately 2,300 acres of land are designated specifically as public hunting grounds in the county. The concept of multiple use incorporated into the management of the 32,000-acre Chippewa County Forest allows for the propagation and harvest of big and small game species and waterfowl. An active timber harvest program has proven beneficial to wildlife.

In addition to public lands, there are over 3,700 acres of privately owned forest crop lands in small scattered tracts throughout the county. These lands, by state law, are open to public hunting. Despite large tracts of land available for public hunting, most hunting is done on privately owned land, with or without owner's permission. Pheasants, squirrel and rabbits are products of farm fields and woodlots. Farm woodlots are also popular for deer hunting.

The latest analysis of license sales reports (1979) indicates 15,477 residents purchased some type of hunting license. Hunting participation demand projections indicate the number of annual recreation occasions will increase from 155,649 in 1976 to 169,312 in 1990, an approximate 8% increase. In general, there is a large supply of hunting land in the county. The problem is to make it available for public use. Hunting will not be a major consumptive activity on the Hay Creek Fishery Area because land right purchased by perpetual easements do not include hunting.

During the past five years, Chippewa County has ranked among the top producing counties in the state in beaver and otter harvest, and future estimated trapping demands are expected to remain fairly stable. Trappers are territorial in their sport and one or two persons may be the only users of an area of the Hay Creek Fishery Area. Future easements of land within the project boundary will assure the protection of furbearer habitat.

Other Recreational Uses

Attractive physical features in Chippewa County form the background for a wide variety of recreational development and activities. The growing outdoor activities include water-based recreation, cross-country skiing, snowmobiling and nature study.

The Chippewa Moraine Ice Age National Scientific Reserve Unit will in the future offer day use recreational facilities, overlooks, hiking trails, boating and backpacking campsite facilities. Two other state parks, Brunet Island and Lake Wissota, are also located in Chippewa County. Brunet Island State Park is located 19 miles east of the City of Bloomer, just north of State Highway 64. Located adjacent to the Chippewa River, the park offers camping, boating, swimming, hiking and facilities/ Lake Wissota State Park is located 10 miles south of the McCann Creek Area, northeast of the City of Chippewa Falls on Lake Wissota. Camping (76 sites), boating, swimming, picnicking, hiking, interpretive, cross-country skiing and snowmobile facilities are available at the park. Sixteen other county and private campgrounds are located throughout the county, including Morris Erickson County Park just east of State Highway on Long Lake about six miles north of the McCann Creek Fishery Area. This park offers 30 campsites, boating and picnicking facilities.

The number of persons participating in nature study, bird watching, berry picking, and photography activities has not been determined accurately enough to generate adequate supply and demand data. However, it is known that these uses do occur and that the activities are increasing. Local FFA and sportsmen's clubs have expressed interest in the Hay Creek Area. The area is also utilized by the Bloomer Schools as a resource management demonstration area.

ANALYSIS OF ALTERNATIVES

Maintain the Status Quo:

One alternative is to do nothing and to leave the fishery area "as it now exists". This alternative would leave the property separated by seven parcels of privately owned land. Without development (streambank protection) of cattle crossings, flood gates, and fence lines, substantial amounts of organic matter could affect the water quality of the stream.

Streambanks would continue to erode and destroy potential valuable spawning sites and instream habitat. The stream would probably continue to function as a Class II trout stream because of high water quality, but would continue to produce far below its potential.

Acquire Remaining Properties:

For the most part, the present acquisition boundary is adequate. Acquisition by easements or fee title of remaining private parcels would insure the protection and guarantee public access to the entire stream thread. Protection of the upland headwater areas will be encouraged to insure flood control and water replenishment in the future.

Parking facilities are not planned at this time. Past experience indicates a heavy concentration of angling pressure occurs on streams adjacent to the parking lots.

Reduce the Fishery Area:

The fishery area size cannot be further reduced without affecting its quality. It could be reduced in scope by reducing the number of structures placed in the stream or limiting the work to riprapped bank protection only.

Combination of Alternatives:

It is possible to manage the stream and adjacent easements for improved water quality by stabilizing the streambanks and restricting livestock in areas where cattle may cause damage. Improving and creating instream cover will increase brown trout habitat and population biomass. Perpetual easement will guarantee public access now and in future generations. An increase in fishing pressure will also help to relieve some of the pressure concentrated on other trout streams in the area.

Appendix - Master Plan comments by Outside Reviewing Agencies

Comments regarding the 45-day review copy of the Hay Creek Fishery Area master plan were received from a number of outside reviewing agencies. Their comments and DNR responses,where appropriate, follow:

Thomas J. Evans, Head, Mineral Resources Section, Geological and Natural History Survey, Madison, WI.

The staff of the Geological and Natural History Survey has reviewed the Hay Creek Fishery Area Master Plan. The following comments are offered for your consideration:

P. 4, Soils, Geology and Hydrology

1. 2nd para.; insert "bedrock" before the word "topography" in line 1. Rephrase the 2nd clause of the 2nd sentence to read "...the last completely covered the county although it did not alter..." (This eliminates a technical error.)

2. 3rd para.; In line 1 change the word "glacier" to "glaciation"...it appears twice in this line.

P. 5

3. 2nd para.; Rephrase as follows: "Soils Survey interpretations provided by the Soil Conservation Service indicate an Onamia-Billett--Shiffer-Antigo soil association. Nearly all of these are moderately deep, well drained (except for the somewhat poorly drained Shiffer), level to sloping loamy soils underlain by sand or sand-gravel and are suited for growing farm crops, pasture, woodlands, and for wildlife. Where exposed near streams, these soils are susceptible to severe erosion."

Thank you for the opportunity to review and comment on this master plan.

DNR response: All revisions suggested have been made.

Forest Stearns, Chairman, Scientific Areas Preservation Council:

We have reviewed the Hay Creek Fishery Area concept master plan and anticipate no conflicts with our program objectives since our inventories have not located any natural areas or potential scientific areas within the project boundaries.

James Dahl, Chairman, Chippewa County Conservation Congress, New Auburn, WI 54757:

Would like to see additional acquisition of lands to protect the headwaters watershed and streambanks. Added instream cover would be an asset.

DNR response: Agreed. However, there are limitations on the amount of acreage that can be acquired.

James C. Gritman, Acting Regional Director, Fish and Wildlife Service, Twin Cities, Mn. 55111:

After our review of the master plan, there appears to be very little from a fishery resources Fish and Wildlife Service standpoint that merits severe criticism. The concept elements of this Area Master Plan seem well substantiated and should prove to be an acceptable preliminary to the final planning exercise.

Henry W. Kolka, Chairperson, Wild Resources Advisory Council:

The Wild Resources Advisory Council wishes to congratulate the Hay Creek Fishery Area Master Plan Concept Element Task Force of Douglas Erickson, Rolland Nesbit, Brian Marinello and Norman Pazderski for the realistic analysis and their management proposals for the project area. This is an excellent document for a fishery program that is being continually harassed by noncompatable types of land use.

The Wild Resources Advisory Council feels that the property task force, and especially Douglas Erickson, should be given considerable credit for resurrecting a rapidly deteriorating stream to moderate degree of respectability. Of all the cold water stream patterns in the state, the most difficult and often the most discouraging to rehabilitate are those that flow through intensively managed farming areas. A resource person who can restore the stream to the level where fisherman and other visitors can enjoy the enhanced environment is doing the citizens of this state a great service. Another demonstration of a principle, encouraged by WRAC in fisheries review, that a trout stream enmeshed with settlement problems, can reach top production levels only if the stream thread and a reasonable land corridor are managed simultaneously. The Hay Creek Fishery demonstrates this principle. In a tight land use situation where agriculture dominates the scene there are actually two choices,abandonment or corridor control. Hay Creek Fishery managers have chosen the latter course where over 80 percent of the stream control exists in perpetual easements, 10 rods wide on each bank. This type of land control concept is working in the project area for the benefit of the stream and streambank users and the farmers using the land beyond the corridor. The WRAC salutes the planners and managers.

DNR response: Thank you.

Comments and recommendations

1. page 1, Goals. The WRAC recommends that and educational be inserted between the words recreational and activities.

DNR response: Agreed. Addition made.

2. page 1, Annual Additional Benefits. Excellent perception of benefits to be derived. The Council has two questions. Item 1. Does the stream lend itself only to trapping of muskrat: Why not mink, otter and beaver? (Second questions refers to item 4). Very good and purposeful statement. However, where in the list of objectives do you set as a management technique in instream and offstream environment manipulation?

DNR response: Trapping is limited to muskrats because other species are not present. The goals and objectives do not specify instream and offstream environmental manipulation because that is not an intent. The additional benefit cited is to acknowledge that lands in state control often have better streambank control and less erosion than when the land is farmed.

3. page 1, Recommended Management and Development Program. This segment of concept elements excellently postulated and is professionally sound, in the eyes of WRAC. The Council is especially interested in the reference in the last paragraph to "edge sites adjacent to the stream thread." In the humble opinion of the chairperson of the WRAC these stream edge sites are one of the richest habitats for invertebrate communities sun loving plants and diversity of vertebrate species. As a boy and a man, I have always enjoyed these environmental patterns. The Council hopes that this reference to "stream edge" sites is not the one and only time it receives viable visibility. Definitely, more overall research of the ecosystem is needed.

4. pages 3, 4, 7, Charts Figs. 2, 3 and 4. The charts are excellent. The legends are appropriate and readable on the maps. There is a good association between the text and charts. In reference to management of the corridor in Figure 3, the Council does not agree that RD_2 criteria for wildlife management is appropriate for "stream edge" management.

DNR response: Figure 3 does not show a corridor. It shows the proposed management of the only land acquired on the fishery area - via 4-10 rod wide strips in perpetual easement. The Task Force and Scientific Areas Preservation Council agrees that no restrictive land uses are necessary and that it should be designated as a fish and wildlife management area (RD_2). Any stream edge management would relate to fish or wildlife management.

5. Section II, Support Data, pages 4, 5, 6 and 7. On the whole the sub-titles under Section II are adequate and well presented.

6. page 5, Fish and Wildlife, paragraph 3. Paragraphs 1 and 2 for fish and mammals are very adequate. However, paragraph 3 does not follow the pattern of the first two. Why not list the common avian species and also the known reptiles and amphibians in the stream corridor?

DNR response: There are not that many species of game birds within the narrow perpetual easement lands in the fishery area boundary. All game fish and wildlife known to exist on the perpetual easement lands are listed. Other species, not of major importance are not listed.

7. page 6, second paragraph after Table 1. I am sure this is a lumping error. I doubt that dead elms would interest the porcupines.

DNR response: True. Correction made.

8. page 11, last paragraph under heading of Vegetation.

a. First paragraph. Excellent statement. The assessment of current society needs is terrific. The Council endorses it.

b. WRAC urges that the following insertions be made:
Paragraph 3, first sentence and educational between the words recreational and resources.
Paragraph 4, last sentence and education between words recreation and facilities.

DNR response: Agreed. Additions made.

10. Other Recreational Uses, page 10. WRAC considers both paragraphs exceptional in analysis and intent. We commend the Task Force in their projection and wisdom.

11. page 10, Analysis of Alternatives. The WRAC endorses two proposals under the above heading and recommends them for NRB approval; Acquire Remaining Properties and Combination of Alternatives. The Council again wishes to acknowledge the wisdom and excellence of the Hay Creek Fishery Area Task Force's plans, analysis and proposals in the Concept Element.

MAR 11 1981

CORRESPONDENCE/MEMORANDUM

STATE OF WISCONSIN

Date: March 9, 1981 *File Ref:* 3600

To: Files

From: Doug Erickson

Subject: Hay Creek Master Plan Meeting

A public information meeting on the conceptual phase of the Hay Creek Master Plan, Chippewa County, was held March 2, 1981. Seven people attended the meeting along with Gerald Jackelen and author.

The master plan concept was presented as well as the project history, past and current management, goals and objectives, and recommended management and development.

The plan was generally well received. Comments that arose were mostly personal property concerns, i.e. the public parking on private property, problems with a machinery crossing, etc.

A suggestion was made to have road shoulders widened to allow for fisherman parking near bridges and also to permit farm equipment clearance when using public roadways.

DE/ab

CC - Bert Apelgren
Geoff Emerson
J. Lissack
G. Jackelen
Bureau of Fish Management

(For All DNR Type II Actions, Except Regulatory)
FORM 1600-2
REV. 1-78

DEPARTMENT OF NATURAL RESOURCES

DISTRICT OR BUREAU
West Central District
DNR NUMBER
#269

ENVIRONMENTAL IMPACT ASSESSMENT SCREENING WORKSHEET
(Attach additional sheets if necessary)

Title of Proposal: Hay Creek Master Plan

Location: County Chippewa
Township 30N North, Range 9 ~~East~~, West
Section(s) 31, 32, 33
Political Town Woodmohr, Cooks Valley

Also: T30N, R10W
Sec.'s 25,26,34,35

Project:

1) General Description (overview)

The recommended management and development program for the Hay Creek Fishery Area is to continue acquisition of lands either by fee title or perpetual easement until the acreage goal is met, and to develop acquired parcels as they become available.

To date, all but 35 acres on 11 tracts have been acquired of the 196.45 acreage goal. Efforts will continue to acquire 10 rods on each bank along the remaining private lands which will require an increased acreage goal of 73.18 acres and a total revised acreage goal of 269.63 acres. The estimated 1981 cost of acquisition is $60,000.00.

Habitat management has been completed on all stream sections acquired, with the last work being done in 1978 and including installation of boom covers, wing deflectors, rip-rap, cattle crossings, flood gates, brushing, fencing and fence maintenance. Where necessary, similar management techniques will be applied to lands acquired by fee title or perpetual easement.

Because the fishery area consists primarily of perpetual easements 10 rods wide on both banks of the stream, management for wildlife and forestry is extremely limited. The edge effect along fences can be helpful to wildlife. Wood duck houses will be added by sportsmen's groups where recommended.

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

The Hay Creek Fishery Area receives moderately heavy fishing pressure, has good water quality, and requires intensive management programs to maintain and protect the fishery. It is located near three of the largest population centers in West Central Wisconsin, Eau Claire, Menomonie and Chippewa Falls.

Statutory Authority: Wisconsin Statutes 23.09 and 30.12, Chapter NR 80 of the Wisconsin Administrative Code.

Estimated Project Costs: Projected total acquisition cost is $60,000.00 with an average annual increase of 15%; streambank fencing as needed $6,000 per mile; cattle crossings as needed $1,000 per mile; instream habitat improvement - $32,000 per mile; land maintenance - $75 per mile annually.

EXISTING ENVIRONMENT

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

Hay Creek drains a predominately sandy loam watershed that comprises a 14.10 square mile area. Topography of the area is characterized as rolling prairies with the hilly features common to sandstone outcrops. It has a well developed drainage pattern and few swamps.

Within the fishery area, the meandering stream has an average width of 8 feet and an average depth of .8 feet. The stream gradient of 9 feet per mile is not sufficient enough to prevent sand and silt deposition. The water source is provided by a combination of springs, groundwater seepage from upland headwaters, and watershed runoff. The base flow is 10 c.f.s. with a slight suspended silt load. The average annual flood crest is approximately 4 feet. The waters of Hay Creek are slightly acidic with a pH of 6.8 and have a total alkalinity of 44.0 p.p.m. indicating borderline hard water. Hay Creek is considered navigable.

2) Biological

a) Flora

Aquatic vegetation can be described as scarce, although it would include such species as: bur-reed (Sparganium sp.), water starwort (Callitriche sp.), arrowhead (Saggittaria sp.), pondweeds (Potamogeton sp.), and duckweed (Lemna sp.). Most of the area adjacent to the stream and tributaries have shrub marsh vegetation. The major species being tag alder and reed canary grass.

b) Fauna

The Hay Creek Fishery Area offers a diversified fishery. Although eighteen different species of fish inhabit the stream and tributaries, only brown and brook trout are sought by anglers. A variety of birds inhabit the project area both on a seasonal and permanent basis. White-tailed deer and cottontail rabbits, ruffed grouse, pheasant, squirrels, skunk and fox are present. Muskrat, beaver, mink and weasels are the most common fur-bearers. The area also provides habitat for woodcock and wood ducks, with mallards and blue-winged teal frequently using the area for brood rearing.

3) Social

Hay Creek is a major trout stream in the area and sustains moderate use by anglers from Eau Claire, Menomonie, and Chippewa Falls, all of which are within a one-hour drive. Limited creel census data indicates an estimated

annual use of 200 man hours/acre of fisherman use. Hunters and trappers, photographers, nature hikers, birdwatchers, and berry pickers account for 150 man-days.

4) Economic

With an increase in fishing potential, the project would help stimulate the local economy. Area bait shops, service stations, taverns, and restaurants would experience some increase in patronage. Habitat improvement would provide seasonal employment for four persons on an LTE basis. This project itself will generate income for suppliers of materials and will likely prevent some erosion and the associated loss of valuable topsoil from fertile farm land.

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

There are no known historical or archaeological features on the state-controlled land, or the private lands within the project boundary, because no systematic survey has been completed. Prior to any operations in which soils or buildings are removed, the State Historical Society will be consulted.

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

1) Physical Impacts

The beneficial physical impacts include supplemental instream cover, increased water velocity, and a deeper channel. Beneficial impacts will be noticed immediately after any brushing and structure installation. Brushing will result in a flushing action eliminating silt and organic debris. Covered gravel beds will be cleared of silt. The channel will deepen and the flow will increase. Stream side grasses will arch into the stream providing cover for all aquatic organisms. Wing deflectors and boom covers will have much the same effect.

Adverse physical impacts will be minor. There will be a temporary disruption of the stream bed where structures are installed. Brushed areas may expose stream bank soil until a grass cover is established. A small erosion hazard will exist. A very small amount of herbicide may reach the stream during application. The concentration should be insignificant and have no effect on stream life. An additional erosion hazard from the scraping and compaction of soils resulting from heavy equipment operation during the boom cover placement will exist. Some vegetation will be removed during construction further increasing the erosion hazard.

Other probable adverse impacts that would result from management activities, e.g. surveys, should be negligible.

2) Biological Impacts

Beneficial biological impacts will strongly outweigh all expected adverse impacts. The removal of tag alders may have a minor adverse effect on woodcock and ruffed grouse. The acreages involved, however, would be small compared to the large adjacent amount of this habitat type which would remain untouched. The tag alders would be replaced by reed canary grass and this in conjunction with the brush piles would provide escape cover and brood cover. There will be an increase in sunlight reaching the stream. This will stimulate plant growth providing cover and a substrate for invertebrate life.

The increased food supply will also result from the installation of wing dams and boom covers. The rocks used in construction will increase substrate for invertebrates. These structures, however, will primarily provide additional trout cover.

Increased flow will eliminate silt and debris from the stream bottom. This will expose gravel areas that may be used for spawning. An additional artificial spawning area will be developed.

Adverse biological impacts resulting from the placement of structures will be a temporary disruption of the stream bed and stream bank. Both flora and fauna will be affected for a short time, but not significantly.

The plantings of spruce, pine and shrubs will increase wildlife cover and food resources. No adverse impacts are expected from this project. Selective cuttings will be kept small as to limit any erosion hazard. These cuttings

will not occur on steep slopes. There will be an increase in young browse for deer. No adverse impact from cutting is expected.

3) Economic

Improvement in the trout fishery of Hay Creek may attract many anglers, but the effect on the local economy will be insignificant.

4) Social

There should be an improvement in the trout population which would provide a greater opportunity for recreational opportunities. Wildlife habitat will improve resulting in additional hunting activities.

PROBABLE ADVERSE IMPACTS THAT CANNOT BE AVOIDED

Habitat development projects will temporarily disturb the stream, stream bed and stream bank. Disturbance, however, will be limited. Brushing and post-treatment may result in a minor erosion hazard and minor discharge of the herbicide and sediment into the waterway. The effects should be inconsequential. Immediately following brushing and structure installation, a temporary decrease in trout numbers may be noticed. The heavy equipment used for instream deflectors and covers will disturb flora for one growing season. Re-seeding will follow if the area suffers to any extent.

The development of quality game and fish habitat may cause increased use. The Hay Creek Fishery Area will experience only minor adverse impacts resulting from increased use. Increased littering, vandalism and disturbance of flora and fauna will occur, but not to any major degree.

IRREVERSIBLE OR IRRETRIEVABLE COMMITMENTS OF RESOURCES

1) Energy

Gasoline and oil used in transporting people to and from the project area and that used in actual construction cannot be recovered.

2) Archaeological and historic features on site.

None will be affected.

3) Other

No irreversible management activities are planned for the area. Wing dams, boom covers, and wildlife plantings can be removed and/or replaced if necessary. Selective cuttings for wildlife and stream side brush is not irreversible, except on a temporary basis. Herbicide used to control regrowth of streambank vegetation would be irretrievable.

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.)

Maintain the Status Quo:

One alternative is to do nothing and to leave the project "as it now exists." This alternative would leave the property separated by seven parcels of privately owned land. Without development (streambank protection) of cattle crossings, flood gates and fence lines, substantial amounts of organic matter could affect the stream. Stream banks would continue to erode and destroy potential valuable spawning sites and instream habitat. The stream would probably continue to function as a Class II trout stream because of high water quality, but would continue to produce far below its potential.

Acquire Remaining Properties:

For the most part, the present acquisition boundary is adequate. Acquisition by fee title or easements of remaining private parcels would ensure the protection and guarantee public access to the entire stream thread. Consideration should be given to the upland headwater areas to ensure flood control and water replenishment in the future. Expansion of the project boundary is limited by adjacent tillable farmlands.

Parking facilities are not planned at this time. Past experiences indicates a heavy amount of angling pressure occurs on streams adjacent to the parking lots.

There is an optimum number of structures which can be placed instream to achieve the desired results. Increased placement of structures would give little or no increase in the carrying capacity of the stream as lack of habitat is only one of many factors limiting the number of trout a stream can hold.

Reduce the Fishery Area:

The fishery area size cannot be further reduced without affecting its quality. It could be reduced in scope by reducing the number of structures placed in the stream or limiting the work to riprapped bank protection only.

Combination of Alternatives:

It is possible to manage the stream and adjacent easements for improved water quality by stabilizing the stream banks and restricting livestock in areas where cattle may cause damage. Improving and creating instream cover will increase brown trout habitat and population biomass. Perpetual easement will guarantee public access now and in future generations. An increase in fishing pressure will also help to relieve some of the pressure concentrated on other trout streams in the area.

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)

None, other than those previously discussed.

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

The environmental effect will be to reduce erosion and create permanent habitats for fish, particularly brown trout.

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)

No

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

No, the Department of Natural Resources has been protecting and improving trout streams for several years.

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

Increased state purchase of land or land rights along the stream may be somewhat controversial, although the DNR has been actively purchasing lands in this area for 17 years.

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 other long-range agency plans are known at this time.

) 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)

It may significantly reduce erosion and increase stable fish habitats resulting in greater fish productivity.

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

No, it may provide greater protection for any of these features that may be found.

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

No, although not very feasible, this action could be reversed.

(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

LIST OF AGENCIES, GROUPS AND INDIVIDUALS CONTACTED REGARDING THE PROJECT

Include DNR Personnel and Title

Date	Contact	Comments
Jan. 22, 1980	William Tans	Scientific Area information included in plan
Jan. 24, 1980	Richard Dexter	Historic Society information included in plan
Jan. 7, 1980	Rollie Nesbit - DNR Wildlife Mgr.	Favorable to project - comments included in plan
Jan. 7, 1980	Brian Marinello - DNR Forester	Favorable to project - comments included in plan

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 . . . . . ☐

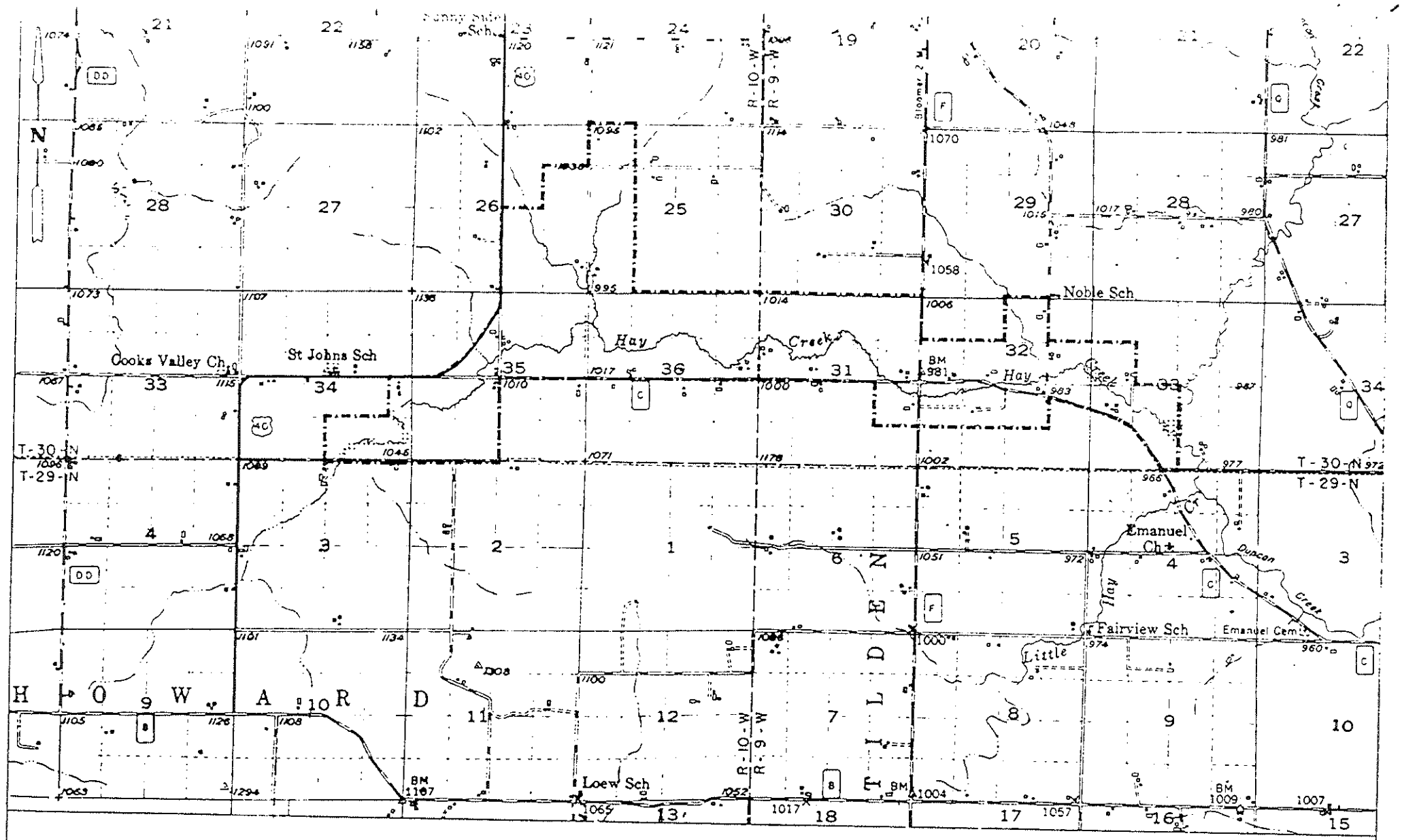
Additional factors, if any, affecting the evaluator's recommendation:

SIGNATURE OF EVALUATOR	DATE
Douglas E. Buckman, Jr.	12-10-80

CERTIFIED TO BE IN COMPLIANCE WITH WEPA	
DISTRICT OR BUREAU DIRECTOR (OR DESIGNEE)	DATE

APPROVED (if required by Manual Code)	
DIRECTOR, BEI	DATE

This decision is not final until approved by the appropriate Director and/or Director, BEI.



BOUNDARY APPROVED 10-8-74 DATE

ACREAGE GOAL 196.45 ACRES

PLANIMETERED AREA WITHIN BOUNDARY ____ ACRES

LEGEND

PROJECT BOUNDARY

STATE OWNED

STATE EASEMENT

2,000' 1,000' 0' 2,000'

SCALE

REVISED 3-26-80 G.T.

STATE OF WISCONSIN
DEPT OF NAT RESOURCES
BUREAU OF ENGINEERING

HAY CREEK
FISHERY AREA

DRAWN BY J. Kuehn DATE 11-11-74

APPROVED ENGINEERING | APPROVED REAL ESTATE | PROJECT NO. 1090

Hay Creek Master Plan Chippewa Co BEI

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Refer to Office of the Secretary . . . . . ☐

Major and Significant Action: Prepare EIS . . . . . ☐

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

No comments received 1/15/81 - [illegible]

SIGNATURE OF EVALUATOR	DATE
Douglas Erickson (DNS)	12/23/80

CERTIFIED TO BE IN COMPLIANCE WITH WEPA	
DISTRICT OR BUREAU DIRECTOR (OR DESIGNEE)	DATE
Carlton E [illegible]	1-15-81

APPROVED (if required by Manual Code)	
DIRECTOR, BEI	DATE

JAN 16 1981

This decision is not final until approved by the appropriate Director and/or Director, BEI.