

CORRESPONDENCE/MEMORANDUM

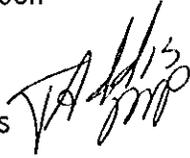
STATE OF WISCONSIN

Date: December 7, 1982

File Ref: 2100

To: James R. Huntoon

From: James T. Addis



RECEIVED

JAN 14 1983

BUREAU OF
REAL ESTATE

Subject: Kinnickinnic River Fishery Area, St. Croix County Master Plan.

The Kinnickinnic River Fishery Area, St. Croix County, master plan is being processed at this time for Secretary Besadny's approval and subsequent ratification by the Natural Resources Board.

The master plan recommends an increase in the acreage goal of 120 acres, which will be obtained from the Bolen Creek Fishery Area, Dunn County, acreage goal. If approved, the new acreage goal will be 420 acres.

An additional 6.0 acre remnant presently outside of the boundary is proposed to be added to the property by expanding the boundary, with that acreage to be subtracted from the acres yet to be acquired.

Four additional expansions of the boundary are also recommended in the master plan to include the headwaters portions of four major tributary streams totalling 2.5 miles.

Your approval of the master plan will be appreciated.

JTA:aep

cc - James Lissack - Eau Claire

✓ Ed Faber - RE/4

Ron Poff - FM/4

Vern Hacker - Oshkosh

CORRESPONDENCE/MEMORANDUM

STATE OF WISCONSIN

Date: September 3, 1982

File Ref: 2100

To: Persons Interested in Fisheries Area Planning

From: James T. Addis, Director, Bureau of Fish Management *JTA*

Subject: Master Plan Review - Kinnickinnic River Fishery Area

Attached for your review is a copy of the Concept Element of a Fisheries Area Master Plan drafted by a task force of Department of Natural Resources personnel of the various disciplines. I have also attached a master planning explanation sheet designed to assist you in understanding this process.

I would appreciate receiving any comments you may have relating to this plan. For your convenience, a comment form has been provided for your use during the 45-day review period. Please return them to me at Box 7921, Madison, WI 53707 no later than the deadline date shown on the form.

Comments received will be evaluated by the Department and incorporated into the final plan as appropriate. The final concept plan is presented to the Natural Resources Board for approval. Contact this office if you wish to obtain a copy of the final concept plan.

Thank you for your time and consideration.

VH:rel

Attach.

cc: Administrator, Division of Resource Management - 5
Director, Bureau of Planning - 5
Director, Bureau of Wildlife Management - 4
Director, Bureau of Parks & Recreation - 4
Director, Bureau of Forest Management - 4
Director, Bureau of Research - 4
Director, Bureau of Environmental Impact - 3
Director, Bureau of Legal Services - 5
Office of Endangered and Nongame Species - 4
Office of Planning and Analysis - 5
Department of Transportation, 4802 Sheboygan Ave., Madison, WI 53705 (2 copies)
U. S. Fish & Wildlife Service - Dan Bumgarner, Assistant Regional Director, Fisheries and Federal Assistance, Federal Building, Fort Snelling, Twin Cities, MN 55111
Intergovernmental Programs - 3
Office of Lands - 4
Bureau of Real Estate - 4
District Director
District Staff Specialist
District Env. Impact Coord.
Task Force
Extension Resource Agent
County Planning Office
Regional Planning Office
Wild Resources Advisory Council - Richard Lindberg - FOR/4
Scientific Areas Preservation Council - Forest Stearns, UW-Milwaukee, Department of Botany, 3203 N. Downer, Milwaukee, WI 53201
State Historical Society - Rick Dexter, Historic Preservation Division, 816 State St., Madison, WI 53705
Wisconsin State Geologist - 1815 University Ave., Madison, WI 53705
Wisconsin Conservation Congress - Francis W. Murphy, Chairman, Box 92, Portage WI 53901
Pertinent Conservation Congress Committee Members
Wisconsin Trout Unlimited - Ronald Ahner, Chairman, 6120 University Ave., Middleton, WI 53562

Department of Natural Resources

MASTER PLANNING

PURPOSE: To insure sound, long-range, comprehensive planning of all Department-owned lands, other lands within approved property boundaries, and state waters. The Plan should reflect the public interest in all ecologic, economic and social benefits that may be derived from a property consistent with its natural resources capabilities and the statutes under which it was acquired.

MANAGEMENT POLICY: The policy for the management of state fisheries areas is established in several Natural Resources Laws which read in part, as follows: Section 23.09 (2)(d)(3), Wis. Stats., provides legislative authority and direction for the acquisition and management of fisheries areas. The primary purpose as stated in this Statute is to provide "areas in which any citizen may hunt, trap or fish". Section 23.11 (1), Wis. Stats., provides for the general care, protection and supervision of state lands. Section 23.30, Wis. Stats., deals with the provisions of the outdoor recreation program.

In order to fulfill the statutory charge of providing public fishing and other outdoor activities on areas, the quality of their habitat must be maintained or developed. However, this is not to be construed as authority for exclusive single-purpose management of entire properties. Fish habitat needs and public fishing objectives shall receive major consideration in management planning for fisheries areas; however, wildlife, forestry, wild resource and outdoor recreation objectives will be accommodated when they are compatible and do not detract significantly from the primary objective.

STRUCTURE: The master planning process for DNR properties has two parts: A Concept Element and an Implementation Element.

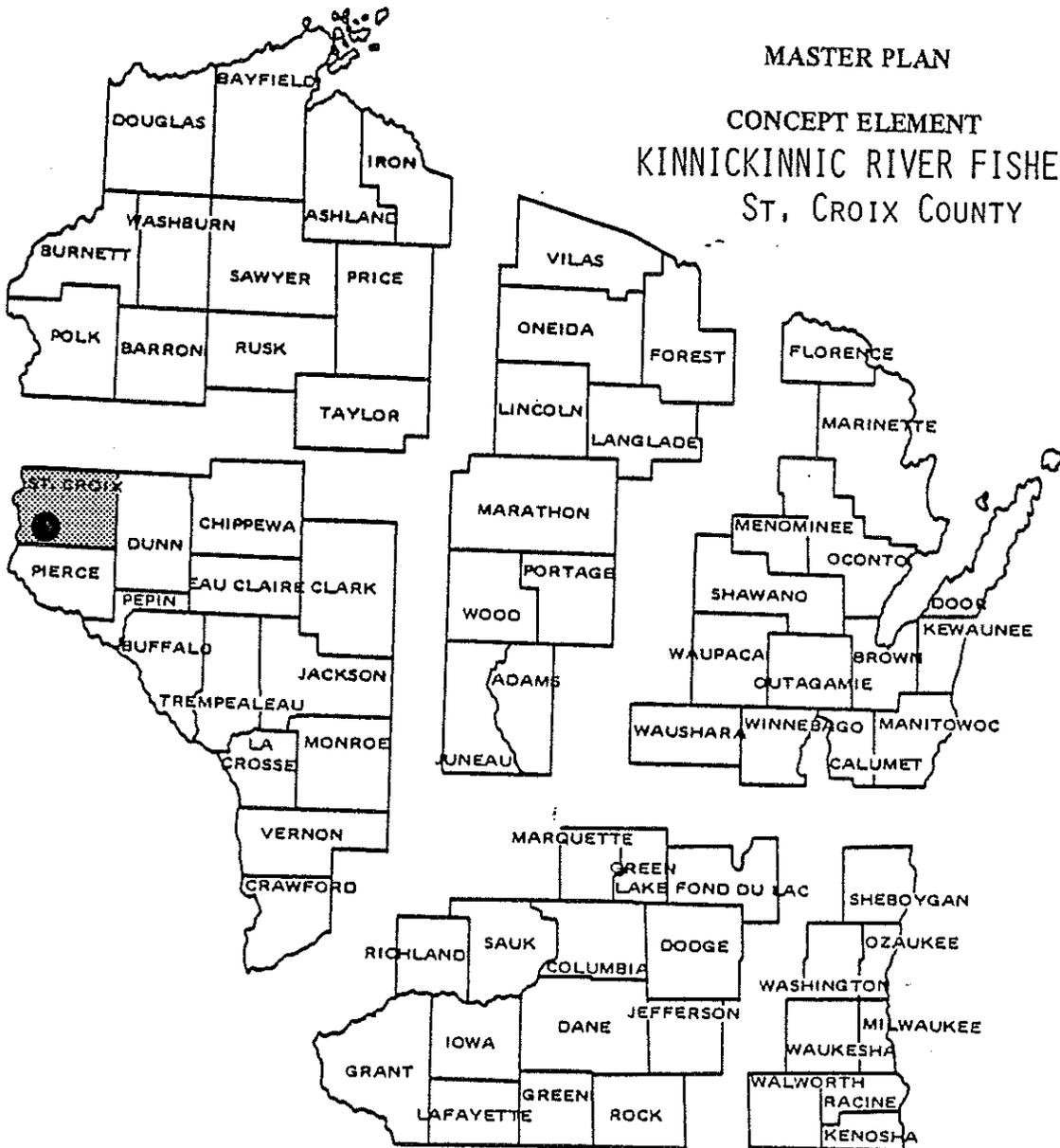
CONCEPT ELEMENT: The general document which discusses overriding concepts of management of a property. It includes a goal and objectives, recommend development actions and support information used in selecting the proper management techniques for a given property. It shows what ultimately can be accomplished and is not limited by budgetary constraints.

KEY CONCEPT PLAN SEGMENTS: The goal and objectives proposed for the property determines what contribution the property will make to Department programs. The goal is a broad, long-range statement of property purpose. The objectives are quantified property outputs which result from doing certain management activities over time in order to achieve the established goal.

ADDITIONAL BENEFITS: Benefits which occur but do not require specific management actions. These might include such activities as berry picking, hiking (not on trails), bird watching, nature study, etc.

IMPLEMENTATION ELEMENT: This element is processed following Natural Resources Board approval of the CONCEPT ELEMENT of the Master Plan. It is an internal document used by the Department to schedule and budget for acquisition, development and maintenance-operations categories. It includes the scheduling of each activity by fiscal year including cost estimates. District and Bureau Directors use the Implementation Element in formulating the budget and allocating funds.

MASTER PLAN
 CONCEPT ELEMENT
 KINNICKINNIC RIVER FISHERY AREA
 ST. CROIX COUNTY



Property Task Force

- Leader - Bert Apelgren - Fish Manager
 Bruce Moss - Wildlife Manager
 Eugene Ruetz - Forest Manager
 John Nesvold - Park Manager

Approved by Natural Resources Board

_____ Date

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SECTION I - ACTIONS

GOALS, ANNUAL OBJECTIVES AND ANNUAL ADDITIONAL BENEFITS

Goals:

To obtain land control, and to manage, preserve and protect the Kinnickinnic River Fishery Area; to enhance fishing and the production of stream trout and provide other recreational and educational activities.

Annual Objectives:

1. Provide opportunities for 4,800 angling trips to fish for brook and brown trout.
2. Maintain an annual spring (April) trout standing crop of 150 pounds of legal-size fish per acre.
3. Provide 250 participant days of hunting for waterfowl, ruffed grouse, pheasant, cottontail, gray and fox squirrels and 200 participant days of trapping for mink, fox, raccoon and skunk.

Annual Additional Benefits:

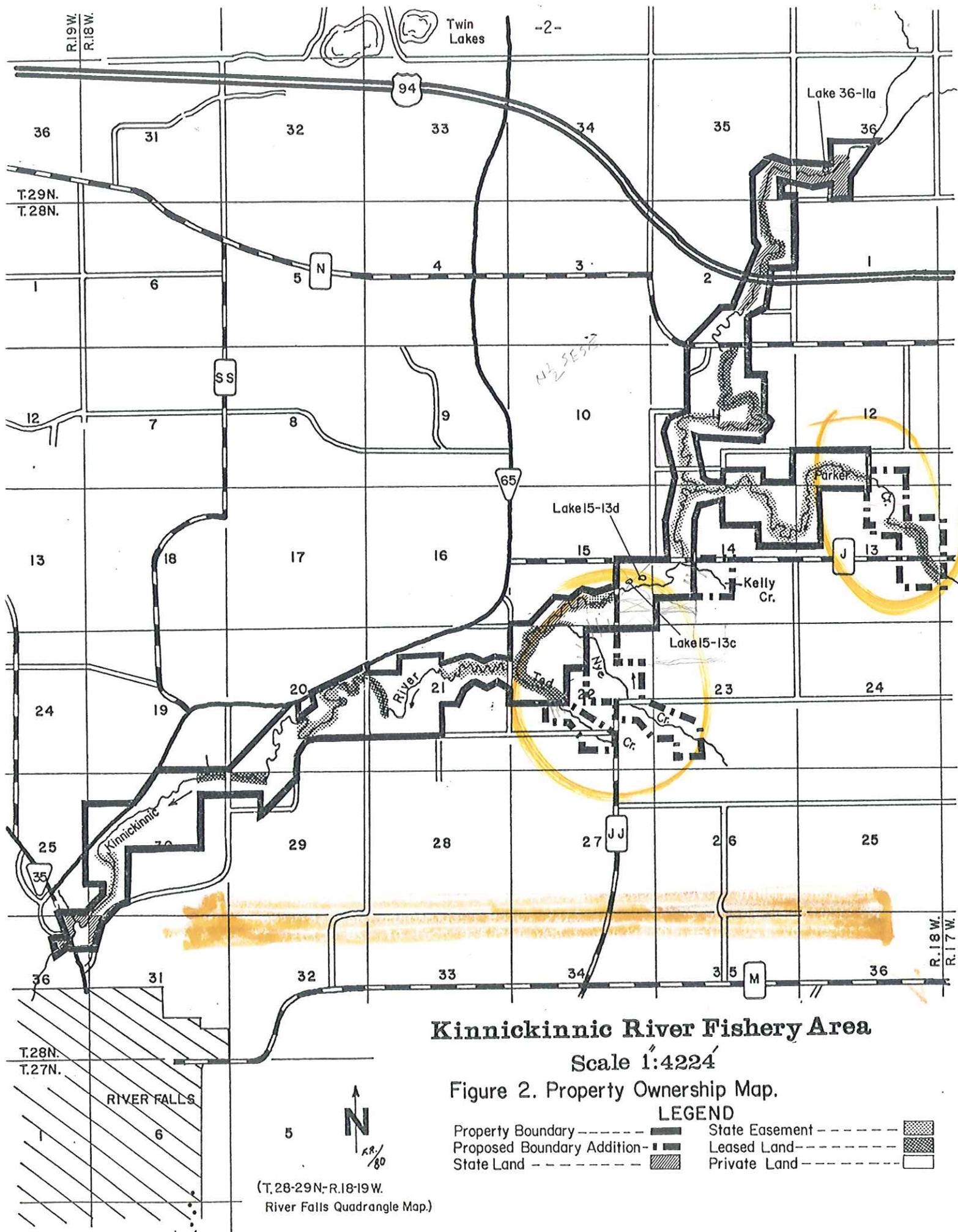
1. Provide 500 days annually of other recreational and educational activities including outdoor education, nature hiking, bird watching and photography.
2. Benefit nongame species native to the region, including endangered or threatened species that may occur, or migrate through the area.
3. Provide migratory and winter habitat for waterfowl.
4. Manage forest lands to allow an annual harvest of five cords of firewood.

RECOMMENDED MANAGEMENT AND DEVELOPMENT PROGRAM

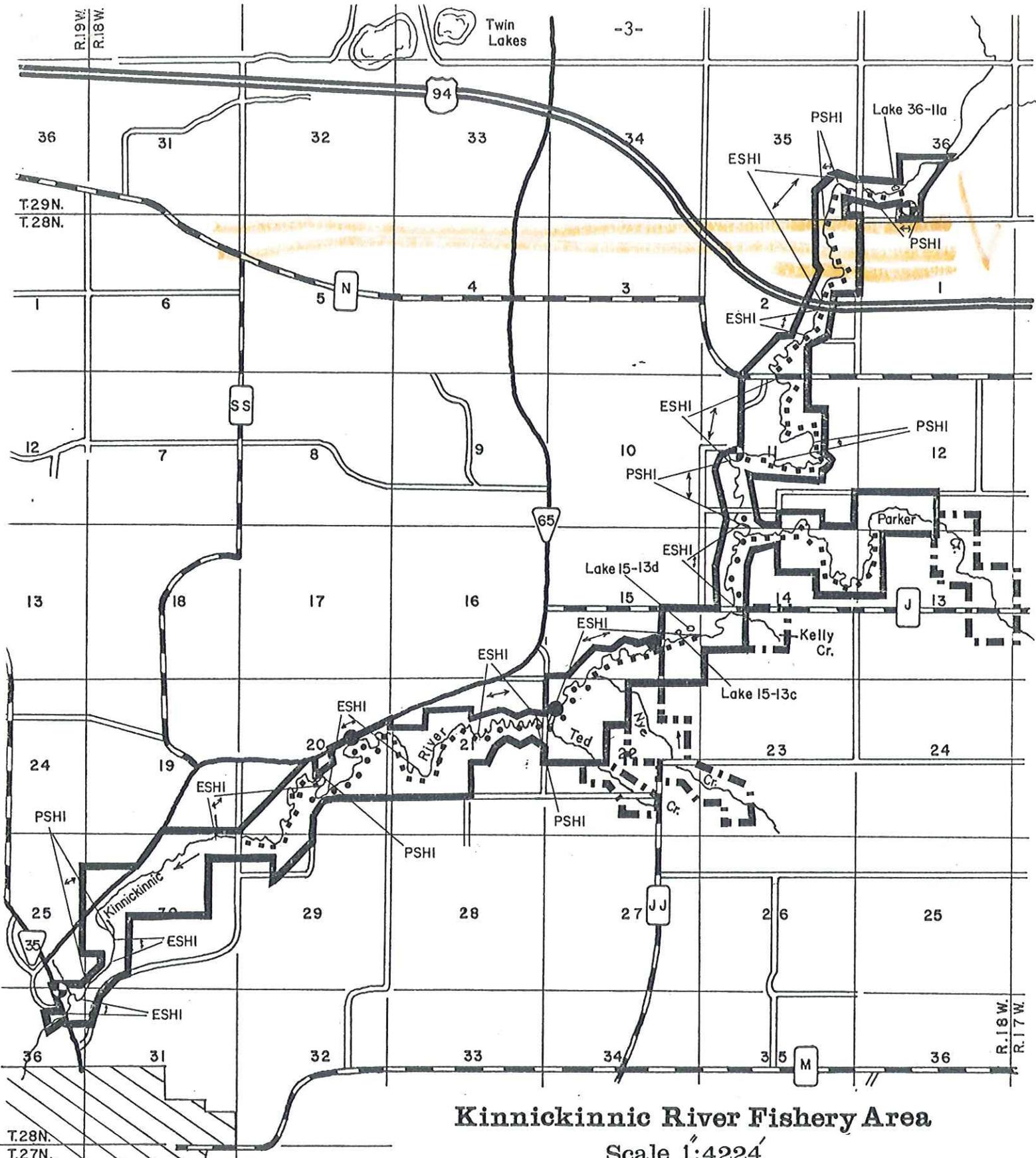
The recommended management program for the Kinnickinnic River Fishery Area, St. Croix County, will primarily be the maintenance and/or replacement of degraded existing trout habitat improvement structures, the removal of woody streambank vegetation and maintenance of fences. Additional instream trout habitat work is also planned. Such management of the stream and surrounding land is necessary to maintain or increase trout biomass and numbers, and to uphold or increase fishing opportunities.

The Kinnickinnic River Fishery Area (Figure 1) presently has an approval acreage goal of 300 acres. The task force recommends that this goal be expanded by 120 acres to create a new acreage goal of 420 acres, if approved.

✓ The task force also recommends expansion of the approved boundary to include the headwaters portions of four major tributary streams: 0.5 mile of Parker Creek, 0.3 mile of Kelly Creek, 1.1 miles of Nye Creek and 0.6 mile of Ted Creek. These lands, if acquired, will protect and enhance the trout fishery in the Kinnickinnic River.

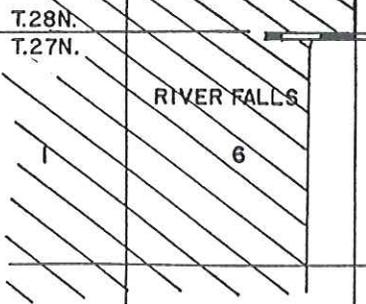


(T.28-29N-R.18-19W.
 River Falls Quadrangle Map.)



Kinnickinnic River Fishery Area
 Scale 1:4224'

Figure 3. Existing and Planned Development Map.



(T.28-29N.-R.18-19W.
 River Falls Quadrangle Map.)



LEGEND

- | | | | |
|------------------------|-------|---------------------------|----------|
| Property Boundary | ----- | Existing Stream Hab. Imp. | --- ESHI |
| Proposed Boundary Add. | ----- | Proposed Stream Hab. Imp. | --- PSHI |
| Existing Parking Area | ----- | Existing Brushed Area | ----- |
| Proposed Parking Area | ----- | Proposed Brushing Area | ----- |

The proposed expansion consists of private lands on nine parcels which border Class II trout waters. It is expected that nearly all of the acquisitions would be through perpetual easement, although fee title purchases would be made, if available. In general, the timetable for acquisition of lands within the boundary would be to purchase the properties from willing sellers as soon as they are available, and when funds are available.

If the proposed boundary expansion is approved, 6 acres of state-owned land previously acquired as a remnant on Parker Creek would also be transferred to the fishery area.

Therefore:

Present approved acreage goal	300.00 acres
Property acquired to date	225.04-acres
Acreage yet to be acquired	<u>74.96 acres</u>
Proposed increase in acreage goal	120.00 acres
Proposed new acreage to be acquired	<u>194.96 acres</u>
Proposed remnant transfer	6.00 acres
New revised acreage to be acquired	<u>188.96 acres</u>

The task force also recognizes that an increase in the property's acreage goal may be needed within the next ten year period to complete all land acquisitions necessary for adequate resource protection.

The initial trout habitat improvement needed within the proposed property expansion areas is streambank fencing. The streams within the proposed expanded boundary are all tributaries that flow through agricultural land.

Future trout habitat development and property management plans (Figure 3) in the existing fishery area in the next ten years call for the installation of 600 half logs, 600 feet of bank cover, 800 feet of bank revetment (rock), three parking lots, two cattle/machinery crossings, replacement or erection of DNR signs and 1.25 miles of fencing for newly acquired lands or old fence replacement.

Additional vegetation control in the form of selective streambank brushing will continue as necessary (Figure 3). Environmentally approved herbicides will be carefully used to curb undesirable streambank vegetation, primarily re-growth.

The forest resource in the fishery area is minimal due to the small amount of fee title land ownership (60.1 acres) by the State. The only relatively important resource is a pine plantation in the SW 1/4 of Section 36, Township 29 North, Range 18 West, and it will be thinned for large tree management as needed.

The remaining few acres of woodland found in State ownership in the fishery area will not be considered for forest management purposes other than salvage for firewood. The relatively narrow strips of lowland in State ownership bordering the Kinnickinnic River are covered with mostly undesirable tree species.

Wildlife management will focus primarily on the development and maintenance of upland game and nongame habitat. This will include the management and maintenance of small pine plantations, hardwoods and native brush species.

Waterfowl nesting improvements will be limited to the placement of wood duck nesting boxes. Boxes will be placed at six locations along the stream by DNR wildlife personnel. Local sportsmen's groups will donate the boxes. Some streambank grass areas may result from streambank brushing resulting in increased waterfowl nesting habitat.

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 and Nongame Species 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.

SECTION II - SUPPORT DATA

BACKGROUND INFORMATION

The Kinnickinnic River Fishery Area is located in the southwest part of St. Croix County (Figure 1), an intensive agricultural region. The Kinnickinnic River drains into Lake St. Croix on the St. Croix River and eventually the Mississippi River after leaving St. Croix County and flowing westerly through the northern part of Pierce County. The area's vegetative cover consists of lowland hardwoods near the stream banks and grassland, pasture and cultivated fields found usually on the higher ground. Some small pine stands are found interspersed among the other vegetative types in the area.

The Kinnickinnic River is one of the finest trout streams in the State of Wisconsin as determined by a comparison of other streams with the available standing crop of legal-size trout on a per mile basis. It is also recognized as one of the two most popular trout streams in St. Croix County and as the most valuable trout stream in the county. No fish stocking is needed to maintain its excellent trout population. The Kinnickinnic River Fishery Area is presently listed as a high priority property in the Comprehensive Implementation Plan for the Land Preservation Program.

The initial work done on the stream occurred when the River Falls Rod and Gun Club conducted stream improvement activities in the 1940's. It included an estimated expenditure of \$5,000 and several hundred volunteer man-hours. The last record of the club's involvement in stream improvement was in 1950 when it signed a cooperative stream habitat improvement program with the Wisconsin Conservation Department for an expenditure of \$200 and 50 man-days.

In 1950, the State became involved in an active management program for the Kinnickinnic River for the first time. It was undertaken on the stream under the title of the "Kinnickinnic River Watershed Stabilization Demonstration Project." The fish management division of the Wisconsin Conservation Department was responsible for implementing it. Many 20-year leases were obtained from landowners along the stream specifically to allow physical improvements to the river and public fishing. In the same year state installations of fences and instream structures was started with the work continuing on an intensive basis until 1957 at a total cost of \$140,230.

In 1957, the State of Wisconsin through the 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 (64 statutes 430 and 50 statutes 917) initiated a land acquisition program. The primary purpose was to insure public access to the waterway. In 1958, the original property boundary of the fishery area was approved with funding under the Dingell-Johnson Act for 12.7 miles of stream thread and an acreage goal of 1,042 acres. That number was changed on December 11, 1959, to the present goal of 300 acres. As of August, 1982, the State has acquired 60.14 acres of land in fee title and 164.9 acres in permanent conservation easement in the area at a cost of \$81,244.00. More importantly, with these acquisitions within the area, the State now controls about half of the Kinnickinnic River's length, and, at least part of all significant tributaries.

The State also holds 20-year leases for nine parcels in the present boundary totalling 71.4 acres and one 8.45 acre lease within the proposed expanded boundary. These leases expire between 1990 and 1994. No renewal options are included with the leases because they have been already exercised. Every effort will be made to replace the leases with conservation easements prior to 1994. The leases and easements both allow trout habitat improvement and fisherman access. Three of the easements also contain provisions for public hunting.

Management activities in the fishery area to date have focused primarily on instream improvements, streambank fencing, tree planting and woody vegetation (Figure 3). Most of the fencing and instream improvement work was undertaken in the 1950-1957 period, although some bank cover structures were installed in 1960's. Some 20-year old state fences were replaced in the early 1970's and woody vegetation control measures were undertaken along the Kinnickinnic River streambank beginning in 1973. The KIAP-TU-WISH Chapter of Trout Unlimited and the DNR have both been heavily involved in streambank woody vegetation (primarily brush) control activities since 1973. Evaluations of this work have shown definite improvement in brown trout populations in problem sectors of the Kinnickinnic River. One of the most recent improvement projects in the river involved the placement of 700 half-logs by the DNR and 120 half-logs by Trout Unlimited members during 1976 and 1977.

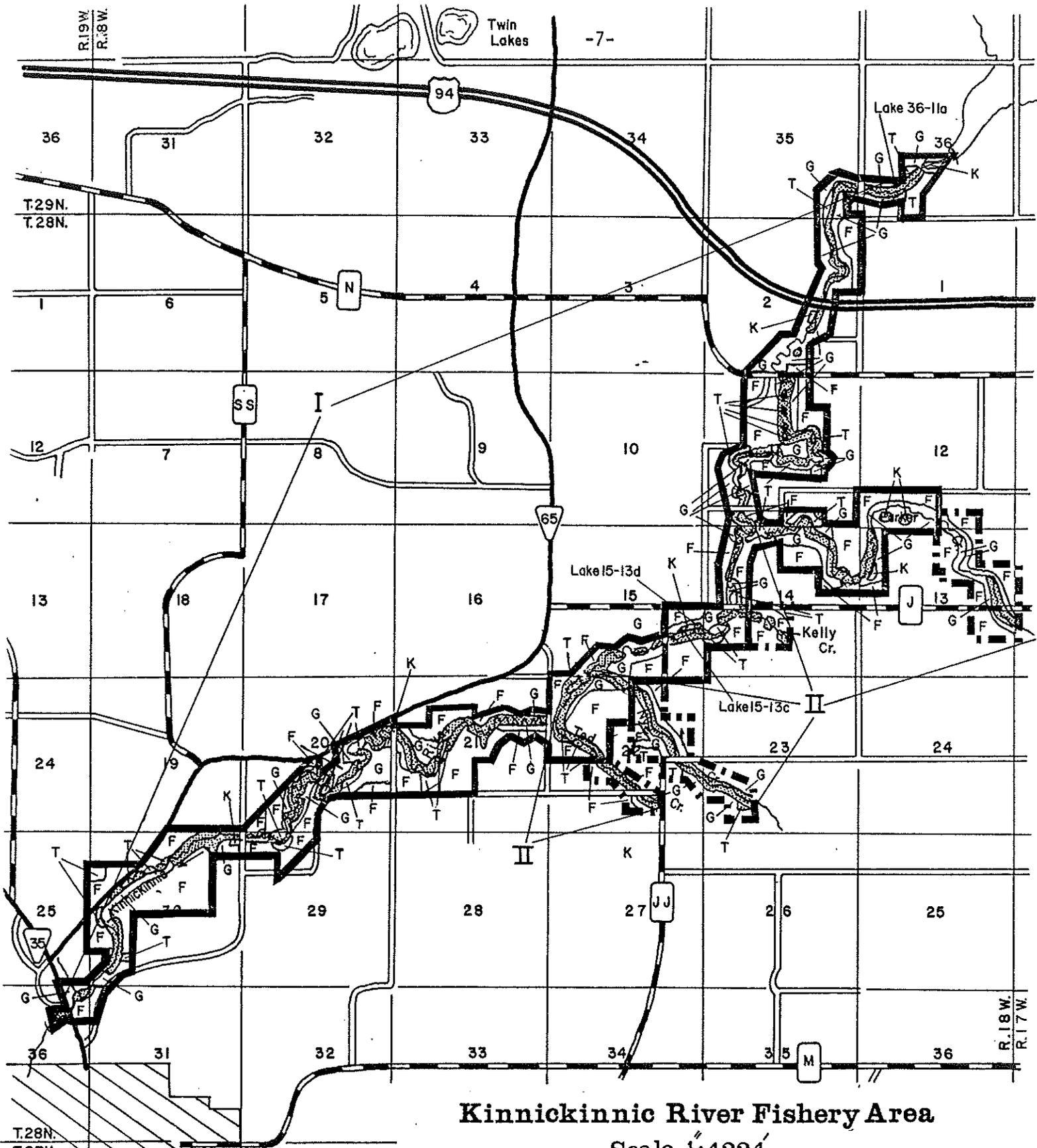
One management measure, fish stocking, is no longer used in the fishery area. The Kinnickinnic River maintains a good trout fishery through natural reproduction, and its tributaries contain native trout populations, although in smaller numbers.

Although dams are known to be generally detrimental to trout streams, the presence of two dams on the Kinnickinnic River downstream in the city of River Falls prevents the migration of undesirable fish species into the fishery area from the St. Croix River and Lake St. Croix.

RESOURCE CAPABILITIES AND INVENTORY

Soils, Geology and Hydrology

The landscape of the Kinnickinnic River Fishery Area consists of mild glacial drift underlain by dolomitic limestone, primarily of the Ordovician, Prairie du Chien group. Most of the land within the fishery area is level to gently sloping.



Kinnickinnic River Fishery Area

Scale 1:4224'

Figure 4. General Cover Map.

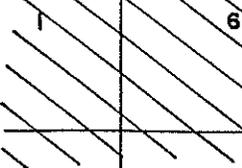
LEGEND

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|------------------------|-------|----------------------|-------|----|
| Property Boundary | ----- | Grassland | ----- | G |
| Proposed Boundary Add. | ----- | Farmland | ----- | F |
| Timber | ----- | Class I Trout Water | ----- | I |
| Brush | ----- | Class II Trout Water | ----- | II |
| Marsh | ----- | | | K |

(T.28-29N-R.18-19W.
River Falls Quadrangle Map.)

T.28N.
T.27N.

RIVER FALLS



R.18W.
R.17W.

Soil types are more influenced by the local variation of loess alluvial, thickness of drift and bedrock geology. The most important soil associations found in the area are Santiago-Jewel-Magnor, Vlasaty-Skyberg and Santiago-Otterhold-Arland. These soils are mostly well drained except for the medium textured soils on the till plains. Some of the soils within the named associations are easily erodable and good soil conservation practices are a necessity.

The annual precipitation in the Kinnickinnic River Fishery Area ranges from 30 to 32 inches a year. The heaviest precipitation events usually occur in the early summer, but the peak runoff dates are usually produced during the snow melt period of March and April. Approximately 21 inches of the total annual precipitation is lost to evaporation and the remainder to runoff and infiltration. Groundwater recharge varies throughout the basin.

High water stages are not uncommon in the fishery area. Parker Creek floods readily, and the Kinnickinnic River is known to overflow its banks each year. The Kinnickinnic River (in St. Croix County) has a total watershed area of 102.5 square miles and directly drains 81.3 square miles of surrounding land area.

Groundwater flow, runoff and direct channel precipitation contribute to the flow of the Kinnickinnic River and its tributaries. Runoff is a significant contributor to flow during the spring and fall when the soils are at, or near, saturation. Surface runoff can occur in the summer months, but the precipitation event must be heavy or result from moderate storms in succession.

Increased flow is also produced by summer storms of high intensity and brief duration in which no runoff occurs. The 41.2 surface acres of the Kinnickinnic River (and tributaries) can catch significant amounts of direct channel precipitation and significantly increase flow for relatively short periods of time. The large percentage of summer flow, however, is derived from the groundwater reservoir, and base flow readings of 38 cfs have been recorded on the Kinnickinnic River in August.

Fish and Wildlife

The fish species composition of the streams within the boundary is very characteristic of a coldwater fishery. Management is aimed specifically at brown and brook trout. Brown trout are the most abundant in waters of the fishery area. However, considerable numbers of brook trout are found in the Kinnickinnic River upstream from Interstate Highway I-94. Natural reproduction of trout is good to excellent and trout are naturally produced throughout the Kinnickinnic River and on limited sectors of its tributaries. Resource managers estimate standing crops of 14,000 legal size trout in the fishery area, with 5,600 trout being harvested annually by trout anglers. Electro-fishing surveys show that white suckers are common to abundant, with longnose dace next most abundant of the forage species. Others present are blacknose dace, emerald shiner, creek chubs, carp, burbot, American brook lamprey, stoneholler, fantail darter and brook stickelback.

Forage fish species are also found in three shallow ponds in the fishery area during certain years, depending on the severity of the preceding winter.

A variety of birds inhabit the Kinnickinnic River Valley both seasonally and permanently. Three surveys reported within the nearby Kinnickinnic State Park Master Plan found 47, 78, and 167 species of birds present in the area. Wildlife management will primarily benefit pheasant, ruffed grouse, mallards, wood ducks, and many songbird species. Some other bird species present include the barred owl, belted kingfisher, great blue heron and redwing blackbird.

According to the local wildlife manager numbers of mallards ranging from 300-2,000 utilize the upper three miles of the Kinnickinnic River during the winter as a feeding and resting area. The number of ducks over-wintering in the area is governed by the severity of the weather and hunting pressure during the latter part of the hunting season each fall. The ducks feed on watercress, Elodea, and possibly a few small trout, otherwise, their food is primarily obtained from nearby grain fields. Admittedly, duck wastes are released into the river, but they are relatively insignificant compared to domestic animal wastes reaching the stream from the 81.3 square miles of direct drainage to the fishery area.

The property is presently occupied by approximately 35 mammal species. Management will be directed at gray and fox squirrels, and cottontail rabbits, but will benefit many rodent and predator species. Mink, fox, muskrat, raccoon, and skunk will be benefited through wildlife and fishery practices. White-tailed deer are present.

Vegetative Cover

The Kinnickinnic River Fishery Area is characterized by lowland brush and swamp hardwoods in the alluvial plain and small acreages of idle grassland and northern hardwoods in the uplands. Most of the land surface in the fishery area is intensively cultivated or pastured. Although a forest reconnaissance has not been completed, the basic cover types and acreages have been described and are presented in Table 4 for the existing fishery area. The table does not include 41.2 acres of water surface within the fishery area.

Table 1 - Acres of Various Vegetation Types Within the Present Boundary of the Kinnickinnic River Fishery Area, St. Croix County.*

<u>Vegetation Types</u>	<u>Acreage</u>
Cultivated Fields	741.0
Pasture Land	268.0
Lowland Grass	167.0
Lowland Brush	373.0
Marsh	13.0
Residential	36.0
Bottomland Hardwood	111.5
Pine (red, white)	2.5
	<u>1,712.0</u>

*Data estimated from 1965 aerial photos

Present wildlife habitat conditions are favorable for upland game and non-game species. Development and maintenance of the forest and brush lands along the river will increase wildlife values. The fishery area traverses lands devoted almost entirely to agriculture and provides several miles of edge, plus valuable winter cover for many farmland species.

Endangered or Threatened Species

No endangered or threatened fish, amphibians, molluscs, mammals, birds, reptiles, or wild plants have been identified within the boundary of the fishery area except the bald eagle. Proper measures will continue to protect the species as much as possible.

Water Resources

The Kinnickinnic River is a clear, medium-sized, hardwater stream located in the southwest part of St. Croix County. It originates in St. Croix County and flows south and west into Pierce County where it eventually enters Lake St. Croix in the Kinnickinnic River State Park. A short distance downstream the St. Croix flows into the Mississippi River. The Kinnickinnic River (and its tributaries) within the fishery area have a surface area of 41.2 surface acres. Groundwater is the primary contributing source to all of the streams in the area. The tributaries in the fishery area have either Class I and Class II trout water (Figure 4 and Table 2). All of the Kinnickinnic River in the area is rated as Class I trout water. Short stretches of several unnamed intermittent streams are found in the area, and at times, may hold trout, depending on drought conditions.

Table 2a - Water Areas Within the Present Kinnickinnic River Fishery Area Boundary, St. Croix County.

<u>Name</u>	<u>Length in Miles</u>	<u>Trout Class</u>	<u>Surface Acres</u>
Kinnickinnic River	13.6	I	
Kelly Creek	0.1	II	
Nye Creek	0.2	II	
Parker Creek	2.1	I & II	
Ted Creek	0.3	II	
Lake 15-13d, T28N, R18W			2.1
Lake 15-13c, T28N, R18W			0.7
Lake 36-11a, T29N, R18W			0.6
Totals	<u>16.3</u>		<u>3.4</u>

Table 2b - Water Areas Within the Proposed Expanded Boundary of the Kinnickinnic River Fishery Area, St. Croix County

Name	Length in Miles	Trout Class
Kelly Creek	0.3	II
Nye Creek	1.1	II
Parker Creek	0.5	II
Ted Creek	0.6	II
Totals	2.5	

The reach of the Kinnickinnic River within the fishery area is characterized by moderate flow. Pool grade is classified as B. The stream bottom is mainly sand with lesser amounts of silt, gravel and rubble. Instream natural cover consists of aquatic vegetation (Elodea sp., Nasturtium sp., Ranunculus sp.) undercut banks, logs and trees. Installed boom covers, wing deflectors and half-logs have supplemented natural cover. Fishability ranges from fair to excellent.

Groundwater contributions are significant to all trout waters within the fishery area. Summer temperatures rarely exceed 64°F in all streams. Water quality in the trout waters of the area remain good despite the high intensity of agricultural activity within the watershed. The water is usually clear (except during high runoff periods) and fertile. Pollution sources are nonpoint. Fences (22.3 miles) have been constructed by the DNR along the trout waters to protect the streambanks from grazing. At this time, no serious pollution problems are known to exist that need immediate attention.

Three shallow ponds with 3.4 acres of surface area are found in the fishery area (Table 2 and Figure 2).

Historical and Archaeological Features

No buildings of historical, architectural or archaeological significance are known to be located on the area because the fishery area has never been surveyed. One pre-historic site, a burial mound, which has been destroyed, was previously identified in Section 36, Township 28 North, Range 19 West. It is entirely possible that other archaeological materials may be present within the fishery area. Accordingly, prior to any operations in which soils or buildings are moved, the State Historical Society will be contacted for advice and the significant sites protected.

Ownership

The present approved acreage goal is 300 acres of which the State has acquired 60.14 acres in fee title at a cost of \$17,384 and 160.9 acres in permanent conservation easements at a cost of \$63,860. One 6-acre easement area is controlled by the State in the area proposed for boundary expansion on the fishery area. The State leases 71.4 acres of land in the existing fishery area with 20-year public fishing leases and an additional 8.4 acres in the proposed boundary addition. Many leases have been phased out in past years through fee title or conservation easement purchases by the State.

Current Use

The Kinnickinnic River Fishery Area is heavily used by trout anglers at the present time, with lesser amounts of use by waterfowl hunters and trappers. Heavy use of the area by trout anglers (particularly early in the inland trout season) has been verified by fishing pressure transects run by DNR fish managers on the opening morning of the trout season. Since 1971, the number of angler's cars counted along the stream in a single transect has varied from 107 to 165 vehicles with an average of 141. This figure represents an average of about 352 fishermen on the Kinnickinnic River (and Parker Creek) at one time on the opening day of trout season. This pressure usually lasts only for the first two days of the season but remains moderate for the rest of the season. Future angler use of the fishery area is expected to remain heavy because of its close proximity to the nearby highly populated Twin City metropolitan area, and probable rising gasoline prices.-

It is estimated the number of visitor days to the fishery area for recreational and/or educational use ranks second to trout fishing. Waterfowl hunting (including upland game) and trapping visitations probably rank third and fourth. Wildlife managers indicate the latter uses are increasing rapidly in the area.

Land Use Potential

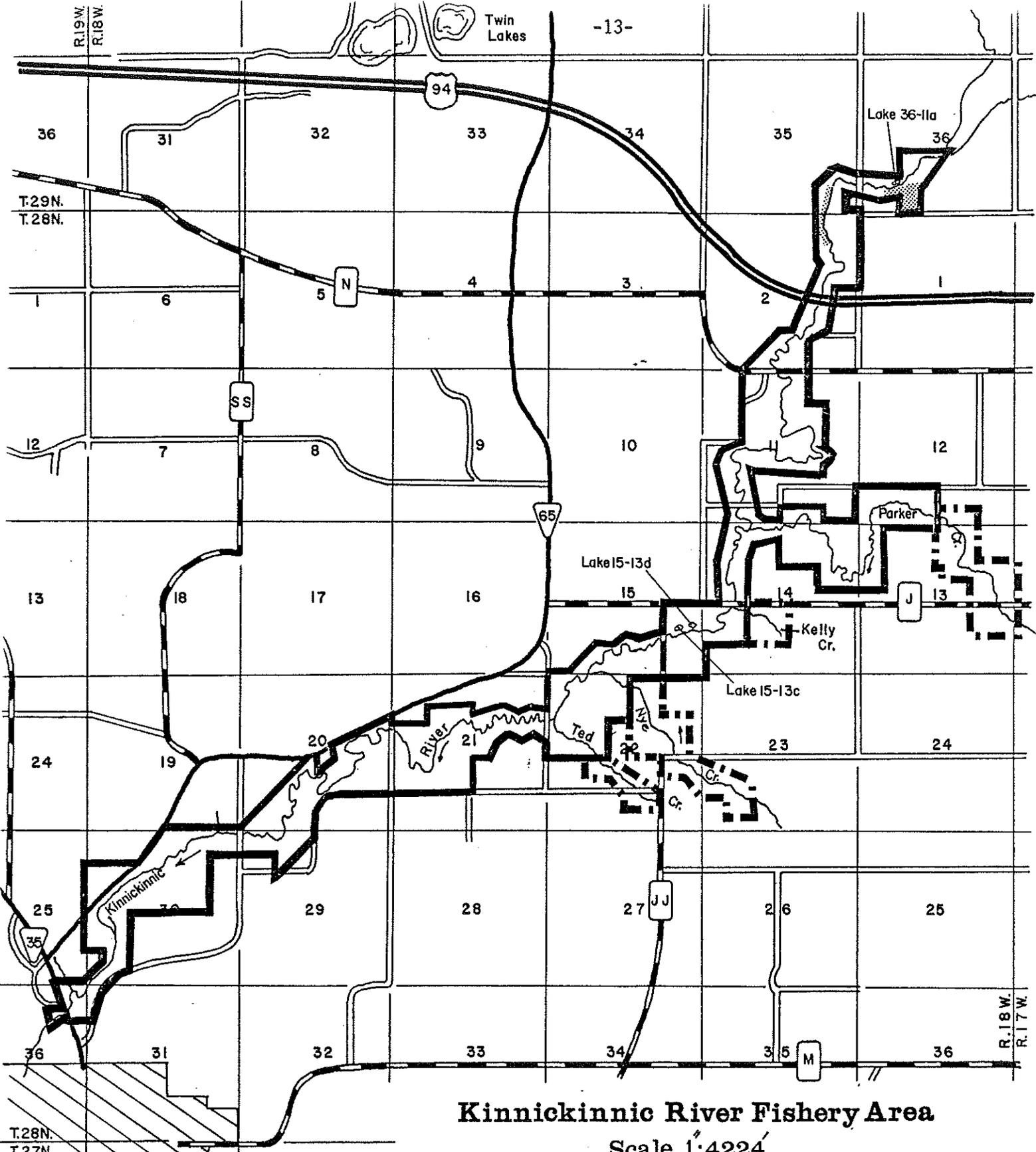
The Kinnickinnic River Fishery Area is a narrow strip of land, primarily consisting of agricultural land with lowland vegetation along the Kinnickinnic River and tributaries. The size and location limit the land use potentials for the property. The area has the features that have potential for only one designation, as a Fish and Wildlife Management Area (RD₂) (Figure 5). The property has no known archaeological sites. The fishery area was also examined for scientific and natural area designations but lacks unique features to warrant this classification.

Consideration of the Kinnickinnic River Fishery Area with a Resource Protection classification was eliminated because of the size and development of the area. The criteria for an Intensive Recreational Development Area and an Administrative Area are not found within the property boundaries. Resource Development Area requirements are almost entirely limited to a Fish and Wildlife Management Area (RD₂) with some consideration for a minimal forestry resource (Figure 5).

MANAGEMENT PROBLEMS

Streambank Vegetation

Present trout habitat conditions range from fair to excellent within the property boundaries. A major problem is the extensive growth of tag alders and box elder along the protected (fenced) streambanks. In many places, the overhanging tag alders have slowed the current and caused a buildup of branches within the channel which further covered the substrate. Silt depths range from one to two feet deep near the streambank in some locations. The alder-elder canopy has also resulted in a reduction in the amount of sunlight reaching the stream. This, in turn, has lessened the amount of rooted aquatic



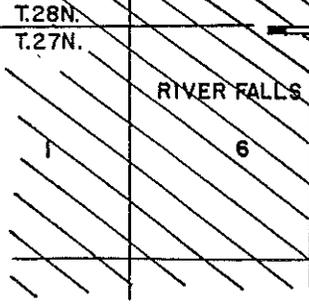
Kinnickinnic River Fishery Area

Scale 1:4224

Figure 5. Land Use Classification Map.

LEGEND

- Fish & Wildlife Management Area - RD₂
- Forest Production Area - RD₃
- Property Boundary
- Proposed Boundary Addition



(T.28-29N.-R.18-19W.
River Falls Quadrangle Map.)

vegetation found within the stream. With the decrease in aquatic growth, a comparable lack of cover and food resources exists. Brushing the streambank areas that have a heavy woody vegetation canopy must be completed in the state-owned land parcels, at least along one bank of the Kinnickinnic River and both banks of its tributaries. This will increase the cover and food supply and deepen the channel.

Flooding

The Kinnickinnic River lies in an agricultural watershed. Significant floods sometimes occur periodically in the watershed as a result of snowmelt or heavy rains. The Kinnickinnic River and its main tributary, Parker Creek, are heavily influenced by these floods. Floods cause siltation of the stream channel in certain areas and heavy damage to lowland state-owned fence lines and established cattle-machinery crossings. Maintenance of 23.2 miles of fence and numerous crossings places a heavy burden on the Eau Claire area's fish management program each year, especially since the closest source of manpower is 40 miles away and the administrative office is 65 miles distant.

Littering

Misuse of the Kinnickinnic River Fishery Area is commonly associated with nonfishing activities. Littering and illegal dumping are noticeable in varying degrees throughout the year.

Early Heavy Fishing Pressure

The only observed problem of public overuse of the property is the excessive number of fishermen concentrated near the public accesses (primarily road bridges) during the first two days of the inland fishing season. Despite the relatively easy access away from the bridges and other access points, fishermen seem willing to tolerate the pressure. Consideration will be given in future land acquisition to provide a walk-in corridor for fishermen access in some areas. Parking along public roads is presently adequate but creates a potential traffic hazard. The construction and improvement of parking lots will be necessary in the future and is recommended although parking lots are considered undesirable from the standpoint that they tend to concentrate fishermen in certain stream areas. If parking becomes a problem, it will be dealt with as the need arises.

Beaver

Beaver occasionally become established in the upper reaches of the stream, at which time, remedial measures are taken to remove them before trout habitat is significantly damaged.

Low Forage Fish Base

It is known that a large population of legal-sized native brown trout is firmly established throughout the Kinnickinnic River, and brook trout to a lesser degree in its headwaters. As a result of the intensive improvement and protection of the river by the State during the past 31 years, summer stream temperatures have plummeted to the high 50's and low 60's (°F). Known forage

species are relatively few in number now, due to cooler water, and contribute little to the forage base of brown trout. Because fish species are scarce, it is probably that considerable stress is placed on brown trout as they become larger (11-12 inches) and require more food to maintain their body weight. For this reason, although they are numerous, relatively few brown trout reach lengths over 12 inches in the stream as the result of losses to natural mortality (environmental stress) or angling.

Land Acquisition

Future state acquisition of the key remaining land parcels in the fishery area will be difficult. It may be necessary to carry on land purchase negotiations for many years to realize the attainment of acreage goals.

RECREATION NEEDS AND JUSTIFICATION

The Wisconsin Blue Book shows the 1980 population of St. Croix County is 43,469 and that of the four adjoining counties at 136,544. However, this figures does not indicate the stress placed on the resource by the population of Minneapolis - St. Paul metropolitan area with its estimated 1,981,000 people (preliminary 1980 census figures - U.S. Census Bureau). Thus, intensive management of existing public areas and the acquisition of additional public land is required. Without such management, the increased use would cause rapid deterioration of present resources. The Kinnickinnic River Fishery Area is obviously located in a fast growth area. As an example, the human population increased an estimated 22 percent between 1970 and 1980 in St. Croix County.

Fishing

The Kinnickinnic River presently receives heavy fishing pressure throughout the open season. It has the reputation as being the highest quality trout stream in western Wisconsin. It contains a completely self-sustaining trout fishery that is in no danger of over-exploitation through angling at the present time. The Kinnickinnic River (and tributaries) within the existing fishery area comprises about 25 percent of the 79.2 miles of trout streams and 100 percent of all Class I trout water in St. Croix County. The fishery area also contains approximately three-quarters of the trout streams under public ownership in the county.

St. Croix County is part of Planning Region #13 with Barron, Dunn, Pepin and Pierce Counties as listed in the Wisconsin Outdoor Recreation Plan of 1977. That study states the need for fishing waters as follows:

"To minimize the disparity between the supply of and the demand for surface water resources (in the region), Governmental agencies must be committed to securing lake and river frontage wherever it is available and protecting and improving the quality of the region's waters.

The need to accommodate increased fishing participation in Region #13 is apparent. Solutions can be found in improved public access to waters (e.g. energy efficient transportation systems from the Twin Cities metropolitan area), in improved water quality and in improved fishery management. Intensive fishery management will be needed."

Hunting

With approximately 6,000 acres of public lands open to hunting, this county lacks sufficient areas to meet the demand. Increased hunting pressure, coupled with rapid residential development, has resulted in a dramatic increase in posting of private lands. The continued loss of huntable private lands, and the relatively small acreages of public hunting areas means that all public hunting and fishing lands are extremely important as sources of hunting recreation.

The fishery area is presently providing good quality habitat for many upland game species, nesting wood ducks, and migrating mallards. Continued management for pine, hardwoods and brush species should assure upland game hunting. Management of the Kinnickinnic River as quality trout habitat should mean continued use by migrating mallards. Erection of wood duck boxes and annual maintenance of them will benefit wood ducks.

Other Recreational Uses

Although the fishery area is not intensively managed for other recreational uses, they do exist, and are important to the participants who find public access to trout streams and adjacent land to be an enjoyable experience. The main forms of this type of use appear to be bird watching, nature hiking and photography.

Educational Uses

The fishery area is utilized by the University of Wisconsin - River Falls Biology Department for field studies.

ANALYSIS OF ALTERNATIVES

Do Nothing

If all management practices were suspended, deterioration of trout habitat would occur in future years. Tag alder, box elder, and willow trees would continue to encroach into the stream channel causing habitat deterioration. Livestock would once again have free access to the stream causing streambank erosion, siltation, and damage to spawning areas. Fallen trees would cause bank erosion and stream diversions in some areas. The trout fishery as a whole would show a diminished fishery resource.

The quality of the wildlife habitat would decrease as pine tree stands mature and became useless as winter cover, hardwoods mature and shade out the understory vegetation and brush declines due to cattle grazing. As the quality of the streams in the fishery area deteriorates, water cress would begin to disappear, causing a decline in mallard, wood duck and muskrat populations. Predators using the area would decline with the food resource.

Although the forest resource is minimal, there would be a stunting of tree growth in a 30-year old pine plantation without proper thinning operations.

Enlarge The Fishery Area Boundary

At this time, the task force does not recommend a significant increase in the property acreage goal because the proposed boundary meets management needs.

Reduce The Fishery Area Boundary

Most (nearly three quarters) of the land necessary to achieve the present property acreage goal is already in state ownership. Attainment of management objectives would be impossible if the fishery area was reduced. For example, additional protection of the Kinnickinnic River headwaters and tributaries is needed, and some key parcels still need to be acquired to meet the demand for public access. Also, trout habitat improvement would not be possible for certain stream areas needing management.

Protection and Maintenance of Existing Habitat

Limited management of the fish and wildlife resource would result in at least a status quo and is necessary to maintain the present resource and prevent deterioration, particularly of the trout population and wildlife species. Brushed areas of the streambank would have to be maintained to prevent re-establishment of tag alders, elder and willow trees and some eroded streambanks would need repair. Protection of the lowland areas from grazing, coupled with selective tree cutting and occasional coniferous tree plantings could maintain upland game habitat.

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