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A Management Plan

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For The Upper Mississippi River

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Consultant's Report prepared
for the Mississippi Headwaters
Board

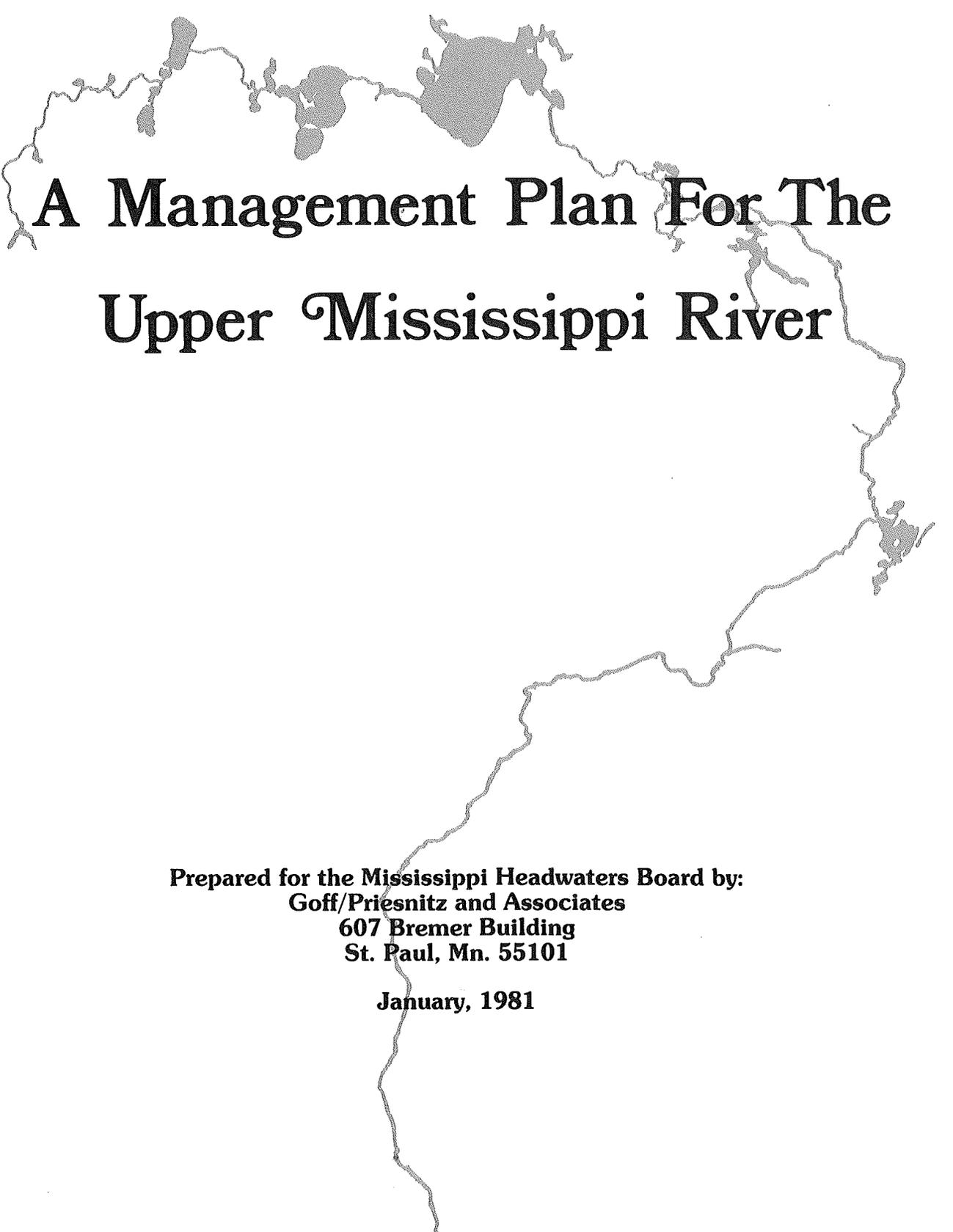
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Mississippi Headwaters Board - January 1981



The source of the Mississippi - Lake Itasca. Photo courtesy of Minnesota Dept. of Natural Resources.

**On the Cover: The steamer "Oriole" on the Upper Mississippi River.
Photo Courtesy of Minnesota Historical Society**



A Management Plan For The Upper Mississippi River

**Prepared for the Mississippi Headwaters Board by:
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January, 1981

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SUMMARY

Background Legislative History

On January 3, 1975, the President signed P.L. 93-621 which authorized a study of the upper 466 miles of the Mississippi River from Lake Itasca to Anoka for possible designation as a National Wild and Scenic River.

In October, 1975, the preliminary draft plan prepared by the U.S. Bureau of Outdoor Recreation (BOR) was completed, and in May, 1977, Assistant Secretary of Interior Robert Herbst submitted the study and Environmental Impact Statement (EIS) to Congress and President Carter.

On June 15, 1977, S. 1697, a bill which would designate the ten segments recommended in the BOR study, was introduced in the Senate. On October 31, 1977, H.R. 9855, which would amend the National Wild and Scenic Rivers Act to designate the Upper Mississippi, was introduced.

In January, 1978, Congressman Oberstar succeeded in amending the bill to require a more complete, specific study. The Mississippi designation provision was subsequently deleted from the Omnibus Parks and Recreation Bill passed by Congress.

In August, 1979, President Carter included the Upper Mississippi in his Environmental Message and called for a study "to determine the specific requirements for protecting the river corridor and providing public access, campgrounds and other recreational facilities . . ." He also directed the National Park Service to complete the study by April, 1980.

After concerns about this deadline were raised, the target date for completion was left open. The National Park Service proceeded with its study as directed by Congress.

The Mississippi Headwaters Board

On February 22, 1980, a joint powers agreement was signed by eight counties: Clearwater, Hubbard, Beltrami, Cass, Itasca, Aitkin, Crow Wing, and Morrison. This coalition was named the Mississippi Headwaters Board (MHB) and became the largest joint powers board of its kind in state history.

The stated purpose of the Mississippi Headwaters Board is to formulate plans for the area under its jurisdiction, and protect the Upper Mississippi River from uncontrolled and unplanned development through the preparation and adoption of a comprehensive management plan for the river and adjacent lands. This management plan will provide for the adoption of strong local zoning ordinances, recreational use of the river and adjacent public lands, donation or purchase of critical lands in the public interest and sound cooperative management of existing public lands along the River.

The MHB was formed under the authority granted in M.S.A. 471.59 referred to as the "Joint Exercise of Powers Act." This law was passed in 1943 and was modeled after the California legislation. The legislation is a general authorization to allow any local governmental units to cooperate in exercising any power held in common. The original law was amended in 1961, 1965 and most recently in 1973. The purpose and effect of these amendments was to broaden the authority for interlocal cooperation.

According to Minnesota State Planning Agency surveys of interlocal cooperation in 1965 and 1974, "over 2,000 examples of cooperation, including over 250 separate and discrete categories of local service were discovered."

In response to an inquiry by Sonja Steven, Itasca County attorney, regarding the formation and administration of the Mississippi Headwaters Board, Attorney General Warren Spannaus found the Mississippi Headwaters Board was legally constituted under Minnesota Statutes 471.59 and had the authority to pay for necessary planning, contract for services in the same manner as individual counties and review zoning decisions of the individual counties regarding the Upper Mississippi.

There are many advantages to interlocal cooperation. The most important advantages of such cooperation cited in a Minnesota State Planning Agency manual entitled "Interlocal Cooperation" include:

1. Cooperation is useful in broadening the geographical base for planning and administering governmental services and controls. Conflicting land uses, differing codes, confusing jurisdictional rules and inattention to those problems not capable of solution by one unit of government are the main criticisms of the small unit of local government.
2. Cooperation tends to enlarge the scale and administration of local services making lower unit costs possible. This is an obvious advantage to interlocal cooperation — by expanding a service area, communities can take advantage of the economies of scale that often accrue in most services.
3. Cooperation is helpful in guiding the orderly growth of an area. Planning is an especially useful example. If several units of government (including townships, municipalities, and counties) jointly plan the development of an area, the cooperating units of government can prepare for the expansion of governmental services well in advance of the time when serious problems might necessitate stopgap, less than satisfactory solutions.
4. Cooperation is flexible and versatile. One of the outstanding advantages of interlocal cooperation is its flexibility in adapting to new conditions which may develop after communities are already cooperating in a particular local governmental service. . . . Everyday problems that occur can be remedied within the practical framework of cooperation without necessitating major changes in the legal or administrative rules.
5. Flexibility of boundaries. Cooperation has the added advantage of being able to include other units of government in the agreement should they have need for the particular service.
6. Cooperation is politically feasible. Cooperation does not result in the political re-structuring of an area. No units of government are eliminated and, usually none created. Citizens still retain control over the function through their elected and appointed local governmental officials.
7. Cooperation can result in the better performance of a service. Cooperation, if properly performed, can result in the infusion of new ideas and original approaches to problem solutions that better serve the local citizen. This is no small factor in an age of complexity and citizen participation in government.

8. Cooperation protects the political identity of the community. Most persons are extremely proud and protective of their independent political existence. Although a governmental unit may lose partial control over the administration of the function in the process of cooperation, it does not give up its political identity.

The Mississippi Headwaters Board Plan

This plan describes the methods for providing interlocal management of the Upper Mississippi River to protect and enhance its unique qualities.

The plan establishes guidelines and minimum standards for cooperative local management of the upper 400 miles of the Mississippi River from Lake Itasca to the southernmost boundary of Morrison County.

Through the implementation of this plan, the local governments would undertake a sound resource management program to protect the river in three primary ways by: (1) adopting a comprehensive zoning ordinance, (2) implementing a recreation management plan to provide for recreational use of the river and adjacent public lands, and (3) establishing common policies and cooperative agreements for the improvement of existing public lands.

Specifically, interlocal river management by the three-fold approach described above would be accomplished by:

1. Zoning — A comprehensive local zoning ordinance which contains minimum standards for the use of river shoreline and a system for interlocal review of certain decisions would be adopted by the individual counties. A river management area (zoning district) would be established after public hearings are conducted. This ordinance would allow the individual counties flexibility in local administration while providing consistency among counties regarding minimum development standards.
2. Recreation Management — The plan also recommends the establishment of some new recreation sites and the rehabilitation of some existing ones. Most sites are on existing public lands, though some are proposed for purchase, if the landowners are willing to sell and financing is available. The plan highlights the diversity of recreational uses of the river for hunting, fishing, camping, ricing, boating, canoeing and many others, and recommends measures to improve these opportunities.
3. Land Management — The plan recommends the adoption of cooperative agreements between federal, state, and local units to provide common management goals for existing public lands along the river. It also recommends management policies for the retention and improvement of existing public lands along the river for fish and wildlife habitat and recreational use. Further, it recommends consolidation of public ownerships along the river through land exchanges.

The **major points** of difference between this plan and that likely to be developed by the National Park Service are that **the MHB Plan:**

1. Does not propose any new federal authority or role.
2. Relies primarily on local zoning authority and use of existing public lands and authorities to protect the riv-

er rather than relying on significant new purchases of land or interests in land.

3. Where some new purchases are recommended to provide new recreation sites or shoreland protection, it would be solely on a willing seller basis, rather than the possible use of condemnation to acquire lands or interests in lands, under the terms and conditions prescribed in the National Wild and Scenic Rivers Act.
4. Recommends the continuance and enhancement of the full range of recreational pursuits. (Note: At this time it is uncertain what specific National Park Service recommendations will be in this regard.)

Mississippi Headwaters Board Plan Advantages

This plan for interlocal management has several advantages over the National Park Service Proposal for river management. Specifically these advantages include:

1. Cost

By adoption of strong local zoning ordinances, sound management of existing state and county lands, judicious purchase of lands or scenic easements from willing sellers and more use of existing opportunities for land exchanges, we believe the joint powers plan could better protect the river at a lesser cost. In addition, to buy the easements necessary to protect all the shoreline in the segments proposed for designation would be enormously costly and would entail use of condemnation authority.

2. Responsiveness

Because the plan has been prepared by and for the joint powers board, it uniquely strikes the balance needed to respond to local concerns while accounting for a broader public concern. In addition, necessary changes can be made to respond to changing circumstances that will occur over time.

3. Public Support

This project has already generated considerable local and extra-local support. All the various interests have assisted in formulating this plan. Many resolutions and letters of support have come from diverse groups and elected officials.

4. Protection

The essential goal of the Mississippi Headwaters Board is to prepare and implement a comprehensive, interlocal plan to protect the upper 400 miles of the Mississippi River. While this plan provides for facilities and opportunities for the diverse recreational uses of the river and its adjacent lands, we are concerned about overuse that could result from federal designation. *Flowing Free*, an authoritative book on river protection, includes these comments on local and regional river programs: "On the plus side, local or regional programs, escaping the publicity that attends federal or state scenic status, are less likely to result in large increases in recreational use." The 1977 U.S. Bureau of Outdoor Recreation report on the Upper Mississippi states that a ten-fold increase in use could be expected. We believe this to be contrary to sound river protection. The increased use could, if realized,

pose a significant problem to riparian owners and the quality of the resource itself.

5. **Timing**

The implementation of the joint powers plan can begin immediately. Zoning ordinances can be adopted and grant proposals can be written to apply for necessary funds. The National Park Service proposal has been discussed since 1974, the Bureau of Outdoor Recreation has done a study, the National Park Service is now doing one, and it will likely do another management study before acquisition and recreation development begins.

Response of the Department of the Interior

In August, 1980, the National Park Service released its Draft Conceptual Master Plan for the Upper Mississippi River as a proposed National Wild and Scenic River.

On August 29, however, Assistant Secretary of the Interior Robert L. Herbst sent a letter to the Mississippi Headwaters Board suggesting that the Board act to adopt certain provisions that he said "... would make the Mississippi Headwaters Board plan a strong, comprehensive mechanism for the protection and management of the river." Shortly after receiving this letter the Board voted unanimously to initiate actions, including legislative action, to follow through with the suggestions.

On October 22 the Board authorized their consultant to send a detailed response summarizing the proposed changes to the management plan to Assistant Secretary Herbst.

Assistant Secretary Herbst responded on October 30 with a letter thanking the Mississippi Headwaters Board for "... expeditiously and thoughtfully ..." responding to his letter. He indicated that the Department of the Interior was reviewing the proposed plan and would "... respond to you by November 17."

On November 26 Assistant Secretary Herbst endorsed local management of the Upper Mississippi River but pointed out some concerns he had in regard to "... potential problem areas ..." of the M.H.B. plan. He indicated that the National Park Service's Conceptual Master Plan would be "... held in abeyance ..." to allow for the successful implementation of the Mississippi Headwaters Board plan.

Board and Committee Members

This plan was prepared under the direction of the Mississippi Headwaters Board, a joint powers board composed of one county commissioner from each of the eight counties.

The Board was created under the authority and consistent with the policies set forth in M.S.A. 471.59. The board members during 1980 were:

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Goff/Priesnitz and Associates, Inc.,
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The Board also appointed two advisory committees to advise them in the preparation of this plan. The Board wishes to express its gratitude particularly to the members of its citizens advisory committee who gave their time and expertise, without compensation, to complete this plan.

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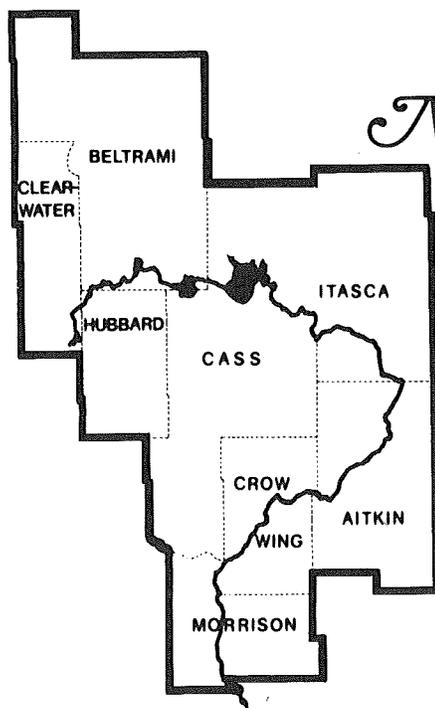
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Preparation of this management plan was financed solely through local government and private contributions.

The Board appointed a fund raising committee to act on its behalf in soliciting private contributions from a wide variety of sources. The fund raising committee has been quite successful in its efforts and the Board would like to express its appreciation. The fund raising committee members are:

Mr. Harold Zigmund, Chairman
State Senator Bob Lessard
Mr. Alvin Hauge
Mr. Lloyd Nesseth

Finally, the Board wishes to express its sincere appreciation to those individuals and organizations who contributed financially — without these expressions of support this effort would not have been possible.



Mississippi Headwaters Board

Representing:
Clearwater
Hubbard
Beltrami
Cass
Itasca
Aitkin
Crow Wing
Morrison

Box 621
Grand Rapids, Mn. 55744
218-326-9777

The Resource

PREHISTORY AND HISTORY

No discussion of the Upper Mississippi River would be complete without mention of its tremendous historical significance to both the region and the nation. The history of the Upper Mississippi Valley is the story of a transition from a vast wilderness to an urban civilization . . . a transition that took place in less than two centuries. The actors in this drama were as varied and colorful as any in the history of the westward expansion of the country. The following is a brief summary of some of the major events and characters involved in the exploration and settlement of the Upper Mississippi region.

Prehistory

Prior to the 17th-century European explorers, the Upper Mississippi region had been occupied from at least 8000 B.C. by various Indian cultures. The first, known as the Paleo-Indian period, is represented by only a few surface archaeological specimens.

There is greater evidence of the Eastern Archaic culture, which existed from 5000 to 1000 B.C. There are two primary archaeological sites in Minnesota representing this culture. The Itasca Bison kill site was discovered in 1937 during the construction of a park road across Nicollet Creek, which is a tributary to Lake Itasca. It was there that ancient bison bones and human artifacts were found when archaeologists from the University of Minnesota excavated the area in 1964 and 1965. They found evidence which indicated that these Indians were small groups of migrants who lived by hunting, fishing, and gathering edible plants. Dog skeletons indicate that the animal had already been domesticated which is the first such evidence in Minnesota.

The second site is White Oak Point on the banks of the Mississippi near Deer River. This site takes on added importance because it shows evidence of having been occupied periodically from about 1500 B.C. to modern times. It represents the transition period between the Eastern Archaic culture and the succeeding Woodland culture which began at about 1000 B.C.

The Woodland culture is very well represented in the Upper Mississippi Valley. In fact, most of the archaeological sites along the river are from this period. Earthen burial mounds, campsites, and villages have been excavated by archaeologists. The burial mounds located in Itasca State Park near the headwaters area are an example of mounds created by this culture. These people were characterized by the gradual development and absorption of new cultural traits such as more permanent villages, the use of wild rice as a food source, the use of the bow and arrow, the making of pottery, and the use of birch bark canoes.

This culture gradually merged into the historic period which began about 1700 with the coming of the first European explorers. These early explorers found the Cree and Assiniboin tribes in the Upper Mississippi region along with the Dakota. The Dakota (Sioux) were later forced to move south and west by the Ojibway (Chippewa). The Cree and Assiniboin were moved northwestward into what is now Canada.

History

The conflict between the Ojibway and the Dakota continued for many years until the eventual settlement of the re-

gion by white settlers in the mid and late 1800's. There were many battles between these two proud nations along or near the Mississippi River. The Ojibway, who obtained firearms earlier than their enemies, were able to force their way steadily south and west.

In 1736 two major battles between these tribes occurred on the shores of what is now known as Cut Foot Sioux Lake. In the first battle the Dakota were victorious. After the confrontation they built a mound in the shape of a turtle at the battle site to commemorate their victory. Later that year, however, the Ojibway returned and massacred the Dakota to the last man. They, in a symbol of defiance, built a symbolic earthen snake around the Dakota turtle to show how they had surrounded their enemies. The snake head was pointed to the south to warn others of future plans. Cut Foot Sioux Lake takes its name from a Dakota warrior who was killed during the second battle on the spot. The turtle and snake mounds are still visible on the lake's shores.

In 1768 the Ojibway again defeated the Dakota at the mouth of the Crow Wing River.

In 1805 the Ojibway had established a village of 15 lodges at the mouth of the Pine River. The maps of the Lewis and Clark expedition (1804-1806) show the Ojibway as firmly in control of the Upper Mississippi area with the Dakota occupying a huge area to the west and south of the Crow Wing and Mississippi rivers.

The 1825 treaty of Prairie du Chien established an imaginary boundary between the two nations which crossed the Mississippi at the present site of Sartell. This boundary was crossed many times, however, and fighting between the two antagonists continued for many years. By 1855 the Ojibway had been concentrated on several reservations and the Dakota had been restricted to a reservation along the Minnesota River. While the United States government clashed many times in various wars against the Dakota, both in Minnesota and the Great Plains, there was only one real conflict of arms with the Ojibway. The so-called Battle of Sugar Point on Leech Lake in 1898, a minor skirmish, was the last recorded battle between United States forces and Indians.

While these territorial conflicts between the Ojibway and the Dakota continued in the Upper Mississippi Valley, the European explorers and fur traders began to infiltrate the area. French and English fur traders were among the first Europeans to enter the upper reaches of the river. They trapped animals and traded with the Indians for furs, particularly beaver pelts which were in great demand in Europe. Many trading posts were established in the Upper Mississippi Valley but between 1784 and 1855 at least 27 permanent posts flourished . . . most of them operated by the British Northwest Company.

One of the earliest of the posts was built at the mouth of the Pine River in 1784. Trading posts were built by the Northwest Company at other sites, however, such as Cass Lake and the east side of Lake Bemidji. The mouth of the Crow Wing River saw fur trading activity as early as 1771, although no permanent establishment developed until 1826.

In 1798 David Thompson, a geographer and surveyor for the Northwest Company, explored the area from Lake Bemidji to Sandy Lake and noted that the Northwest Company also

operated a post at Cass Lake. This lake was originally known as "Le Haut Lac de Cedre Rouge" (Upper Red Cedar Lake) and was named by the French because of the many cedar trees which grew on one of the islands.

Thompson also visited the outpost of the Mississippi near Sandy Lake. Both the Northwest Company and, later, the American Fur Company maintained posts near the outlet of Sandy Lake to the Mississippi. The Northwest Company post was located a mile south of the mouth of the Sandy Lake River not far from the Mississippi. It was in existence as early as 1763 as a trading depot, although the permanent establishment was built in 1794. The American Fur Company post was built at the mouth of the Sandy River in 1820. Another fur trading post was built in 1791 at the site of the old Indian village on White Oak Point.

Near the west entrance to the Chippewa National Forest is the site of the old Red Lake Oxcart Trail. The old Hudson Bay Company transported furs over this route from the Steamboat River past Cass Lake to the Red River Valley. The 1800's saw the development of many fur trading posts all along the length of the Mississippi River.

When the United States acquired the Louisiana Territory from France in 1803, the British traders were the dominant European influence in the Upper Mississippi Valley. The American Government wished to firmly establish its new jurisdiction over this area, but little was really known about the region, particularly the source of the Mississippi. In 1805 Lt. Zebulon Pike and a small contingent of U.S. Army soldiers was sent up the Mississippi from St. Louis to explore the upper regions of the river, make peace between the Ojibway and Dakota, establish the United States' jurisdiction over the area, and determine a possible site for a military outpost.

An experienced explorer Pike, in early 1805, had scouted the area around the Falls of St. Anthony for a possible location for a fort. The result was Fort Snelling, built around 1820 at the confluence of the Minnesota and Mississippi rivers. It was the major military outpost in the northwest for many years.

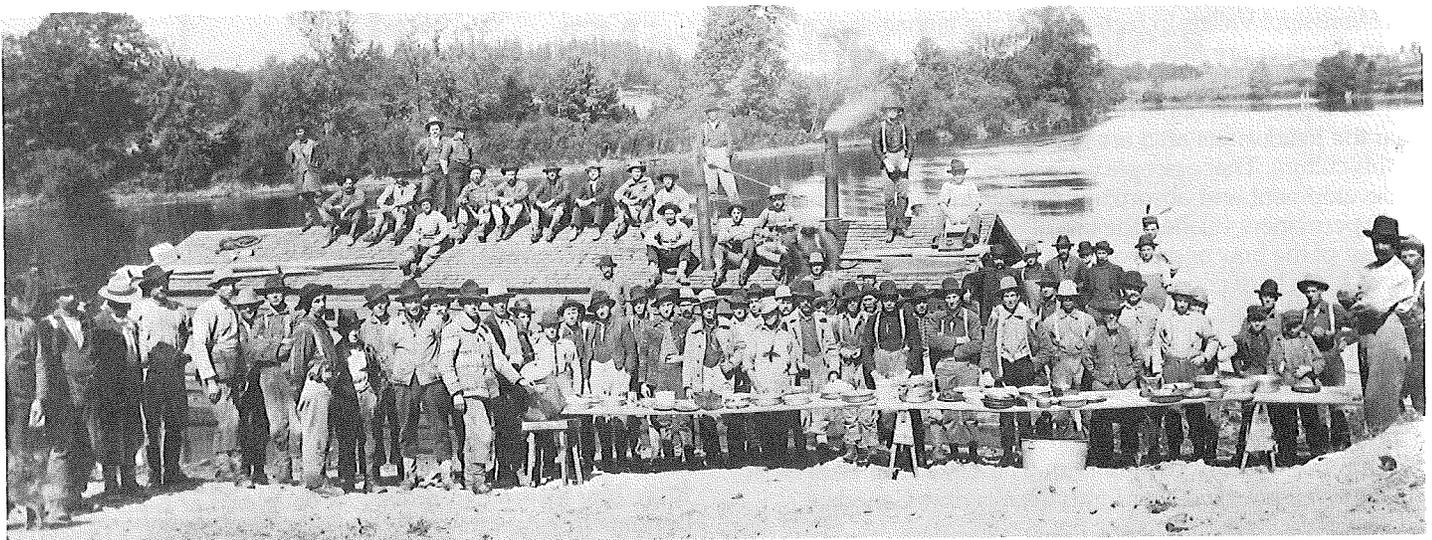
The winter of 1805-1806 found Pike forced to halt at the mouth of the Swan River below the present site of Little Falls. There he built a temporary post for the winter. During that same winter, however, he resumed his travels and eventually

reached what is now known as Cass Lake. Although Pike contributed a great deal of information about the upper reaches of the Mississippi the search for the ultimate source of the river continued for many years.

Other explorers, not satisfied with Cass Lake as the source of the river, continued the search. General Lewis Cass, for whom both the lake and the county are named, reached the same lake in 1820, but failed to pursue the river to its true source. Giacomo Beltrami, an Italian gentleman traveler, traversed the upper Mississippi area in 1823. He claimed the true source was 10 miles north of Lake Bemidji at Lake Julia. Still, the argument continued. Finally, in the summer of 1832 Henry Schoolcraft determined that Lake Itasca was the true source of the Mississippi. The word "Itasca" was one he coined from the two Latin words Veritas Caput, which translated means "truth head."

While most people today accept Lake Itasca as the source of the Mississippi River, the ultimate sources are really several small streams, lakes, and bogs which drain into Lake Itasca from the south. As late as 1880, however, a Captain Willard Glazier claimed to have discovered the really true source of the river. He modestly named it Lake Glazier. (It is probably the lake now known as Elk Lake.) Fortunately, history and tradition have settled on Lake Itasca as the source of the greatest river in the country. The question was finally put to rest and the next chapter in the history of the Upper Mississippi region was about to begin.

Just as the valuable fur trade had lured the first European travelers to the Upper Mississippi region, another great natural resource, the vast white and red pine forests, brought in a new breed of entrepreneurs. The fur trade had opened up some primitive transportation routes into and throughout portions of the Upper Mississippi Valley. The Red River Oxcart Trail ran along the banks of the river from what is now St. Paul to the village of Crow Wing at the mouth of the Crow Wing River. It then ran westward to the Red River Valley. This trail was in use from 1820 to 1869. Another trail, developed by the U.S. Department of the Interior, began at Crow Wing and stretched northward to Leech Lake, Cass Lake, and Red Lake. These trails, along with the river itself, offered access to a once mysterious corner of Minnesota. Logging operations and sawmills



Wanigan of the Mississippi and Rum River Boom Co. just below Brainerd. 1905. Photo: Courtesy of the Minnesota Historical Society.



Railroad thru virgin forest near Cass Lake, July 1904. Photo: Courtesy of the U.S. Forest Service

sprung up at the lower end of the river at places like St. Anthony Falls, Anoka, and St. Cloud. They quickly moved upstream as the timber stands were depleted and the potential of the Upper Mississippi Valley was realized. Logging operations were occurring in the forests north of Grand Rapids in the 1870's and much earlier in the areas around Brainerd. At first the logs were floated out by river, but the later large-scale operations developed after the railroads reached northward into the forest areas.

Brainerd was platted in 1870 and when the railheads from the south and east reached the city in the late 1870's, it was a booming lumber town. It was soon succeeded by Grand Rapids, established in 1877 at the site of major falls and rapids on the river, and then by Bemidji which was not settled until 1894. The railroads reached these latter two towns in the 1890's and the cutting of the forests was accelerated. By 1910 the great virgin forests were gone and the lumber industry began to fade. Though the timber industry has since regained importance in the Upper Mississippi Valley, the economy is now more diversified.

Agricultural use of the cut-over timber lands was only marginally successful in many cases, although it is important locally in some areas. The Mesabi and Cuyuna ranges were developed during the late 1800's and into the 20th century. During much of that period these ranges were the nation's chief source of iron ore. During World War I, the Cuyuna Range also supplied 90 percent of the nation's manganese. Later, the recreation and tourism industries became important factors in the area's economy. But, it was the timber industry that spawned most of the settlements in the valley and transformed it from a wilderness.

Many of the early settlements and activities along the Mississippi were replaced by more modern arrangements through

the years. One of the more interesting settlements for many years was the old village of Crow Wing. This area, located at the mouth of the Crow Wing River, was a fur trading site as early as the 1700's and was the site of a permanent trading post from the 1820's to 1848.

A major battle between the Ojibway (Chippewa) and Dakota (Sioux) tribes took place there in 1768. The Chippewa Agency was located nearby and operated during the 1850's and 1860's. The town of Crow Wing was founded about 1840. Old Fort Ripley was established close by in 1849 to guard the northern frontier and to watch over the Winnebago Indian Reservation which was located west of the Mississippi from 1846 to 1855. Crow Wing was an important junction on the Red River Oxcart Trail and a starting point for the Department of Interior trail to the northern reservation areas. It was the site of an early mission in the 1850's and 1860's.

Crow Wing was a bustling town of about 600 people in the 1860's, but when it was bypassed by the railroad the town declined rapidly and was abandoned by 1870. The railroad preferred a river crossing which later became the city of Brainerd. Much later the site of Old Crow Wing became a state park. It is now one of the oldest ghost towns in the state of Minnesota.

Another interesting aspect of the not too distant past was the steamboat travel which plied the river between Aitkin and Grand Rapids well into the 20th century. This mode of transportation was once one of the best ways to travel in a region that had few roads, and almost none that was good. From the 1870's to as late as 1921, a variety of craft cruised the river stopping at numerous landings to pick up passengers or cargo. Eventually, though, even these colorful and functional reminders of an earlier era were replaced by modern roads and railroads.

THE STEAMER
POKAGAMA,

Will Make
Tri-Weekly Trips.

Carrying
FREIGHT AND PASSENGERS,

Between
Little Falls & Brainard

Leaving Little Falls every Tuesday,
Thursday, and Saturday, at
6 o'clock A. M.,

Leaving Brainard every Monday, Wednes-
day and Friday morning, at 6 o'clock
A. M., for Little Falls.

All freight sent to care of C. COBURN, Agt.
St. Paul & Pacific R. R. Co., at Sauk Rapids,
or to A. TANNER, Little Falls, will be
promptly forwarded.

Freight from Little Falls to

Crow Wing.....20c per 100 lbs.
To Brainard.....25c per 100 lbs.

GEO. HOUGHTON,
N. SINKS, Clerk, 5m2
Captain,

RIVER BOATS THAT TRAVELED BETWEEN GRAND RAPIDS AND AITKIN

Name	L	BW	D	Dates of Service
Pokagama	100'	24'	2'	1871-1877
Stern Wheeler, (Capt. George Houghton) Destroyed by fire winter of 1877.				
White Swan	70'	16'	3'	1878
Side Wheeler. Built in Brainerd by Alsop & Mahlum, summer & fall trips were impossible so it was dismantled and shipped to the Red River.				
City of Aitkin	120'	22'		1878-1883
In 1879 it only made five trips because of low water. Carried 120 passengers & 150 tons of freight. Sank at its dock Sept. 4, 1883 as falling water caused it to list.				
Fawn	85'	14'	3'	1882-1894
Made trip to Grand Rapids & back in one week, the last two years it was used by Weyerhauser Co. towing logs and breaking log jams. In 1894 it struck snag below Swan River and sank.				
Andy Gibson	140'	32'	2'	1883-1892
Stern Wheeler hauled 150 passengers & 100 tons of freight. It caved in many banks of the river as it was too long for the sharp bends of the river. It was purchased by the Potter Co. in 1891. It was retired in 1892 and its boiler was used in the heating system of the Potter Company.				
George Houghton	115'	21'	14'	1886-1889
Burned at its mooring 20 miles above Aitkin.				
Swan	-	-	-	1894-1898
Burned at the mouth of the Ripple River, Cap. Wm. Hay.				
Walter Taylor	50'	15'	-	1895-1897
Built by Cluff Brothers & James Tayler. Sank from overloading at the mouth of the Sandy River.				
Irene	-	-	-	1900-1908
Named in honor of Irene Hodgedon. Burned in 1901, rebuilt and sank in 1908 at Verdon's Landing.				
Remnica	30'	-	-	1903
Used by a Finnish settlement.				
Oriole	105'	22'	-	1907-1918
Used as a dredge boat in 1918. Was renamed the Ark and used on the Sandy Lake as a summer resort until 1941.				
Lee	-	-	-	1911-1921
Sank near Gydes mill at the Ripple River.				
"Selected Rivers of Minnesota Recreational Analysis" by Midwest Planning and Research Inc., September 1966.				
The Upper Mississippi region was also one of the first areas in the state where measures were taken to preserve some of the remaining natural and historical heritage. In 1891 Itasca State Park, the first state park in Minnesota, was created. Jacob Brower, who had fought for its establishment to preserve the remaining stands of virgin pine in the area and to protect the basin around the source of the Mississippi, became the park's first superintendent.				
The famous Douglas Lodge was built in 1905 and the University of Minnesota Forestry and Biological Station, the first of its kind in the country, was established shortly after. Pillsbury State Forest, one of the first in the state, was established west of Brainerd in 1899. A huge Federal reserve, which became Chippewa National Forest, was created in 1902. By the 1930's the authorized area of the national forest had grown to almost a million and a half acres.				

Through the years many additional state parks and forests were established along the Mississippi River Valley. The childhood home of Charles Lindbergh, located on the banks of the Mississippi near Little Falls, has been preserved in Charles A. Lindbergh State Park. (The park is actually named after the father who was a Republican congressman.)

Schoolcraft State Park, named after the explorer of the source of the Mississippi, was established in 1959. Included within this park is the site of the Dobson Homestead, a well-known stopping place on the Mississippi in the early 1900's for river travelers and lumberjacks. Relics of the lumbering era and an earlier Indian village have been found at this site. The park is located on the Mississippi between Deer River and Grand Rapids. In addition, many county and city parks and forests have also been created. Conservation of the natural resources of the area has been an important factor in the attractiveness of the region for tourism and recreational use . . . major components of the region's economy.

GEOLOGY AND WATERSHED

The geologic history of the Upper Mississippi River is essentially a legacy of the great Ice Age. Thousands of years ago vast sheets of ice covered most of northern Minnesota. As these huge glaciers retreated to the north they left a landscape of morainic hills, depressions, outwash plains, and ancient lake beds. It was in the aftermath of this glacial activity that the Mississippi had its origins.

The source of the river, Lake Itasca, is located in an area of glacial moraines at an altitude of 1,460 feet above sea level. The course of the river and the geological characteristics of the land are described in a publication of the U.S. Geological Survey entitled **Water Resources of the Mississippi Headwaters Watershed North-Central Minnesota**. This series of maps and accompanying notes describes the watershed of the Upper Mississippi from Lake Itasca to the mouth of the Crow Wing River. The following is a brief description of the geological characteristics of the watershed:

The origin of the river is in glacial moraine. The river flows through end moraines and rolling till plains, across an extensive outwash plain occupied by large reservoir lakes, and finally across an extensive marshy plain which is the bed of an ancient glacial lake. Glacial deposits in the watershed include till, lenses of sand and gravel in till, outwash deposits, of sand and gravel, and lake deposits of fine sand, silt and clay. Beneath the glacial drift is an uneven surface of Precambrian bedrock. Bedrock consists of igneous intrusives and metamorphosed sedimentary formations.

The characteristics of the river vary greatly depending on the kind of topography and soil through which it flows. In the portion of the river between Lake Itasca and Bemidji, the river flows through large marshy areas interspersed by areas of higher ground. In the marsh areas the river meanders widely. Where the higher ground constricts the channel, the banks are higher and the sandy soil supports a mixed hardwood and conifer forest.

At Bemidji the river enters a region of lakes, flowing through some of them, the largest being Lake Bemidji, Cass Lake, and Lake Winnibigoshish. From the Ottetail Power Company dam just downstream from Bemidji to Brainerd, the fall of the river is only 0.6 feet per mile. (From Lake Itasca to Bemidji the average fall is about 4 feet per mile.) In much of

this section of the river there are numerous oxbows that have resulted from changes in the river channel over the years. This is particularly true of the Aitkin County portion of the river. Here, the Mississippi flows through the bed of ancient Lake Aitkin. This lake was formed by glacial meltwaters thousands of years ago and has since all but disappeared, leaving only a flat, swampy plain.

Downstream from Aitkin the river gradually becomes straighter. From Brainerd to near the Twin Cities the river is confined more narrowly between high sand banks that in some places reach 60 feet or more above the shoreline. In the vicinity of Camp Ripley the river channel is broken by numerous islands. Wooded islands are common throughout the remainder of the river channel down to the Twin Cities.

The greatest fall of any section of the river is between Little Falls and Royalton, about 6.5 feet per mile.

At one time the river was interrupted by several falls and rapids. Most of these have since been covered by dams or reservoirs, however. Pokegama Falls, once located just upstream from the town of Grand Rapids, had a drop of about 20 feet making it the second largest falls on the river after St. Anthony Falls. A dam now impounds a large reservoir behind the site of the falls. Dams replaced several other falls and rapids that once made the Upper Mississippi a formidable stream for river travelers. There were the Grand Rapids, located at the town of the same name just below Pokegama Falls. The Little Falls, located near the town of the same name, was also a respectable stretch of rapids that dropped 20 feet in a quarter mile. Ten miles downstream from Little Falls were the Knife Rapids (also called Pike Rapids). These rapids extended for three-quarters of a mile along the river. They have now been obscured by the Blanchard Dam, one of the largest dams on the Upper Mississippi.

The watershed of the Mississippi Headwaters Basin is a 7,068 square mile area in north-central Minnesota. It includes all lands drained by the Mississippi River and its tributaries above the mouth of the Crow Wing River. The main stem of the river in this area is 376 miles long and it drops a total of 310 feet in elevation, or less than one foot per mile on an average.

The water resources of the area are abundant. About eight percent of the surface of the area is occupied by water in the lakes and streams. The glacial drift and bedrock are sources for the ground water supply.

One way to illustrate the water resources of the area is to look at the hydrologic equation for the watershed, a mathematical procedure which accounts for all the water in a particular area. The equation simply states that all water entering an area during a given period of time must either go into storage, be consumed, be exported, or flow out either on the surface or underground, during that same period. In order to compare these various amounts, all water quantity units are converted to average inches per year. The hydrologic equation for the Mississippi Headwaters Watershed is as follows:

Hydrologic Equation

Total annual precipitation in the Mississippi Headwaters Basin (Lake Itasca to the mouth of the Crow Wing River) equals 25.33 inches. A total of 5.3 inches is lost in runoff. 0.01 inches is lost to underflow. Change in storage in the watershed is 0.0 (net change). A total of 19.98 inches is lost to evapotranspiration. Final equation: 25.33 equals 5.3 + 0.01 + 0.0 + 19.98.

Sometimes the balance of nature can shift from one extreme to the other temporarily. In the 1930's, for example, the Upper Mississippi River watershed experienced a severe drought. In 1950, however, large portions of Aitkin County were inundated. The flood in May of that year was the worst on record and of unusual duration. In many places the floodwaters extended for miles on either side of the Mississippi and its tributaries. This flood was caused by a combination of factors, including high moisture content of the soil, very heavy snow cover, a delayed snowmelt, and heavy precipitation.

Since the natural streamflow is so variable, storage of the high flow is necessary to provide a steady supply. In the late 1800's several headwaters reservoirs were constructed by the U.S. Army Corps of Engineers to store high spring runoff for later release during low flow periods and to improve navigation on the heavily used portion of the Mississippi between St. Paul and Lake Pepin. Since that time, the river below Minneapolis has been channelized for barge traffic and the emphasis of the headwaters reservoirs has shifted to flood control and water utilization. Power plants also regulate the flow of the Mississippi and some of its tributaries. Reduction of the peak flows and increase of the low flows is also affected somewhat by the large groundwater reservoirs, many lakes, and swamps. The use of the artificial reservoirs is limited by the evaporation losses from the lake surfaces, lack of greater storage capacity, and economic considerations. The Aitkin diversion channel was built to divert medium and high flows from a large portion of the river, but the channel has little effect on extreme floods.

WATER USE

Water is available from two main sources in the watershed — the ground water resource and the surface water resource.

The largest amount of water available within the headwaters region is contained in the groundwater reservoir. Constant ground water discharge is important in maintaining the lake levels and the base flow of streams. The ground water can also provide up to 500 gallons per minute for wells in many places in the area.

Glacial outwash deposits that underlie present water courses are the best source of water supply. Buried glacial aquifers and Precambrian sedimentary bedrock are also good sources of ground water.

The hardness of the groundwater in the area ranges from moderately hard to very hard, but the iron and manganese can be removed if necessary to provide municipal and industrial supplies. The quality of the ground water is suitable for irrigation purposes.

The surface waters of the Mississippi, its tributaries, reservoirs, and lakes, provide an abundant source of high quality water for most municipal, industrial, and agricultural uses. The variations in stream-flow are not large because of the storage in the natural lakes, swamps, and glacial deposits as well as in the man-made reservoirs and dams. Evaporation is a major factor in the loss of water resources from the watershed.

Water is used for a variety of purposes in the watershed. Industrial uses, particularly iron mining, are by far the greatest users of water in the watershed. Industry uses about 110 million gallons per day from the groundwater resource and about 58 million gallons from the surface water. Residential uses account for just over 3 million gallons a day from the groundwater resource (none from the surface water). Com-

mercial, agricultural, municipal and institutional, and other uses each account for less than 1 million gallons a day from the ground water resource, although other uses — such as conservation and recreation — account for 153 million gallons a day from the surface water resources. These uses are non-consumptive and economically beneficial to the area. Tourism and resort areas associated with the water resources of the area are major business enterprises in the area. In addition to the recreational benefits, the waters also provide excellent habitat for fish and wildlife resources of the area.

VEGETATION

The valuable and varied vegetation along the Upper Mississippi was, and still is, a great asset. Besides providing excellent cover and habitat for a great variety of wildlife, it is an important factor in the control of runoff and erosion. The great pineries that once existed in areas adjacent to the Upper Mississippi Valley attracted industry and settlement. The existing forests and marshes provide for many recreational uses such as camping, hiking, and hunting as well as a pleasant backdrop for the river traveler.

Original Vegetation

A detailed map of the original vegetation of Minnesota was compiled from the U.S. General Land Office Survey notes by Francis J. Marschner of the U.S. Department of Agriculture in 1930. The great variety of vegetation types along and adjacent to the Upper Mississippi are readily identified from this map.

Lake Itasca to Lake Bemidji

This portion of the river was originally forested with white pine, Norway pine, jack pine, and river bottom forest (consisting of elm, ash, cottonwood, boxelder, oak, basswood, soft maple, willow, aspen, hackberry, etc. with occasional pines and arbor vitae). In addition, large areas consisted of conifer bogs and swamps (mostly spruce, tamarack, cedar, and balsam) and wet prairie, marshes, and sloughs (mostly marsh grasses, flags, reeds, rushes, wild rice, with willow and alder brush in places).

Lake Bemidji to Cass Lake

This portion of the river valley was forested primarily with river bottom forest and jack pine barrens and openings (mostly jack pine with oak, aspen, hazel brush and occasionally Norway pine).

Cass Lake to Winnibigoshish

The forested area in this stretch consisted mostly of jack pine barrens and openings. Immediately adjacent to the river were wet prairies, marshes and sloughs.

Lake Winnibigoshish to Grand Rapids

Much of this stretch of the river meandered through huge areas of wet prairies, marshes, and sloughs. On some of the higher lands the forests consisted of jack pine barrens and openings and aspen-birch types. The latter consisted of aspen and birch areas some of which might eventually change to coniferous species. White and Norway pines, balsam, fir, spruce, and arbor vitae were associated species.

Grand Rapids to Jacobson

This area was almost all forested. River bottom forest predominated along much of the area. Also associated with the river valley were aspen-birch types and, in the area from around Grand Rapids to Blackberry, white and Norway pines.

Jacobson to Aitkin

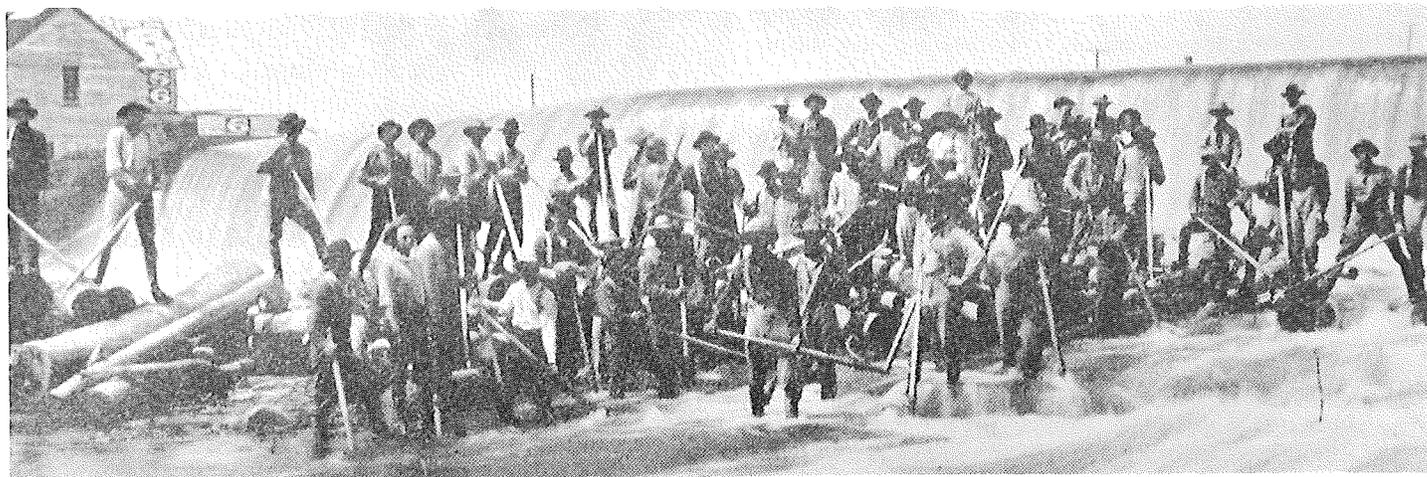
The forests in this stretch were made up of river bottom types, big woods types (oak, elm, basswood, ash, maple, hornbeam, aspen, birch, wild cherry, etc. with some white pine), aspen-birch (hardwoods) types (includes ash, elm, maple, basswood, oak, etc. as associated species and some white and Norway pines.) (These areas were not being succeeded by coniferous species.) There were also some areas of conifer bogs and swamps.

Aitkin to the Mouth of the Crow Wing River

The forests in this area were mostly jack pine barrens and openings and river bottom types. There were also some areas of wet prairie marsh, and sloughs and some conifer bogs and swamps, especially in the area near Aitkin.

Mouth of the Crow Wing River to Southern Boundary of Morrison County

The forests of this stretch of the river were mostly oak openings and barrens (consisting of scattered trees and groves of oak, primarily bur oak, of scrubby form with some brush and thickets and occasionally with pines.) There were also some areas of river bottom type forest. There were extensive areas of dry prairie and some smaller areas of wet prairie, marsh, and slough.



Breaking a log jam in the river at Little Falls. Ca. 1890. Photo: Courtesy of the Minnesota Historical Society.

Present Vegetation

Much of the vegetation immediately adjacent to the Mississippi River in the study area remains in a similar state to that which the first European explorers encountered. The major exception is that the solid stands of white, Norway, and jack pines that once existed near such areas as Lake Itasca, Bemidji, Grand Rapids, and Brainerd have been mostly removed. These areas were cut during the late 1800's and early 1900's at the peak of the lumbering activity in the Upper Mississippi Valley. Some of these lands have seen some regrowth of the original pine forests, but others have grown back to with various hardwood species or a mixture of hardwoods and scattered pines.

Other changes from the original vegetation have, of course, occurred in those areas around the cities, towns, and outlying residential developments and in the agricultural areas.

There are, however, large portions of the immediate river valley that have changed little in terms of the characteristic vegetation. Much of the large marsh and swamp areas that were unsuitable for agriculture or development and had little valuable timber have remained virtually untouched through the years, other than the changes resulting from flowages.

FISH AND WILDLIFE

The Upper Mississippi River Valley has long been a prime habitat area for a wide variety of fish and wildlife species. The abundance of game made this area attractive to the early Indian tribes that established villages along the river and some of the adjacent lakes. The fur-bearing animals in the region were later exploited by the European fur traders. Early explorers found species along the upper river that since have been driven out or are virtually extinct in Minnesota. The buffalo (American bison) and elk, for example, were noted as being quite common along the river by early explorers such as Pike.

Today, the Upper Mississippi is still a prime fish and wildlife resource area in Minnesota. The river and its adjacent forests and marshes provide cover, nesting sites, and food for many species. Some of these species also support recreational hunting and fishing which are associated with the important local tourist industry.

Some of the species found in the coniferous forest areas include white tailed deer, black bear, bobcat, fisher, red squirrel, eastern chipmunk, varying hare, spruce grouse, great grey owl, beaver, mink, porcupine, raccoon, coyote, otter, and many species of songbirds. Moose and timber wolf are uncommon in the river valley.

In the large marsh areas a great variety of waterfowl can be found. Many species of ducks and grouse including mallards, woodducks, blue-winged teal, and golden eyes nest in these marshes along with herons and bitterns. Otter, mink, muskrat and beaver are also found there. Some of these marsh areas, particularly in the Chippewa National Forest, are prime habitat for the American bald eagle. In fact, more bald eagles are successfully nesting in the Chippewa than in any other location in the lower 48 states. For several years wildlife biologists have been keeping close count of the nesting habits and success of the bald eagle in the forest. The trends are encouraging. The number of active eagle nests, for example, have increased from 20 in 1963 to 77 in 1980. The eagles are apparently attracted to the area by its large shallow lakes and abundance of old growth pines (about 80 percent of the nests



Profile of a Bald Eagle
(Courtesy of Minn. Dept. of Natural Resources)

are in white or red pine trees). The hatching success of the eagles is also increasing. In 1979, 95 eagles were produced from nests in the Chippewa National Forest. Though the total number of eagles in the country is not increasing much, it appears that there is some reason to be optimistic about the gradual improvement of the breeding success in the Chippewa.

Another endangered bird of prey, the osprey, also finds a relatively secure home in the Chippewa National Forest. In 1979, there were 122 active osprey nests in the forest. Fifty-nine of these had successful hatches. This was a marked improvement from the hatch of 1968, but nationally the number of osprey is declining. The Chippewa contains a significant portion of the total osprey population of the United States.

The deciduous portion of the river valley is the home for such species as grey squirrel, fox squirrel, raccoon, rabbit, black bear, whitetail deer, skunk, woodchuck, and badger as well as a large variety of songbirds.

Portions of the Upper Mississippi are good sport fishing areas. Most common species include northern pike, walleye, smallmouth bass, crappies, sunfish, and redhorse. An occasional muskellunge is caught. The lakes are particularly good for walleye and northern pike.

RECREATION AND HISTORIC SITES

Introduction

The Upper Mississippi is an excellent resource for a variety of recreational pursuits. Several national, state, and county forests offer camping, canoeing, snowmobiling, hunting, picnicking, backpacking, and other recreational opportunities. State parks along the river feature historical and cultural themes, as well as recreational activities and examples of native forest habitats. Fishing is popular along some sections of the river, although some of the large reservoir lakes through which the river flows are usually preferred. Recreational boating is common on these lakes as well as the larger reservoirs above dams.

Canoeing is perhaps the single most popular recreational activity along the entire length of the study area. Many campsites, rest areas, and access points have been developed

by local, state, and federal agencies. Many sections of the river are adequately served by existing facilities. As noted in the 1977 Bureau of Outdoor Recreation (BOR) study report on the proposal to designate the Upper Mississippi as a National Wild and Scenic River (p. 21, 1977 BOR Report), the existing recreation facilities provide adequate access and rest-camping opportunities along most sections of the river. There are some sections, however, that lack the access and camping facilities necessary to make the Upper Mississippi a complete and coordinated recreational system for river users. The BOR report did recommend the purchase and/or development of several sites for "float camps," accesses, portages, and historical sites.

Our study has reached much the same conclusions regarding the general adequacy of facilities along much of the river and the need for a small number of new recreational facilities to round out a more continuous and complete system. The recreation and historic sites section of the plan describes those recreational and historical sites that now exist along the river and several new sites that should be developed to fill in the gaps. It is a serial listing of all recreation and historic sites from Lake Itasca to southern Morrison County with

references to river mile marks and map numbers for easy identification. A brief description of each site is also provided.

Some of these sites could best be acquired and developed by the state as a part of its existing recreational development programs. Others may more properly be administered at the local level.

Some of the proposed sites are among those recommended as part of the Great River Road development. The Great River Road project and its possible implications for the Mississippi Headwaters Board management proposal are discussed in a separate section.

In addition to the existing and proposed sites listed in the following section, there are opportunities for future development of new sites if needed. Some county authorities noted several areas on existing county-administered lands that might make good campsites or other recreational sites. The DNR officials also indicated some possible future sites that they might want to develop. These sites should be considered in the future if recreational use warrants such development.

Cooperative agreements with other agencies involved with recreational management should be pursued. There are



Young man and women relax while fishing at Lake Itasca. 1902. Photo: Courtesy of the Minnesota Historical Society.

some good opportunities for cooperative projects, particularly with the DNR and the Bureau of Land Management (islands), that might be initiated by next spring.

In meetings with the Department of Natural Resources and the U.S. Forest Service staff, the idea of a recreational use study was discussed. They felt such a study would be very helpful in determining just how much and what kinds of recreational use is occurring on the Mississippi River. They in-

dicated that they may be able to offer some assistance. It might be possible to interest recreation research people to do such a study if funding, possibly federal or private foundation funds, could be obtained. It is recommended that this idea be pursued to determine whether such a study and the necessary funding might be obtained.

See the finance section for further details regarding funding of recreational site development.



Camping out on the Mississippi.

Courtesy of the Minnesota Historical Society.



Campground scene at Lake Itasca. Photo: Courtesy of the Minnesota Dept. of Natural Resources.

Recreation and Historic Sites: Existing and Proposed Facilities

1. **Itasca State Park** (Mile 0; Map #1)
This state park was established in 1891 (one of the earliest state parks in the country) to protect and preserve the area around Lake Itasca, the source of the Mississippi River. Here the great river starts its 2,552 mile journey to the Gulf of Mexico. The park offers many recreational opportunities including camping, hiking, canoeing, fishing, swimming, historical sites, nature interpretation, and others. It has been one of the most popular state parks in Minnesota for many years. The interpretive center, located near the outlet of the river from the lake, offers an excellent slide program describing the headwaters portion of the river north of Lake Itasca.
The Great River Road Program development guide indicates that some suggested improvements to the interpretive center, landscaping, signing, and other facilities may be completed in cooperation with the Minnesota Department of Natural Resources.
2. **Wanagan Landing** (Mile 6.2; Map #1)
Wanagan Landing is a campground and access maintained and operated by the Minnesota Department of Natural Resources. (Much of the river between Lake Itasca and Bemidji is located within the Mississippi Headwaters State Forest). Named after the supply boats used in the early logging days, this landing offers picnic tables, fire rings, pit toilets, and vehicle access. It is a popular put-in point for canoe trips on the upper river.
3. **Vekin's Dam** (Mile 9; Map #2)
This dam is an old sluiceway dating from the late 1800's which was used to guide logs downriver. The dam must be portaged on the left side. A 100 foot portage trail is provided. This portage is located on **private** property.
4. **Coffee Pot Landing** (Mile 18; Map #3, 4)
This is a Department of Natural Resources facility similar to Wanagan Landing. It also includes a flowing spring.
5. **Stumphges Rapids** (Mile 25; Map #5)
The Minnesota Department of Natural Resources has recently developed a primitive campsite and access at this site. Though minimal facilities are available, this site provides a needed midway stop between the Coffee Pot and Bear Den landings.
6. **Bear Den Landing** (Mile 35; Map #6)
Bear Den Landing, a Department of Natural Resources site, has facilities similar to Wanagan Landing. As in the case of the previous landings, overnight camping is allowed.
7. **DNR River Access Only Campsite** (Mile 36; Map #7)
This recently developed Department of Natural Resources site provides for primitive camping. Access is by water only.
8. **Pine Point Landing** (Mile 39; Map #7)
This state forest site has the same facilities as the previous landings, but also includes a water pump.
9. **Iron Bridge Campsite** (Mile 47.5; Map #8)
This Department of Natural Resources site has the same facilities as the Pine Point Landing except that there is no vehicle access provided (access is by canoe only).
10. **Proposed Iron Bridge Access** (Mile 48; Map #8)
This site is presently privately owned. It is an area which is proposed as part of the Great River Road system. The site as envisioned by the Minnesota Department of Transportation planners would include a canoe landing, overlooks, picnic area, parking, toilets, telephone, and a major realignment of the road and bridge crossing. In terms of priority, the major need at this location is for access. It is being used for this purpose at this time, and the lack of adequate parking at the bridge creates a dangerous situation for both river and highway users. Administration of this site should be either state, as part of its canoe route program, or by Beltrami County. Because there is an existing Department of Natural Resources campsite located just upstream we do not recommend development of overnight camping at the Iron Bridge Site. It is recommended that only a canoe access be developed at the Iron Bridge site and that the alternative site proposed by the Great River Road study, the Grosbeak Rest Area, be developed instead.
If a willing seller cannot be found for development of this access, it is recommended that a carry-in canoe access be developed as a component of the proposed Grosbeak Rest Area.
11. **Grosbeak Rest Area** (Mile 51.8; Map #8)
This proposed site is located about 1,500 feet south of Beltrami CSAH #7. The proposed development of this site includes a picnic area, trails and interpretive signing, vault toilets, and parking. It would also provide good views of the river.
This site may be planned as a cooperative project between Beltrami County and the Great River Road project.
12. **Bemidji Area Recreation Sites** (Miles 61-65; Maps #10, 11)
There are several public access sites located near Bemidji on lakes Bemidji and Irving. In addition, Lake Bemidji State Park is located on the north end of Lake Bemidji and could be available to river users. This state park offers camping, picnicking, swimming, boating and cross-country skiing in winter.
13. **Proposed Access of Beltrami CSAH #12** (Mile 65.5; Map #11)
It is recommended that an access be acquired and developed at the Beltrami CSAH #12 crossing of the Mississippi River as it leaves Lake Bemidji. This should be a small public access providing a safe pull-off and parking area for about five vehicles. No additional facilities are required. It is recommended that this access be acquired and developed with funds provided through the state Canoe and Boating Route Program.
The Department of Natural Resources has initiated acquisition procedures for the purchase of this site.
14. **Portage at Ottertail Power Company Dam** (Mile 71.2; Map #12)
There is an existing portage around the dam. Care should be taken that adequate warning is provided. Hazardous warning and portage signs are available through the state Canoe and Boating Route Program.
15. **Island Point Landing** (Mile 73.5; Map #13)
This Department of Natural Resources landing includes camping and access to the river.

16. **Wolf Lake Public Access** (Mile 78; Map #14)
A public access administered by the Enforcement Division of the Minnesota Department of Natural Resources is located on the southwest side of Wolf Lake. The river flows through the north end of Wolf Lake.
17. **Accesses Near West End of Cass Lake** (Miles 80-85; Map #15)
Several primitive accesses are located on the river and on Allens Bay of Cass Lake.
18. **Star Island Campsite** (Mile 86; between Maps #15, 16)
Star Island is located in Cass Lake opposite the western entry point of the Mississippi River into the lake. The U.S. Forest Service, Chippewa National Forest, maintains a campground on the south side of the island. This campground is available to boaters and canoeists traveling through Cass Lake.
19. **Norway Beach and Wanaki Campgrounds** (Miles 87; between Map #15, 16)
On the south end of Cass Lake the U.S. Forest Service maintains two campgrounds. Public access to Cass Lake is also provided.
20. **Knutson Dam Recreation Area** (Mile 89.5; Map #16)
Knutson Dam is located at the east end of Cass Lake at the outlet of the river. This site includes facilities for camping, picnicking, boat launching, and sanitary disposal. A portage is provided around the dam.
21. **Third River Bridge Public Access** (Mile 93; Map #17)
This U.S. Forest Service public access is located at a forest road bridge crossing.
22. **Smiling Joe's Landing** (Mile 97; Map #17)
This Forest Service facility provides camping and access to the river.
23. **Reese Landing** (Mile 100; Map #18)
This public access is located on the south side of the river as it enters Lake Winnibigoshish.
24. **West Winnie Campground** (Mile 101; Map #18)
This U.S. Forest Service campground is located on the west side of the lake about a mile north of the entry point of the river. It includes facilities for boat launching, picnicking, camping, drinking water and a scenic vista of the lake.
25. **Lake Winnibigoshish Recreation Sites** (Miles 100-114; between Maps #18, 19)
Forest Service maintains many recreation sites providing access camping, picnicking, swimming, boating, nature trails, and historical sites on or near lake Winnibigoshish.
26. **Plug Hat Point Campground** (Mile 113; between Maps #18, 19)
This U.S. Forest Service site is located on the east side of the lake near the point at which the river leaves the lake. Its facilities include access, drinking water, an historical site, and a scenic vista of the lake, as well as camping.
27. **Lake Winnibigoshish Recreation Area** (Mile 114; Map #19)
Located off of Itasca County Road #9 adjacent to the Winnie Dam, this site is administered by the U.S. Army Corps of Engineers. Facilities and services include camping, a day use area, playground, drinking water, rest rooms, a sanitary dumping station, picnic tables, picnic shelter, fireplaces, firewood, and barbecue units. A portage around the dam is also provided.
28. **Cut Foot Sioux Visitor Information Center**
This center, operated by the U.S. Forest Service, is located about 7 miles north of Winnie Dam.
29. **Little Winnie Lake Public Access** (Mile 114.5; Map #19)
This public access is located at the northwest end of Little Winnibigoshish Lake.
30. **Crazy James Point** (Mile 118.8; Map #20)
This Department of Natural Resources site provides overnight camping facilities and water.
31. **Public Access** (Mile 130.5; Map #23)
This is a Department of Natural Resources forestry access off of Itasca County Highway #18.
32. **Gamblers Point Campground** (Mile 132.5; Map #23)
This site is administered by the Minnesota Department of Natural Resources. It provides for overnight camping, picnicking and water.
33. **White Oak Lake Public Access** (approx. Mile 139, Map #25)
This public access is located on White Oak Lake through which a channel of the river flows. The access is on the north side of the lake near the town of Deer River. It is administered by the Minnesota Department of Natural Resources.
34. **Proposed White Oak Point Historic Site and Rest Area** (Mile 139.2; Map #25)
White Oak Point is one of the most important archaeological and historical sites in Minnesota. It is the site of several early habitation areas dating from about 6000 B.C. and is also the site of an early trading post. This site is currently privately owned. It is recommended that Itasca County acquire this site, possibly by means of a land exchange. Assistance in interpretation and development of site may be available from the Minnesota Historical Society, Itasca County Historical Society, and the Department of Natural Resources.
This site was also recommended for acquisition and development by the 1977 Bureau of Outdoor Recreation study.
35. **Little White Oak Lake Public Access** (approx. Mile 142; Map #26)
This public access is administered by Itasca County. It is located on the east side of Little White Oak lake off Itasca County Road #11. This lake flows directly into the river.
36. **Schoolcraft State Recreation Area** (Miles 145-146; Map #27)
This site is administered by the Division of Parks and Recreation, Minnesota Department of Natural Resources. It is named after Henry Schoolcraft, the explorer who discovered the source of the Mississippi River. It is also the site of the Dobson Homestead, a favorite stopping place on the river for early travelers and lumberjacks. The 133 acre park contains some excellent stands of virgin red pine. The park provides for a variety of recreational activities including camping, picnicking, hiking, swimming, boat launching, canoeing, fishing, and cross-country

- skiing. Also provided are a nature trail, toilet facilities, and water.
37. **Minnesota Power and Light Company Public Access** (Mile 155.5; Map #29)
This public access is located on the north side of Blackwater Lake through which the Mississippi River flows. It is located off state Highway #2 near the town of Cohasset and the Clay-Boswell Power Plant.
 38. **Public Access** (Mile 156.5; Map #29)
This public access is located on the south side of Blackwater Lake near the mouth of Jay Gould Lake.
 39. **Pokegama Lake Recreation Area** (Mile 160; Map #30)
This 10 acre U.S. Army Corps of Engineers administered site is located at the Pokegama Falls Dam off U.S. Highway #2. Pokegama Falls was once the second largest waterfall on the Mississippi River falling 15 feet over a quartz outcrop. Facilities and services include camping, a boat launch, day use area, playground, interpretive trails, drinking water, rest rooms, a sanitary dump station, picnic tables, fireplaces, firewood, barbecue units, and a public telephone. A portage is provided around the dam. An old log sluice from the lumbering days still remains.
 40. **Blandin Paper Company Campground** (Mile 161.2; Map #31)
This site, located on the south side of the flowage behind the Blandin Paper Company dam, provides overnight camping, access, and water. It is owned and maintained by the Blandin Paper Company.
 41. **Minnesota Forest History Center** (Mile 161.8; Map #31)
This historical and interpretive center is administered by the Minnesota Historical Society. It is located on the shore of Paper Mill Reservoir through which the Mississippi River flows. It is a multi-million dollar project designed to interpret the history and development of one of Minnesota's most important industries. A 1910 lumber camp has been reconstructed with great attention to detail. Other attractions include a forest ranger's cabin and fire tower. When completed, the center will offer tours, live demonstrations, trail walks, and films and exhibits in a large interpretive building.
The Forest History Center is open daily to the public from May through October.
 43. **Blandin Dam Area** (Mile 163.3; Map #31)
A portage is provided around the Blandin Paper Company dam. This dam is located at the site of the "Grand Rapids", where the river once dropped 9 feet within 80 yards.
 44. **Riverside Park** (Mile 164.3; Map #31)
This city park provides rest facilities and water as well as access to the river below the Blandin Dam.
 45. **Highway Wayside Rest** (Mile 166.2; Map 32)
This site provides rest facilities and access to the river off U.S. Highway #2.
 46. **DNR Public Access** (Mile 179.5; Map #35)
This public access, located off Itasca County Road #3, is administered by the Minnesota Department of Natural Resources.
 47. **DNR Primitive Campsite** (Mile 181; Map #35)
Access to this recently developed primitive canoe campsite is by water only. Overnight camping available.
 48. **DNR Public Access** (Mile 182; Map #35)
This public access is located off Itasca County Road #72. It is administered by the Minnesota Department of Natural Resources.
 49. **DNR Public Access** (Mile 197; Map #37)
This site is administered by the Minnesota Department of Natural Resources. It is not marked, but is accessible off CSAH #3 in Itasca County.
 50. **Jacobson Boat Access and Campground** (Miles 201-205; Map #38)
This recreation area is administered by the Aitkin County Parks Commission. It is located at the sites of the old Swan River Logging Camp and the Swan River Steamboat Landing. Overnight camping, picnicking, boat and canoe access, and water are available. A snowmobile trail is also provided.
 51. **Jacobson Wayside** (Mile 205.5; Map #38)
This wayside park is also administered by Aitkin County. It has rest facilities and a river access, but does not provide for overnight camping.
 52. **DNR Primitive Campsite** (Mile 215.5; Map #40)
Access to this recently developed primitive canoe campsite is by water only. Overnight camping is available.
 53. **DNR Primitive Campsite** (Mile 221.5; Map #41)
Access to this recently developed primitive canoe campsite is by water only. Overnight camping is available.
 54. **Potential DNR Public Access** (Mile 229; Map #42)
This existing unofficial access is on **private** land. It is a potential site for a public access.
 55. **Aitkin County Access** (Mile 230.5; Map #42)
This is a county developed access on privately owned land located off state highway #65.
 56. **DNR Primitive Campsite** (Mile 235.2; Map #43)
This state-owned land offers the opportunity for potential development of a primitive, water access only campsite. Such a site could be developed using funds from the state Canoe and Boating Route program.
 57. **Fur Trade Historic Site and U.S. Army Corps of Engineers Sandy Lake Recreation Area** (Mile 238; Map #44)
The 120 acre Sandy Lake Recreation Area is located a short distance upstream from the junction of the Sandy and Mississippi rivers off state highway #65 on the shores of Big Sandy Lake. An old lock, the only one in the Upper Mississippi reservoir system, still remains. The old lock house has been remodeled and is now used as an interpretive center.
The historic Savanna portage connected Big Sandy Lake and the Mississippi River with the St. Louis River during the fur trade era of the 18th and 19th centuries. Early fur trade posts and the site of the Sandy Lake Steamboat Landing were once located near the mouth of the Sandy River. The American Fur Company built a fur trade post near the mouth of the Sandy River in 1820. It may be possible to further interpret this important historic site which was also recommended for protection in the 1977 Bureau of Outdoor Recreation report.
The facilities and services at the Corps of Engineers site include camping, a boat launch, playground, interpretive

- displays, drinking water, a shower building, restrooms, a sanitary dumping station, picnic tables, fireplaces, firewood, barbecue units, and a public telephone.
58. **Palisade "Berglund Park" River Camp Area** (Mile 257; Map #47)
This park is administered by the Aitkin County Parks Commission. It is located at the town of Palisade. Facilities include a picnic shelter, cement boat ramp, toilets, and water. Overnight camping and access are provided. Some improvements are presently being constructed in conjunction with the Great River Road program.
 59. **Proposed DNR Campsite** (Mile 264.8; Map #48)
The DNR has proposed the development of a primitive water access only campsite on state-owned land at the confluence of the Willow and Mississippi rivers. This site would be developed as a part of the state Canoe and Boating program.
 60. **Aitkin County Public Access** (Mile 269.4; Map #49)
This access is located off U.S. Highway #169. Some upgrading may be desirable for this site.
 61. **Proposed DNR Primitive Campsite** (Mile 277.4; Map #51)
The DNR has proposed the development of a primitive water access only campsite at the confluence of the Rice and Mississippi rivers. This site would be developed as a part of the state Canoe and Boating Route program.
 62. **Proposed Diversion Channel Interpretive Overlook** (Mile 279.3; Map #51)
This interpretive site would be located adjacent to CSAH #21 at the upstream end of the diversion channel. This site provides good views of the river as well as access for fishing. Interpretation of the diversion channel and its purpose will be a major part of the facility. Picnicking, parking, and interpretive signing would be included.
This proposed site would be developed on a cooperative basis between Aitkin County and the Great River Road project.
 63. **Public Access** (Mile 281.3; Map #51)
This access is maintained by Aitkin County.
 64. **Aitkin River Camp Area** (Mile 288; Map #52)
This park is located at the city of Aitkin. It is administered by the Aitkin County Parks Commission. This park provides electric hook-ups, a cement boat launch ramp, water, overnight camping, and picnicking facilities.
 65. **DNR Primitive Campsite** (Mile 310; Map #55)
Access to the "Lone Pine Creek" primitive canoe campsite is by water only. The site has been developed on state land. Overnight camping is available.
 66. **Proposed DNR Public Access** (Mile 314.3; Map #56)
This proposed DNR public access would be located off of county Highway #6. It would be developed as part of the state Canoe and Boating Route program.
 67. **Harvey Drake Landing** (Mile 319.8; Map #58)
This site is located off county road #11 about one mile upstream from the confluence of the Pine and Mississippi rivers on the Pine River. It is administered by the Department of Natural Resources. Public access and picnic facilities are provided.
It is located near the site of the earliest permanent fur trade post on the Upper Mississippi at the mouth of the Pine River. This post was established in 1784. An Indian village was reported at this site in 1805.
It may be possible to develop an interpretive historical marker at this landing describing the fur trade era in cooperation with the Minnesota Department of Natural Resources.
 68. **Proposed DNR Campsite** (Mile 324; Map #58)
This proposed DNR site would be located on county land. Access would be by river only and overnight camping would be provided. It would be developed as part of the state Canoe and Boating Route program.
 69. **Black Bear Lake Public Access** (Mile 326.3; Map #59)
This access is located at the outlet of Black Bear Lake to the river. It is administered by the Division of Enforcement, Minnesota Department of Natural Resources.
 70. **Half Moon Access and Campsite** (Mile 327.5; Map #59)
This DNR site includes access to the river, picnicking, and overnight camping.
 71. **Riverton Public Access** (Mile 331.5; Map #60)
This access is administered by the City of Riverton.
 72. **Possible DNR Public Access** (Mile 336; Map #62)
This public access point could be developed on existing state land.
 73. **Possible DNR Primitive Campsite** (Mile 337.6; Map #62)
The DNR has proposed a primitive water access only campsite on county-owned land near the French Rapids. This site would allow overnight camping.
 74. **French Rapids County Park** (Mile 338; Map #63)
The status of this county-owned land is uncertain due to proposed airport expansion.
 75. **Lum Park** (Mile 340; Map # 63)
This municipal park is located on Rice Lake which is an arm of the reservoir backed up by the Brainerd Dam. It is administered by the city of Brainerd. Access, rest facilities, and water are available.
 76. **Brainerd Dam Portage** (Mile 340.5; Map #63)
A portage is available around the dam at Brainerd.
 77. **Public Access** (Mile 341; Map #63)
 78. **Crow Wing State Park** (Mile 351.5-355.5)
This state park is administered by the Division of Parks and Recreation, Minnesota Department of Natural Resources. Facilities include overnight camping in the main campground, a wilderness campground for canoeists, an historical interpretive center, boat ramp access, water, toilets, picnic grounds, trailer sanitation station, amphitheatre for outdoor education programs, and trails for hiking, snowmobiling, and cross-country skiing. This is the site of the old town of Crow Wing, an early trading post and an important depot on the old Red River Ox Cart Trail.
 79. **Fort Ripley Historical Site** (Mile 363.3; Map 69)
An existing historical plaque located off Highway #371 near the mouth of the Nokasippi River describes this important U.S. Army military outpost of the 1800's.
 80. **Proposed DNR Primitive Campsite** (approx. Mile 368; Map #71)

This proposed DNR primitive campsite would provide for overnight canoe camping. Access would be by water only.

81. **Belle Prairie County Park** (Mile 375.5; Map #73)
This recently acquired county land may provide for access and rest facilities in the future.
82. **North End Park Rest Area and Access** (Mile 379.8; Map #74)
This park is administered by the City of Little Falls.
83. **Little Falls Dam Portage** (Mile 380.6; Map #74)
There is a developed portage around the Little Falls Dam on the left or east side of the river.
84. **Public Access** (Mile 380.8; Map #74)
This public access is administered by the City of Little Falls. It is located on the east side of the river below the dam.
85. **Charles A. Lindbergh State Park** (Miles 382-383; Map #74, 75)
This park is named after the father of the famous aviator, a Republican Congressman from Minnesota from 1907 to 1917. It preserves the boyhood home of Charles Jr. who made the famous solo trans-Atlantic flight in 1927. The Lindbergh home along with many family momentos are administered by the Minnesota Historical Society. There is also an interpretive center and museum. Camping is available as well as water, a trailer sanitation station, picnic area, hiking trails, and toilets.
The camping facilities are scheduled to be upgraded and an isolated canoe campsite is proposed for the area near Pike Creek.
86. **Minnesota Power & Light Company Public Access** (Mile 389.5; Map #77)
Located about one-half mile above the Blanchard Dam, this access will probably be upgraded.
87. **Blanchard Dam Portage** (Mile 390; Map #77)
Negotiations are proceeding to provide for a canoe portage around the west end of the Blanchard Dam.
88. **McDougall Homestead Historic Site and Heron Rookery** (Mile 392; Map #77, 78)
This site is owned by The Nature Conservancy. It preserves an old historic homestead and a large Great Blue Heron rookery.

GREAT RIVER ROAD PROGRAM

A separate section of this plan is devoted to the Great River Road project because it offers the county members of the Mississippi Headwaters Board an opportunity to purchase and develop unique river-oriented recreational areas, within their jurisdictions.

Although not all of the eight member counties are participating in the state program at this time, it does provide one possible means for financing some desired recreational land purchases and developments suggested in this Mississippi Headwaters Board plan.

According to a Minnesota Department of Transportation brochure, the purpose of the Great River Road is to "provide a scenic, recreational and historic, parkway-like road along the Mississippi River".

The Great River Road project is authorized for the ten states of Arkansas, Illinois, Iowa, Kentucky, Louisiana, Minne-

sota, Mississippi, Missouri, Tennessee and Wisconsin.

To assist the governors in the conduct of the feasibility studies and the implementation of the project itself, each of the ten governors appointed a state Mississippi Parkway Commission.

In 1973, Congress authorized \$90 million through the Federal-Aid Highway Act, though no funds were immediately appropriated. In the Federal-Aid Highway Act of 1976, Congress also authorized \$78.75 million for actual development.

In November, 1978 Congress authorized \$140 million in Great River Road funding as a part of the Surface Transportation Act. This authorization, which covers a four-year period, will be available to the ten states only after the 1976 authorization is obligated.

To date, a total of \$309 million has been made available to the ten states, of which Minnesota's share is approximately \$47 million. This Minnesota share amounts to about \$7-\$9 million annually. This funding insures continuance of the project through 1982.

During the 1979 Session, the State Legislature through the Legislative Commission on Minnesota's Resources made an additional \$400,000 available to participating governmental units to assist in financing recreational amenity projects such as scenic easement purchases, park development, etc. This legislative action resulted in reducing the local share for these amenity projects 25 percent to 12½ percent.

Over the past three years over \$21.7 million in Great River Road funds has been obligated in Minnesota. Of this total \$5.6 million has been for projects in Clearwater, Beltrami, Itasca, and Aitkin counties. This total includes funds for scenic easement purchases, erosion control and revegetation, and park land development in these counties.

Additional projects in some of the eight member counties are currently moving forward. In addition, the route from Grand Rapids to Bemidji is currently under study, with the Little Falls to Aitkin segment yet to be studied.

LANDS ADMINISTERED BY THE BUREAU OF LAND MANAGEMENT (BLM) ALONG THE UPPER MISSISSIPPI RIVER

The Bureau of Land Management is an agency of the United States Department of Interior. It is responsible for the management and administration of 454 million acres of public lands, as well as millions of acres of subsurface mineral ownership and the Outer Continental Shelf. The Bureau ". . . seeks to express a 'multiple-use' concept of management; to achieve the balance required to use lands and minerals wisely, to protect environmental, cultural and historical values, and to help satisfy America's domestic needs for energy, housing, food and fiber; all while providing for leisure enjoyment through outdoor recreation." (From *The Lake States Bureau of Land Management* brochure, 1976)

The local office of the BLM is in Duluth, Minnesota. This "Lake States Office" is responsible for the states of Michigan, Minnesota, and Wisconsin. One of the tasks of this office is to develop a complete inventory of the publicly owned islands in the lakes and streams of these states. Since 1966, the Lake States Office, using aerial photos, original survey records, and subsequent field inventories, has found more than 2,700 islands meeting Federal ownership criteria and has compiled information on their values. These islands, along with scat-

tered upland tracts, are a part of the public domain that was originally acquired from France in the Louisiana Purchase of 1803.

The portion of the Upper Mississippi within the Mississippi Headwaters Board study area (Lake Itasca to the southern boundary of Morrison County) contains several of the island and upland areas administered by the Bureau. A complete summary of the acreage and location of these lands is provided at the end of this section.

The islands are of particular interest because of their potential for providing open space, wildlife habitat, and recreational opportunities. Some of them are suitable for use by river travelers as rest stops, picnic areas, and campsites. They are also havens for wildlife.

The BLM has not been involved in any active management of the islands and probably will not change this policy in the future. The islands are currently available for public recreational uses, but no developed facilities have been provided. Some of these islands receive light recreational use at the present time.

The BLM has recently completed a wilderness inventory of uplands and islands in Minnesota in accordance with the Federal Land Policy and Management Act of 1976. None of the BLM-administered lands in Minnesota were recommended for wilderness designation, however.

In the past the BLM has entered into cooperative agreement for the management of some of its administered lands. While these agreements are often with other federal land management agencies, such as the U.S. Forest Service, they can also be with other state or local administering agencies.

Some of the islands in the Upper Mississippi may be desirable for development as recreational sites. Many of the islands are located in the Crow Wing and Morrison counties section of the river which has relatively fewer river-related recreational facilities than most of the upstream sections. In addition, the islands make ideal recreation sites for river users in some cases since access to them is by water only. This helps eliminate conflicts of use which sometimes occur at recreation sites accessible by road. Another advantage of the islands for recreational use is that they are already in public ownership and their development as recreational sites would not require acquisition of private property.

A more detailed reconnaissance of the islands will be necessary to determine which specific islands are the most suitable or desirable for possible recreational use and whether any facility development would be needed. The Mississippi Headwaters Board may wish to discuss the possibilities for a cooperative management agreement with the BLM for these islands.

The BLM-administered lands along the Upper Mississippi River present excellent opportunities for recreation and wildlife management. To take full advantage of these opportunities, the use and management of these lands should be incorporated into future recreation and land management plans for the Upper Mississippi, including specific cooperative management agreements with the BLM.

Bureau of Land Management Islands and Upland Areas

Summary:

Clearwater County:

No BLM-administered islands or uplands along the Upper Mississippi River.

Hubbard County:

No BLM-administered islands or uplands along the Mississippi River.

Beltrami County:

No BLM-administered islands or uplands along the Mississippi River.

Cass County:

No BLM-administered islands or uplands along the Mississippi River.

Itasca County:

Upland Size In Acres	Twp.	Range	Section
.05	55N	26W	14
3.00	55N	27W	14
.75	55N	27W	14
.08	55N	27W	23
23.25	55N	27W	23
17.00	55N	27W	28
14.80	55N	27W	28
.06	55N	27W	28
10.06	55N	27W	33
.07	55N	27W	33

Total	69.12		

Aitkin County:

Island Size in Acres	Twp.	Range	Section
1.00	48N	26W	15
Upland Size in Acres	Twp.	Range	Section
.11	47N	26W	6
1.00	47N	27W	10
4.75	50N	24W	24

Total	6.86		

Crow Wing County:

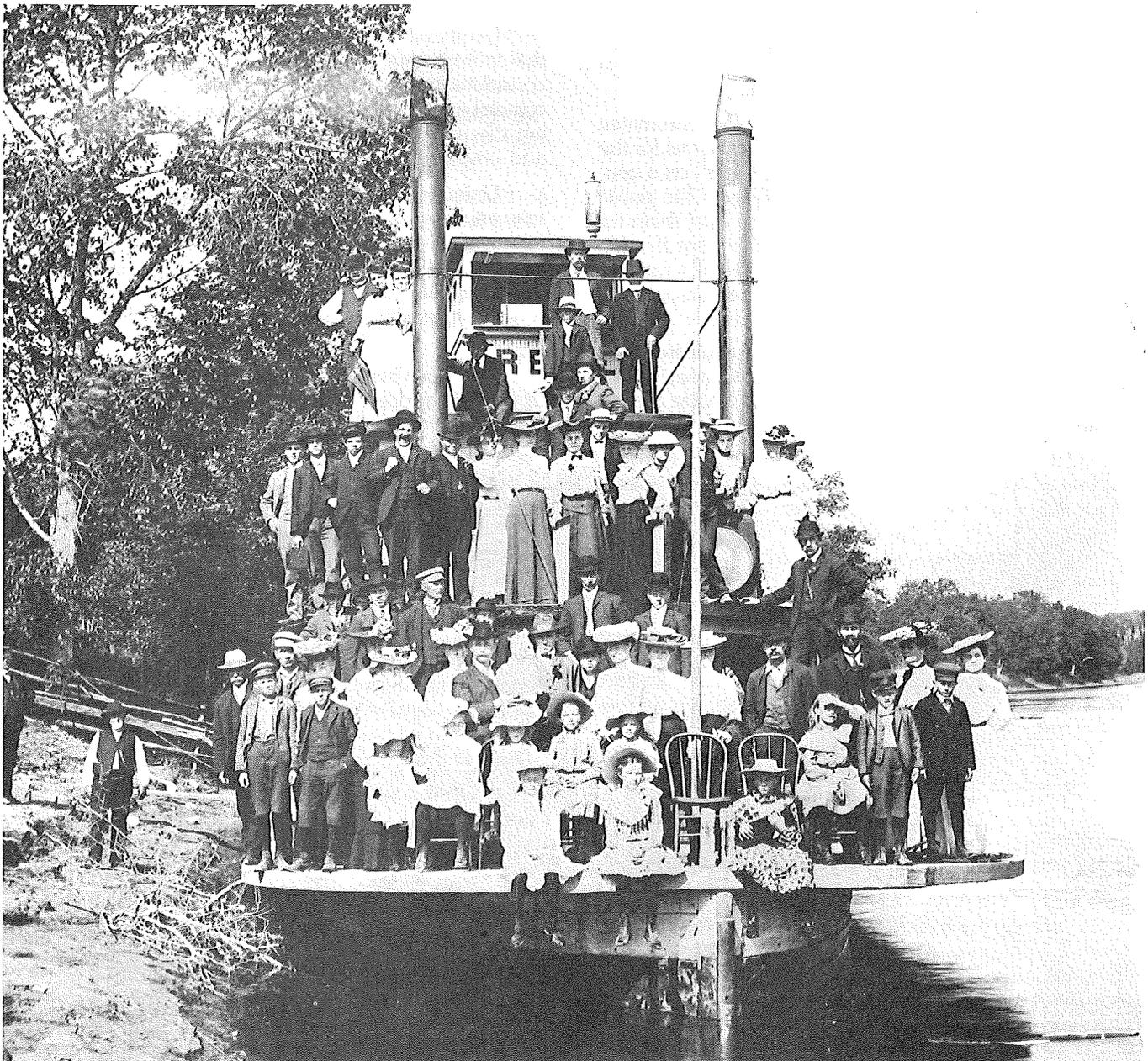
Island Size in Acres	Twp.	Range	Section
24.00	133N	28W	16
6.00	134N	28W	34
.50	133N	28W	4
4.50	44N	31W	3
.20	136N	25W	29
1.50	136N	26W	25
.30	136N	27W	25
1.00	136N	27W	25

Total	38.00		

Morrison County:

Island Size in Acres	Twp.	Range	Section
1.50	128N	29W	32
2.10	127N	29W	5
2.50	127N	29W	5
.10	127N	29W	5
.10	127N	29W	5
.10	127N	29W	5
.10	127N	29W	5
.10	127N	29W	5
.10	127N	29W	5
1.50	127N	29W	5
.20	39N	32W	29
2.00	39N	32W	29

.10	39N	32W	29	1.00	130N	29W	28
.10	39N	32W	29	6.50	130N	29W	32
.20	39N	32W	29	.10	129N	29W	5
2.00	127N	29W	4	.10	129N	29W	5
.10	39N	32W	32	.10	129N	29W	5
.30	39N	32W	32	.10	129N	29W	5
4.00	127N	29W	8	1.00	129N	29W	5
6.00	127N	29W	21	30.00	127N	29W	26
7.00	127N	29W	17	----			
.10	130N	29W	9	Total	85.80		
.30	130N	29W	9	Total BLM-administered lands in Mississippi Headwaters Board Study Area:			
1.50	130N	29W	16	Total for Uplands:			
7.00	130N	29W	16	13 upland parcels totaling 75.98 acres			
2.20	130N	29W	16	Total for Islands:			
.20	130N	29W	21	47 island parcels totaling 124.80 acres			
5.00	130N	29W	28	Combined Total:			
.20	130N	29W	28	60 parcels totaling 200.78 acres			
.10	130N	29W	28				
.20	130N	29W	28				



An excursion scene on the steamer "Irene" on the Mississippi River near Aitkin. Photo: Courtesy Minnesota Historical Society and the Aitkin County Historical Society.

The Management Plan

LAND MANAGEMENT

County Lands

Protection of the river will be primarily accomplished through the adoption of a comprehensive zoning ordinance adopted by the member counties in the manner prescribed in Minnesota Statutes Chapter 394, as amended.

However, there are some areas along the river which should be given greater protection than that which is feasible through a zoning ordinance. In these special areas that are needed for public use or for protection of scenic, historic, scientific or other values, greater protection will be provided through the acquisition of fee title, easements or other interests in land.

In all cases, where land or interests in land are purchased it will be done solely on a "willing buyer — willing seller basis." No condemnation of lands or any interests in land will be purchased by the member counties.

As is shown on the maps delineating the zoning district boundary along the river, there already is a considerable amount of publicly owned land along the river.

As a part of the study process, the advisory committee members arrived at agreement on common objectives for the management of these lands. Most notably, there was a consensus to retain the county tax-forfeited lands in the public domain as a part of this project rather than to offer them for sale for private development or other non-public uses. In addition, these lands are to be perpetually managed in a manner which will maintain or improve their aesthetic, recreational or other qualities.

Several counties have already acted to dedicate these lands as parts of county memorial forest where they will be held and managed as a public trust for fish and wildlife, recreational and other values.

In addition, seven of the eight counties (except Morrison) have considerable county tax-forfeited acreage under their jurisdiction, and have a "land commissioner" and staff responsible for their management. These counties have management policies and a comprehensive management plan which provides for the wise use and conservation of these lands and resources.

In preparing this plan, each county plan was examined and critiqued and uniform policies were drafted to guide management of these lands along the river.

State Lands

There are also considerable state-owned lands along certain river segments.

While neither the Mississippi Headwaters Board nor the individual counties have direct authority over these lands, it is important that understandings and cooperative agreements be developed for management of public lands along the river.

Until recently a significant impediment existed to more cooperative management of state and county lands for a specific purpose or general resource management. Specifically, the most efficient administration of these lands was not always possible due to "checkerboard" county/state ownership patterns, and there was no procedure by which ownerships could be consolidated.

However, the 1979 Session of the Minnesota Legislature passed a law which greatly increased the counties' and state's ability to better manage these lands. First, it provided a procedure through which counties and the state could exchange lands to consolidate ownerships into more manageable units. This could significantly reduce administrative costs and enhance resource management opportunities, particularly along the Upper Mississippi River within the Mississippi Headwaters Board jurisdiction. In addition, the legislature provided in-lieu-of tax payments to the counties for state and county tax-forfeited lands within their respective counties. Part of this fund was obligated to tax reduction, the remainder to be used for resource management activities on these lands to improve their public value.

This legislation then, has promoted a "climate" in which responsible management of these public lands is encouraged and supported by many.

Land exchanges between the county and state or among the county, state, and private land owners can be used with considerable effectiveness to increase and consolidate public ownership along the river. Specific recommendations regarding the use of land exchanges between governmental units and private owners are made in this plan.

Unique advantages of this approach are that it does not take any more land from the local tax base, yet ownership can be significantly consolidated or increased along the Upper Mississippi River without the expenditure of large sums of public money. Also it is possible to accomplish such exchanges in a reasonable period of time.

Federal Lands

There are two major federal ownership areas along the Upper Mississippi — the lands within the Chippewa National Forest, administered by the U. S. Forest Service and the land, including numerous islands, administered by the U. S. Bureau of Land Management.

The headwaters reach of the Mississippi also flows through and along Indian lands which are under the control of the respective private owners or the Leech Lake Reservation.

Although there was no formal participation by the U. S. Forest Service personnel in the preparation of this plan, input was solicited from them and forest management guidelines were reviewed as a necessary part of this planning process. In addition, preliminary drafts of new policies and guidelines for Chippewa National Forest recreation and land management activities should be coordinated by the Board with the Forest Service and other land managing agencies.

When this plan is approved as an alternative to federal management of the river as a National Wild and Scenic River, the Board will initiate discussions with appropriate Forest Service personnel to implement the resource management objectives contained in this plan, including proposed cooperative management agreements. Specific land management recommendations for areas of intergovernmental cooperation among present public land managers along the river are also provided in this plan.

Management Guidelines for Public Lands

As a part of the multiple use forest management objectives for public forested lands along the river there is a special

need that is recognized by the Board to provide management objectives that are consistent with aesthetic and recreational qualities of the river. Specifically there is a need to manage these lands along the river in a manner that will enhance the aesthetic recreational values and its fish and wildlife resources. To accomplish these objectives the Board has established the guidelines for management of public lands along the river, and it is hopeful that formal concurrence with state and federal authorities could be arrived at as part of implementation of this plan. These management guidelines include:

1. Pursuant to state law, no state or county lands bordering the Mississippi river or its tributaries within the management areas shall be offered for public sale.
2. In furtherance of the policy established by the Mississippi Headwaters Board under M.S.A. 471.59, no county or state lands within memorial forests, established under M.S.A. 459.06, bordering the Mississippi River or other public lands within the river management boundary shall be offered for public sale.
3. No new nonrecreational leases of public lands within the river management boundary established by the Mississippi Headwaters Board shall be granted.
4. To the extent practicable and feasible, existing nonrecreational leases of public lands within the river management boundary shall be phased out.
5. The Mississippi Headwaters Board, on behalf of member counties, should work with state and federal authorities to develop a comprehensive agreement for cooperative management of public lands within the designated river management area, to improve fish and wildlife habitat.

6. The Mississippi Headwaters Board, on behalf of member counties, should formulate a plan in cooperation with state and federal authorities for the construction and maintenance of grants-in-aid trail systems on public lands within their jurisdiction.
7. Counties that already have a land classification system for public lands should continue this process to ensure wise management of these lands in the public interest.
8. Counties which do not presently have a classification system for their public lands should initiate it for lands within the river management area identified in this plan.
9. Priority should be given to completion of the inventory and development of a management plan for wetlands and river oxbows located on public lands within the river management area. This should be developed in cooperation with the Department of Natural Resources Fish and Wildlife Division.
10. Management activities on public lands within the river management area should be conducted in a manner which enhances the natural, archaeological, cultural, aesthetic, recreational, fish and wildlife values of these lands.
11. Management projects and techniques for wildlife production of both game and non-game species should be undertaken to improve the outdoor recreation values of the Upper Mississippi River and its adjacent lands.
12. To the greatest extent practicable, Mississippi Headwaters Board member counties should initiate land



Duck hunting with canoe. Courtesy Minnesota Department of Natural Resources.

exchanges with private landowners who want to exchange their land to increase its public land holdings along the Mississippi River.

13. Land exchanges with the State of Minnesota should be undertaken to consolidate blocks of public lands in same ownership, in order to develop more easily managed public ownerships.
14. Where critical lands are acquired in fee title, from willing sellers, individual member counties may wish to consider sale of other lands outside the management boundaries in order to offset any possible reduction in local tax base.
15. Within available funding, the counties will attempt to purchase scenic easements or other interests in land, from landowners who desire to sell them and where such purchases are desirable to protect unique shoreland areas.
16. The MHB, on behalf of its member counties, will assist in preparing cooperative agreements with state and federal agencies such as the Minnesota Department of Natural Resources, U.S.F.S and the Bureau of Land Management, for the management of recreation, land and water resources.

ADMINISTRATION

The Mississippi Headwaters Board is constituted as an eight county joint powers board composed of one county commissioner from each of the eight member counties.

The joint powers agreement signed by representatives of the eight member counties currently includes procedures for orderly succession of members and permanence of the agreement.

However, the MHB, on behalf of the member counties, will seek specific state legislation to further ensure the permanency of the Board, succession of members from each county and provide authority to review and certify certain county zoning decisions.

If this proposed legislation is enacted, the ordinance proposed in this plan would be amended to include this certification procedure.

The specific review and certification procedure is included in the model ordinance section of the plan and in the section entitled "Proposed Ordinance Review and Certification Procedure".

In order to save time, expenses and increase the likelihood of securing state and federal funding the Board's staff would also prepare grant applications to get state and federal funding for the Board and the individual counties to assist in plan implementation. The anticipated funding sources to be pursued by the Board are described further in the Financing Section of this plan.

The Board can also assist member counties in relations with state and federal agencies which have jurisdiction over lands and waters within the boundary of the proposed zoning district.

Board staff can assist the counties in identifying lands that would be desirable to exchange with state and federal agencies or willing private landowners.

Also, the Board and its staff can also serve as a general contact for landowners or the general public who have specific

concerns about river management, plan administration or the like.

On behalf of the member counties, the Board also intends to seek direct state funding to finance its staff support and the objectives described in this plan.

Throughout the process of plan preparation, the Board has utilized two advisory committees: a technical advisory committee and a citizens advisory committee. The assistance of these committees in preparing this plan was invaluable.

The Board intends to merge these two committees into a single advisory committee. The purpose of this committee will be to advise the Board and the member counties on the various aspects of implementing its river management plan. Like the existing committees, the membership of this advisory committee to the MHB is intended to include the broadest possible range of citizen interests and expertise. It would include representatives of several levels of government and private citizens. This committee would likely include: landowners, county and township representatives, DNR and U.S.F.S. staff and representatives of conservation, industry and labor organizations.

This advisory committee, like the Board, would also meet on a regular basis to assist and advise them on matters which should be addressed by them. It is impossible to precisely predict how many Board and/or advisory committee meetings will be necessary each year.

However, we have estimated per diem and related travel expenses based on 15 meetings each year over the next two-year period.

Further, arrangements will be made through the Cass County Auditor's Office to establish a regular meeting schedule. Establishing a regular meeting schedule should further improve the Board's efforts to have all of its meetings convenient for the participants, media and the general public.

Currently administrative control over public lands and water within the land use district boundary rests with several federal, state and local authorities including the U.S.F.S., U.S. Army Corps of Engineers, U.S. Bureau of Land Management, Leech Lake Reservation, Minnesota Department of Natural Resources, Minnesota Pollution Control Agency, Minnesota Department of Transportation, watershed districts, soil and water conservation districts, the eight counties themselves and others.

This plan does not recommend any changes in this multi-agency jurisdiction. However, the MHB will endeavor to work with these agencies and to coordinate its activities with them in order to eliminate duplication of efforts/programs and expenses, and to improve overall management.

Discussions have already been started with several of these agencies to ensure timely, cooperative implementation of this plan.

Some specific areas of cooperation between the Mississippi Headwaters Board, its member counties, and state or federal agencies are identified in the Recreation Management and Land Management sections of this plan.

FINANCING

We have estimated the cost for plan implementation over the next year period. It is our belief that the proposed budget is a realistic appraisal of costs over this period since it is: (1) based on current county operating expenditures for such activities; (2) utilizes existing state and federal grant programs where necessary local match is known and calculable, and (3)

based on a workload analysis of each county in developing financial data.

The Board intends to seek a direct state appropriation to pay for staff and administrative support necessary to carry out its functions described in this plan. The estimated budget for board administration is \$174,750 for 1981-82. Presently, no direct federal appropriation request will be made by the Board. Use of existing state and federal grant programs can provide a significant amount of state and federal funding match for a minimal level of local matching funds. Further, it is recommended that the local match could be obtained or covered through funding available in existing county programs.

While many of these existing grant programs are competitive, a considerable number of contacts with state and federal administration of these grant programs has already been made. Based on the initial reaction of these officials to the MHB project, we believe that it is likely that the funding requests prepared by the Board will get full consideration by them for funding.

Further, because of the uniqueness of this endeavor and the magnitude of the project undertaken by the counties, we believe it will further increase the likelihood for getting the funds necessary to implement the plan.

A list of some of the likely state and federal programs which are currently available to help finance the implementation of the various aspects of this program include:

Recreation Management Implementation

Great River Road — Through this program "amenity" projects such as park and recreation area acquisition and development, scenic easements purchases and other recreation-oriented projects can be financed on a local, state, federal cost-sharing basis. With additional funds provided by the 1977 Legislature for amenity projects, the cost-share formula is 12.5 percent local, 12.5 percent state and 75 percent federal. According to the Minnesota Department of Transportation, other funds which are eligible for the 30 percent match on Great River Road projects include: 1) Federal Revenue Sharing; 2) Economic Development Assistance Grants; 3) HUD Block Grants, and 4) Upper Great Lakes Regional Development Commission funding (through Economic Development Assistance Funds).

Canoe and Boating Route Program — The Minnesota Department of Natural Resources administers the state Canoe and Boating program. The state legislature has established a canoe and boating route system consisting of 18 designated rivers throughout the state (MSA 85.32). The Mississippi River was one of the first rivers to be included in this system.

The purpose of the program is to enhance the recreational use of rivers. In addition to providing for the marking of river hazards and points of interest, the legislation authorizes the acquisition and development of canoe campsites, rest areas, accesses, and portages. The Commissioner of Natural Resources is also authorized to work in cooperation with local units of government in the development of recreation sites.

In the past, the Department of Natural Resources has entered into cooperative agreements or more formal contracts with local government agencies. The Department has provided such items as signs, picnic tables, and fire grates. It has also undertaken facility development on lands from local governments.

Land and Water Conservation Fund (LAWCON) — The Federal Land and Water Conservation Fund is a grant program to state and local units of government for assistance in acquiring land and developing basic facilities for park and outdoor recreation purposes. Counties, cities, towns, and special park districts or elected park and recreation boards in cities of the first class are eligible to apply for these grants. Some of the funds for Minnesota are administered through the Legislative Commission on Minnesota's Resources (LCMR).

Eligible projects include **acquisition** of land for **future development** as a park or outdoor recreation facility and **development** of eligible facilities on land owned or under long-term lease by the applicant. Certain facilities are ineligible.

Funding is provided on a cost-share basis at various percentages provided through LAWCON grants, LCMR grants, and the local government share. In general, this breaks down as follows:

LAWCON grants — 50 percent
LCMR grants — 25 percent
Local Share — 25 percent

The Office of Local and Urban Affairs, Minnesota State Planning Agency, provides information and assistance for the LAWCON program.

It should be noted that development of recreation sites by the individual counties, or in cooperation with state or federal agencies, will depend on availability of funds and an assessment by the county for the appropriateness of such development.

Planning and Zoning Implementation

There are both state and federal grant programs to assist in the costs of financing comprehensive planning, zoning ordinance adoption and other related activities. Most notably HUD and State Planning Agency grants have been, and can be, used for this purpose. Priority consideration is frequently given to those projects which address a regionally significant (multi-county) concern.

Public Land Management

A portion of the state payments-in-lieu-of-tax monies provided to counties which have county tax-forfeited, state or federal lands within their boundaries, is intended to be used to improve the management of county owned lands. (Part of this fund is also dedicated to provide local tax relief.)

In addition, federal in-lieu of payments to the counties may also be used for this purpose.

The recommendations in this plan to undertake fish and wildlife and timber stand improvement projects could be financed in part from these sources.

Many of these estimated county share costs can be used as match to get state and federal funding assistance.

It should also be noted that based on information received from county staff, it is not anticipated that implementation of this program by the MHB and its member counties will require any increase in staff at the county level.

State and federal matching funds are available for purchase of critical lands, or interests in lands, from landowners who desire to sell. A two year budget has been prepared for this purpose. Future purchases would be based on the success of this program and the continued availability of willing sellers.

In summary, a reasonable, effective, and sustained program of zoning, recreation management and land management can be accomplished largely through use of existing state and federal grant programs, and will require only a small direct state appropriation to supplement them.

MODEL ZONING ORDINANCE

Introduction

The primary method by which the Mississippi Headwaters Board plan proposes to protect the Upper Mississippi is through the adoption of a comprehensive local zoning ordinance.

The draft ordinance which follows is the result of many meetings with the advisory committees, composed of county zoning officers, land commissioners, township officers, landowners and others.

The ordinance sets minimum standards for such things as lot size, building setbacks, sewage treatment and permitted and conditional uses within the shoreland area. It also includes guidelines for such activities as new road construction, utility construction, timber harvesting and grading or filling.

These standards or guidelines vary according to the particular river segment. There are two separate zones identified on the zoning classification description included in this section of the plan. Zone classification #1 includes that segment of the river from Lake Itasca to river mile 47 (Iron Bridge area). This corresponds to the "Headwaters Unit," proposed in the National Park Services' Conceptual Master Plan for "wild" classification. Certain provisions of the proposed zoning ordinance are more protective for this zoning classification in recognition of its outstanding natural characteristics.

The remaining segments of the river are assigned zone classification #2. These segments include those areas recommended for "scenic" classification by the National Park Ser-

vice as well as substandard additional shoreland areas.

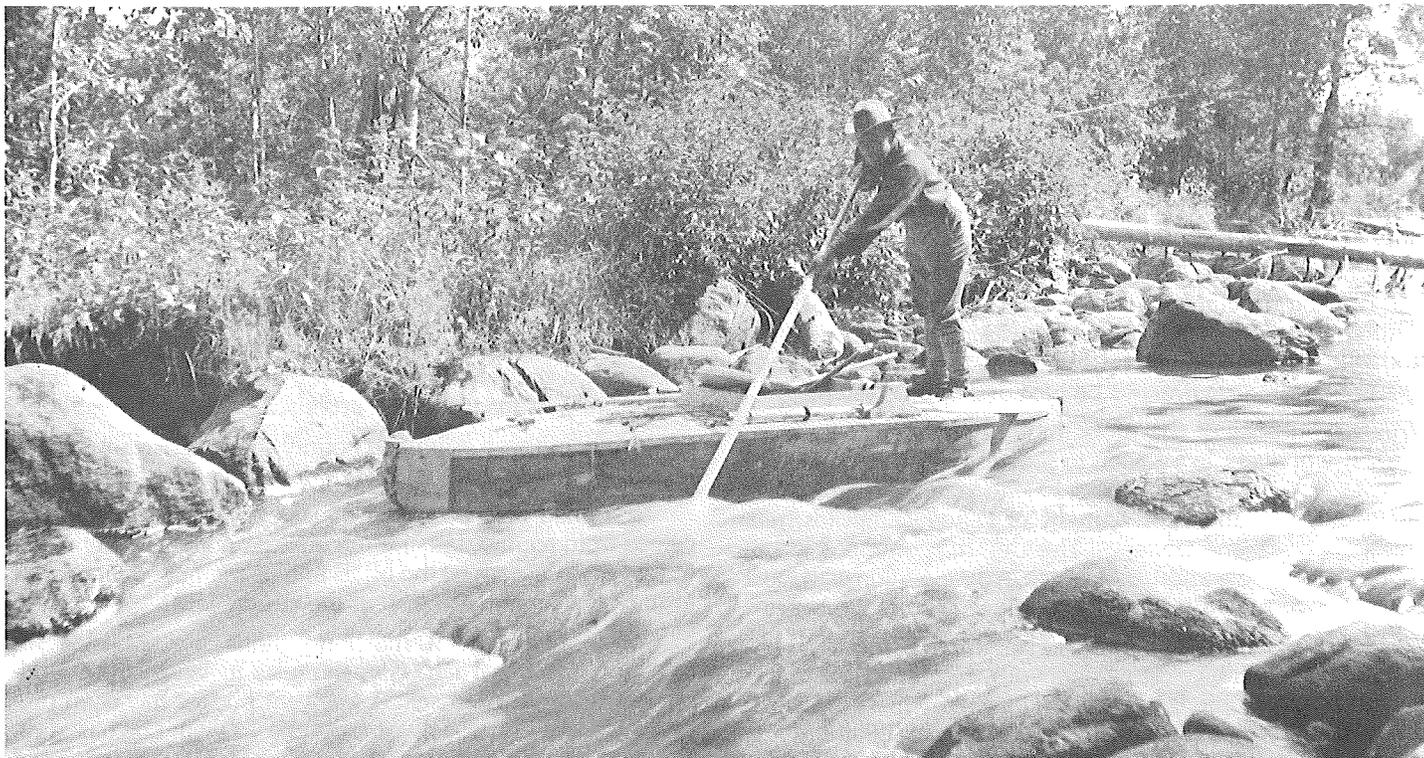
In addition, shoreland zoning standards for several headwaters area lakes have been upgraded.

The minimum standards contained in the model ordinance would apply to lands under the jurisdiction of the counties along the Mississippi River within the boundaries delineated on the maps (1-79) shown in the plan. The boundary was drawn to correspond, to the extent possible, to existing property lines or government survey lines. This was done to make local administration easier. In addition, it was felt that a boundary that was drawn to follow property lines could better account for sound management of public lands, resource protection, and private ownership considerations. This alternative was chosen to the minimum 1000 foot zoning area that exists around all lakes included in the present shoreland management program.

This ordinance, once adopted by the individual counties, would be administered by them. Building permits would continue to be issued by the individual county zoning authorities. However, in order to provide for consistency of local administration, certain actions would also be reviewed by the Mississippi Headwaters Board.

Also, this plan proposes that certain aspects of the existing shoreland ordinances that apply to the headwaters lakes would be upgraded. Because of the existing development along these lakes, it was felt that separate minimum standards should apply. These suggested standards and the lakes to which they would apply are also described in this section of the plan.

Finally, the adoption and administration of this comprehensive ordinance at the local level, together with the implementation of the other recommendations in this plan, should provide a sound long-term alternative to federal acquisition and management.



Early boater on the Upper Mississippi north of Lake Itasca. Courtesy Minnesota Historical Society.

Model Ordinance

Section 1 – Policy and Authorization

An ordinance for controlling shoreland development in order to protect the Upper Mississippi River and its adjacent lands in Minnesota, under the authority contained in M.S.A. 471.59, and in furtherance of policies contained in Minnesota Statutes Chapters 104, 105, 115, 116, 394, 396, the Mississippi Headwaters Board joint powers agreement and the Mississippi Headwaters Board management plan for the Mississippi River and certain headwaters lakes referred to in this ordinance. This management plan shall hereinafter be referred to as the "Upper Mississippi River Management Plan."

The County Board of Commissioners of, Minnesota does ordain:

Section 2 – Title

This ordinance shall be known, cited and referred to as the Upper Mississippi River Conservation Ordinance; except as referred to herein, where it shall be identified as, "this ordinance."

Section 3 – Purpose

This ordinance is adopted to achieve the policy of Section 1 and to:

1. To comply with the Mississippi Headwaters Board joint powers agreement and in furtherance of the policy statement contained herein.
2. In furtherance of the objectives and policies contained in the Upper Mississippi River Management Plan for protection of the Mississippi River and adjacent lands and certain headwaters lakes.
3. Designate zoning districts along the Mississippi River which are contained within the Upper Mississippi River Management Plan.
4. Regulate the area of lot, length of lot, width of lot at the water line, setback of structures, sanitary waste treatment systems, structure height, and to protect the existing quality of Mississippi River shoreline, its vegetation soils, water quality, flood plain areas and geology.
5. Regulate alterations of the shoreland vegetation and topography.
6. Maintain property values and prevent uncontrolled or poorly planned development.
7. Prevent pollution and overcrowding.
8. Protect and conserve the historic, recreational, archaeological, cultural, fish and wildlife resources of the Mississippi River and adjacent lands.
9. Provide for wise use and management of the Mississippi river its adjacent lands and resources.
10. Promote the general health and welfare.

Section 4 – General Provisions

1. Jurisdiction
 - a. The jurisdiction of this ordinance shall include all lands contained within the Mississippi River and headwaters lakes zoning district(s) within the jurisdiction of as identified in this ordinance and on map(s) contained in the Upper Mississippi River Management Plan. The above specified maps are hereby adopted as a part of this ordinance.
 - b. The jurisdiction of this ordinance shall not include lands within incorporated areas on the date of adoption of this ordinance.
 - c. When land within the zoning district(s) is annexed, incorporated or in any other way transferred to another jurisdiction, a moratorium shall exist on all subdivision platting, building permits, construction, grading and filling, and vegetative cutting until the newly responsible unit of government adopts zoning for that land. The zoning shall meet the provisions of these rules that applied to the land before the transfer. This provision does not apply to work for which lawful permits were previously issued.
2. Compliance
 - a. The use of the Mississippi River shorelands, the size and shape of the lot, the type, dimensions and location of structures on the lot, the installation and maintenance of water supply and waste treatment facilities, the filling, grading, lagooning or dredging of any Mississippi River shoreland area, the cutting of shoreland vegetation and the subdivision of lots as prescribed in the Minnesota Subdivision Controls Ordinance shall all be

in full compliance with the terms of this ordinance, said subdivision controls ordinance, 6MCAR 4.8040 as promulgated by the Minnesota Pollution Control Agency and Minnesota Department of Health regulations. Said regulations are hereby adopted and made a part of this ordinance by reference.

3. Abrogation and Greater Restrictions
 - a. This ordinance supersedes all provisions which are less restrictive of any, Minnesota zoning ordinance that applies to Mississippi River shoreland or flood plain areas or shoreland areas of the headwaters lakes designated in this ordinance.
 - b. This ordinance does not prohibit local governments from adopting or continuing in force, by ordinance, regulations of the Mississippi River or headwaters lakes and its adjacent lands, which are more restrictive than those required by this ordinance.
 - c. It is not otherwise intended, nor shall it be construed by this ordinance, to repeal, abrogate or impair any existing deed restrictions or ordinances thereof other than zoning to the extent specified in 3 (a) above. However, when this ordinance imposes greater restrictions the provisions of this ordinance shall apply.
4. Severability
 - a. The provisions of this ordinance shall be severable, and the invalidity of any paragraph, subparagraph or subdivision or any other part thereof shall not make void any paragraph, subparagraph, or subdivision or any other part. If any court of competent jurisdiction shall adjudge invalid any provision of this ordinance or the application of this ordinance to a particular property, building, or other structure, such judgment shall not affect any other provision of this ordinance or any other property, building or structure not specifically included in said judgment.
5. Definitions
For the purpose of this ordinance for, Minnesota, certain words and terms used herein shall be defined as follows:
The word "shall" is mandatory, not permissive. All distances unless otherwise specified shall be measured horizontally.

"**Agricultural Use**" means use and management of land for production of crops or raising of livestock and poultry. This use shall include all needed structures and facilities and maintenance and cleaning of ditches.

"**Building Line**" means that line measured across the width of the lot at the point where the main structure is placed in accordance with setback provisions.

"**Campground**" means an area accessible by vehicle and containing campsites or camping spurs for tent and trailer camping.

"**Cluster Development**" means a pattern of subdivision development which places housing units into compact groupings while providing a network of commonly owned or dedicated open space.

"**Commissioner**" means the Commissioner of the Minnesota Department of Natural Resources.

"**Conditional Use**" means a use of land which is permitted within a zoning district only when allowed by the County Board of Commissioners or their legally designated agent after a public hearing to which certain conditions are attached which shall eliminate or minimize the incompatibility with permitted uses of the district.

"**Essential Services**" means underground or overhead gas, electrical steam or water distribution systems; collection, communication supply, or disposal systems including poles, wires, mains, drains, sewers, pipes, conduits, cables, fire alarm boxes, traffic signals, hydrants or other similar equipment and accessories in conjunction therewith; but not including buildings or transmission services.

"**Flood Plain**" means the areas adjoining a watercourse which have been or hereafter may be covered by a regional flood.

"**Forestry**" means the management, including growing or harvesting of a forest, woodland or plantation, including the construction, alteration or maintenance of woodroads and landings and the related research and educational activities.

"**Hardship**" means, as used in connection with a variance under this ordinance, the property in question cannot be put to a reasonable use under the conditions allowed by this ordinance. Economic considerations alone shall

not constitute a hardship if any reasonable use for the property exists under the terms of this ordinance.

"Lot" means a parcel of land designated by metes and bounds, registered land survey, auditors plot, or other accepted means and separated from other parcels or portions by said description for the purpose of sale, lease, or separation thereof. For the purposes of these regulations, a lot shall be considered to be an individual building site which shall be occupied by no more than one principal structure equipped with sanitary facilities.

"Mining Operation" means the removal from the land of stone, sand and gravel, coal, salt, iron, copper, nickel, granite, petroleum products or other minerals or materials for commercial, industrial, or governmental purposes.

"Mississippi Headwaters Board" means a board composed of one county commissioner from Clearwater, Hubbard, Beltrami, Cass, Itasca, Aitkin, Crow Wing and Morrison counties, formed as a joint powers board pursuant to M.S.A. 471.59.

"Mobile Home" means living quarters designed for transportation after fabrication on streets and highways on its own wheels or on flatbed or other trailers, and arriving at the site where it is to be occupied as a dwelling complete and ready for occupancy, except for minor and incidental unpacking and assembly operations, location on jacks or permanent foundations, connection to utilities and the like. A mobile home will be defined by reference to the latest publication of the United States of America Standard Institute Standards for Mobile Homes.

"Nonconforming Use" means any use of land established before the effective date of this county ordinance which does not conform to the use restrictions of the particular zoning district. This should not be confused with substandard dimensions of a conforming use.

"Ordinary High Water Mark" means a mark delineating the highest mark level which has been maintained for a sufficient period of time to leave evidence upon the landscape. The ordinary high water mark is commonly that point where the natural vegetation changes from predominantly aquatic to predominantly terrestrial. In areas where the ordinary high water mark is not evident, setbacks shall be measured from the streambank of the following water bodies that have permanent flow or open water: the main channel, adjoining side channels, backwaters, and sloughs.

"Open Space Recreational Uses" means recreation use particularly oriented to and utilizing the outdoor character of an area; including hiking and riding trails, primitive campsites, campgrounds, waysides, parks and recreation areas.

"Planned Cluster Development" means a pattern of subdivision development which places housing units into compact groupings while providing a network of commonly-owned or dedicated open space.

"Planned Unit Development" means a variety of land uses planned and developed as a unit.

"Primitive Unit Development" means a variety of land uses planned and developed as a unit.

"Primitive Campsites" means an area that consists of individual remote campsites accessible only by foot or water.

"Resort" means a private recreational development which includes several structures intended for habitation, on a temporary basis, for relaxation or recreational purposes.

"Selective Cutting" means the removal of single scattered trees.

"Setback" means the minimum horizontal distance between a structure and the normal high water mark or between a structure and a road or highway.

"Sewage Disposal System" means any system for the collection, treatment and dispersion of sewage, including but not limited to septic tanks, soil absorption systems, and drain fields.

"Single Family Dwelling" means a detached building containing one dwelling unit, including modular homes assembled on the site and placed on a permanent foundation, but not including mobile homes.

"Structure" means any building, sign, or appurtenance thereto, except aerial or underground utility lines, such as sewer, electric, telephone, telegraph, or gas lines, including towers, poles and other supporting appurtenances.

"Subdivision" means improved or unimproved land or lands which are divided for the purpose of ready sale or lease, or divided successively within a five year period for the purpose of sale or lease, into three or more lots or parcels of less than ten acres each, contiguous in area and which are under common ownership or control.

"Substandard Use" means any use existing prior to the date of enactment or amendment of a county or local ordinance which is permitted within the applicable land use district but does not meet the minimum lot area, length of water frontage, structure setbacks or other dimensional standards of the ordinance.

"Travel Trailer or Camper" means a unit eight (8) feet wide and less than thirty-five (35) feet in length, designed for short-term occupancy and designed to be pulled behind a vehicle, upon the frame of a truck, or self-propelled units.

"Variance" means any modification or variation of official controls where it is determined that by reason of exceptional circumstances the strict enforcement of the official controls will cause unnecessary hardship.

"Water Management of Flood Control Structure" means a dam, flood wall, wingdam, dike, diversion channel, or an artificially deepened or widened stream channel following the same or approximately the same course as the natural channel, or any other structure for altering or regulating the natural flow condition of a river or stream. The term water management or flood control structure does not include pilings, retaining walls, gabion baskets, rock riprap, or other facilities intended primarily to prevent erosion.

"Wetlands" means lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water, commonly referred to as bog, swamp, or marsh; identified as class 3, 4, or 5 in the public waters classification system or as reclassified based on the U.S. Fish and Wildlife Service classification system.

"Zoning District" means the lands identified on maps for the application of zoning standards which are contained in the Mississippi Headwaters Board plan for the interlocal management of lands adjacent to the Upper Mississippi River, within its jurisdiction.

Section 5 – Designation of Zoning District Boundaries

- In order to protect and manage the Mississippi River and its shoreland, the Mississippi River in -----, Minnesota has been classified as ----- . The uses and classifications of the River and its shoreland are hereby designated by zoning districts, the boundaries of which are identified on the zoning maps ----- . Certain headwaters lakes are also regulated by this ordinance. These maps are designated as the ----- official zoning maps, which are made a part of this ordinance and are on file with the ----- authority.
- Final determination of the exact location of the zoning district and its boundaries shall be made by the ----- zoning authority or the Board of Adjustment.

Section 6 – Minimum Dimensional Standards

- The following chart establishes the minimum standards for lot size, lot width, building setback, and other requirements for each zoning classification/district for the Mississippi River:

Description	Dimensional Standards*	
	River Classification 1	River Classification 2
Lot size	10 ac.	5 ac.
Building Setback	200'	150'
Lot Width at Building Line	330'	330'
Lot Width at Water Line (O.H.W.M.)	330'	330'
Sewage System	150'	125'
Maximum Residential Structure Height	35'	35'

*These dimensional standards would apply only to future development. (Existing developments would be "grandfathered-in".)

- Buildings used for agricultural purposes are exempt from maximum structure height restrictions.
- Substandard Lots

Lots of record in the Office of the County Recorder on the effective day of enactment of this ordinance which do not meet the minimum dimensional requirements of this ordinance shall be allowed as building sites provided: such use is permitted within the zoning district(s); the lot was in separate ownership; the lot meets the land suitability requirements of the ordinance; and all sanitary and dimensional requirements are complied with, to the greatest extent practicable.

- Structure Setback from Roads

The structure setback from highways, roads, streets, and alleys shall

be subject to the minimum setback requirements of the County zoning ordinance.

Section 7 – Uses Within the Zoning District(s)

1. The purpose of regulating uses within the zoning district is to maintain the existing environmental quality of the Mississippi River and its shoreland and to prohibit new uses which are incompatible with the purpose of this ordinance and the Upper Mississippi River Management Plan.

2. Permitted, Conditional, and Nonpermitted Uses

a. In the following uses:

P means permitted.

C means conditional.

N means nonpermitted.

Certain of the following uses are subject to the Minimum Dimensional Standards and Sanitary Provisions of this ordinance. All of the following uses are subject to the Vegetative Cutting Provisions of this ordinance.

b. Permitted, Conditional and Nonpermitted Uses

Use*	River Classification	
	1	2
Single family residential	P	P
Mobile Homes	C	C
Related essential services	P	P
Agricultural uses	P	P
Forestry uses	P	P
Private roads and minor public streets	C	P
Underground mining	N	C
Public roads	C	C
Utility transmission, power lines	C	C
Signs necessary for public health, safety and recreational uses	P	P
Other signs not visible from the river	C	C
Government campgrounds, recreational developments	C	C
Private campgrounds, recreational developments	C	C
Planned Cluster	N	C
Planned Unit	N	C
Public access with boat launches	C	C
Permanent docks	C	C
Temporary docks	P	P
Public access with trail-type access	P	P
Boathouses	N	C
Travel Trailers and Campers	C	C

* Uses not listed in the table above as permitted or conditional will be considered as nonpermitted. Note Section 14, (2)(a) and (b) regarding non-conforming uses and substandard uses.

c. Mobile homes shall be subject to the following conditions:

- (1) All minimum dimensional standards and sanitary provisions of this ordinance that apply to single family residential structures and uses.
- (2) Mobile homes shall have their wheels and running gear removed and shall be placed on a permanent foundation.
- (3) Mobile homes shall be at least 35' in length.
- (4) Mobile homes may be allowed only on land owned by the occupant of the mobile home.
- (5) All other conditions that may be required by the County zoning ordinance or subdivision regulations.

d. Travel Trailer or Campers:

- (1) Shall be subject to all minimum dimensional standards and sanitary provisions of this ordinance that apply to single family residential structures and uses.
- (2) Shall not be used for the purpose of permanent occupancy.
- (3) Shall be subject to all additional conditions that may be required by the County zoning ordinance or subdivision regulations.

Section 8 – Sanitary Provisions

The sanitary provisions standards set forth in Minnesota Regulations Cons. 72 of the Statewide Standards and Criteria for Management of

Shoreland Area of Minnesota shall apply, except that the provisions of Cons. 72(b) (4) are superseded by the setback provisions for sewage systems in Section 6 of this ordinance and Minnesota Pollution Control Agency regulations 6 MCAR 4.8040, which are hereby adopted by reference, where more protective.

Section 9 – Vegetative Management Provisions

1. General Provisions:

The removal of natural vegetation shall be limited to prevent erosion into public waters, to consume nutrients in the soil, to provide wildlife habitat and a corridor for movement, and to preserve the scenic and aesthetic character of the shoreland.

Forest management shall be permitted but limited to generally accepted forest management practices designed to promote and manage a healthy forested area. Emphasis shall be placed on the maintenance, development, and improvement of riverfront forests subject to the regulations set forth in this section.

2. Vegetative Cutting Provisions:

a. On lands within the building setback distance of the ordinary high-water mark of the Mississippi River the following standards shall apply:

- (1) Clearcutting, except for any authorized public services such as roads and utilities, shall not be permitted unless approved as part of a specific management plan and subject to the requirements of Section 9(2)(c) of this ordinance.
- (2) Selective cutting of trees in excess of four inches in diameter at breast height shall be permitted providing cutting is done in such a manner as to maintain as much forest cover as reasonably possible.
- (3) The vegetative cutting provisions of Section 9(2)(a)(1) and (2) shall not be deemed to prevent:
 - (aa) The removal of diseased or insect infested trees, or of dead, dying, rotten, or damaged trees that present safety hazards.
 - (bb) Pruning of understory vegetation, shrubs, plants, brushes, grasses, or harvesting of crops, or cutting of suppressed trees or trees less than four inches in diameter at breast height.

b. Clearcutting anywhere within the Mississippi River zoning district boundaries of this ordinance shall be subject to the following standards and criteria:

- (1) Clearcutting shall be conducted only in such a manner as to minimize damage to soils, slopes, or other watershed conditions that are fragile and subject to erosion, sedimentation, or other injury.
- (2) Clearcutting shall be conducted only in such a manner as to maintain as much forest cover as reasonably possible and cutting boundaries shall follow topographic terrain, roads, and forest type changes where feasible. Skidding shall be conducted in such a manner as to minimize erosion and sedimentation.
- (3) The size of clearcut areas shall be kept at the minimum necessary.
- (4) Where feasible, all clearcuts shall be conducted between September 15 and May 15, or when conditions are such that damage is minimized.
- (5) Where erosion problems exist, erosion control measures shall be taken. If replanting is necessary for proper regeneration, it shall be performed in the same spring or the following spring. Replanting of long-lived species shall be promoted.
- (6) Consideration shall be given to methods for improvement of wildlife habitat.
- (7) Proper site preparation shall be completed, including slash disposal, so as to minimize fire danger, improve reproduction, reduce soil damage, reduce danger from insects and diseases, and improve wildlife habit and aesthetic characteristics.
- (8) In no instance shall clearcutting violate the regulations for shoreland alterations set forth in the model ordinance for the management of shoreland areas, Minn. Reg. Cons. 77, Section 4.31.

c. On lands within the building setback distance of the ordinary high water mark of the Mississippi River that are being managed primarily for **forestry** purposes the following standards shall apply:

- (1) The vegetation management goals for such lands shall be for the maintenance and regeneration of aesthetically pleasing and healthy forest vegetation through the application of generally accepted silvicultural techniques.
- (2) Vegetation consisting of a variety of cover types and of naturally associating different species shall be encouraged.
- (3) Forest type conversions shall favor long-lived species that are naturally suited to that particular site.
- (4) Management of long-lived species along the riverfront shall be directed at promotion of large sized trees by using rotations based on biological age rather than economic age.
- (5) Cutting, including clearcutting, may be allowed only after the preparation and approval of a specific management plan for such lands being managed for forestry purposes and subject to the following standards and criteria:
 - (aa) Cutting shall be subject to the standards and criteria set forth in Section 9(2)(b) of this ordinance.
 - (bb) A specific written management plan shall be prepared by a professional forester and submitted for review and approval to the designated appropriate county official.
 - (cc) The management plan shall contain a description of the proposed cutting operation and a summary of how the operation will comply with the standards set forth in this section and Section 9(2)(b) of this ordinance, including the following information:

- How the proposed vegetation management plan will protect or enhance the scenic and aesthetic character of the river shoreland.
- Description of property, including both a legal description and a general description.
- The general description shall include a description of the location, size, topography, soils, and access to the vegetation management area.
- A map of the proposed vegetation management area including proposed cuts, roads, and other associated operations.
- A timber type analysis including type, acres, age, site analysis, condition, and recommendations for management of timber, fish and wildlife habitat, recreation, and water protection.
- The name, address and phone number of the person or persons who will be in charge of the proposed vegetation management project.
- Any additional information that the designated county official may require for proper review of the management plan.

(dd) The management plan shall be made available by the designated appropriate county official for review, upon request, to the Mississippi Headwaters Board, the Minnesota Department of Natural Resources, and, if the proposed cutting operations are within the boundaries of the Chippewa National Forest, to the U.S. Forest Service.

d. On lands within the headwaters lakes specified in this ordinance the following standards shall apply:

- (1) The regulations for shoreland alterations set forth in the model ordinance for the management of shoreland areas, Minn. Reg. Cons. 77, Section 4.31, or any county shoreland regulations for those lakes which are more protective, shall apply.

Section 10 – Grading, Filling, Alterations in the Beds of Public Waters in the Zoning District

1. Any grading or filling work done within the Mississippi River zoning district(s) controlled by this ordinance shall require a permit and shall comply with the following:
2. Grading and filling of the natural topography which is not accessory

to a permitted or conditional use shall not be permitted in the Mississippi River zoning district(s).

3. Grading and filling of the natural topography which is accessory to a permitted or conditional use shall not be conducted without a grading and filling permit from the _____, Minnesota zoning authority. A grading and filling permit may be issued only if the conditions of subsection 4, 5a-d are met.
4. Grading and filling of the natural topography that is accessory to a permitted or conditional use shall be performed in a manner which minimizes earth moving, erosion, tree clearing, and the destruction of natural amenities.
5. Grading and filling of the natural topography shall also meet the following standards:
 - a. The smallest amount of bare ground is exposed for as short a time as feasible.
 - b. Temporary ground cover such as mulch is used and permanent ground cover, such as sod, is planted.
 - c. Methods to prevent erosion and to trap sediment are employed.
 - d. Fill is stabilized to accepted engineering standards.
6. Excavation of material from, filling in, construction of any permanent structures or navigational obstructions, or any work that will change or diminish the course, current, or cross-section of the Mississippi River, headwaters lakes, or wetlands is prohibited unless authorized by a permit from the Commissioner of Natural Resources pursuant to Minnesota Statutes Section 105.42.
7. Drainage or filling in of wetlands is not allowed within the land use district(s) controlled by this ordinance.

Section 11 – Utility Transmission Lines and Related Facilities

1. It is essential to regulate utility transmission crossings of lands within the jurisdiction of the local authority within the Mississippi River zoning district(s) in order to provide maximum protection and preservation of the natural environment and to minimize any adverse effects which may result from such utility crossings. These standards and criteria considerations concerning such a proposed crossing.
2. For each of the standards listed, the applicant shall indicate how he is satisfying the consideration where applicable, or if he is not, why not. In dealing with route design considerations the applicant must, where applicable, also supply data on relevant site conditions. The county zoning authority may issue a conditional use permit only if the applicant shows he has, to the extent feasible, satisfied these standards.
3. The applicant shall submit both a preferred route and at least one alternate route for the proposed utility transmission crossing to the county zoning authority.
4. In general, avoid the Mississippi River land zoning district(s), whenever practicable, but if there is no feasible alternative, the standards listed below shall apply:
5. No conditional use permit shall be required for high voltage lines regulated by the Environmental Quality Board pursuant to Minnesota Statutes Section 116 C. 61, as amended.
 - a. All utility crossings (transmission and distribution) of the Mississippi River on state lands within the zoning district(s) which are under the control of the Commissioner of Natural Resources, require a permit from the Commissioner pursuant to Minnesota Statutes, Sections 84.415 or 105.42. In reviewing permit applications for such crossings, primary consideration should be given to crossings that are proposed to be located with or adjacent to existing public facilities, such as roads and utilities.
 - b. Utility transmission crossings of lands under the jurisdiction of the county zoning authority within Mississippi River zoning district(s) require a conditional use permit from the county zoning authority. (Transmission means electric, power, telephone and telegraph lines, cables, or conduits which are used to transport large blocks of power between two points — with respect to electric power, generally 69 kilovolts or more — or main or pipeline crossings for gas, liquids, or solids in suspension which are used to transport large amounts of gas, liquids or solids in suspension between two points.) Distribution means lines, cables, or conduits, or mains or pipelines used to distribute power, water, gas, or other essential services to the utility company's customers. A conditional use permit is not required for essential services.

- (1) Route design — Criteria for Utility Transmission Crossings
- (aa) Avoid steep slopes where the combination of slope, soil, vegetation, and right-of-way clearing will be detrimental.
 - (bb) Avoid intrusions into open exposures of water.
 - (cc) Avoid routing along ridge crests or high points of topographic elevation.
 - (dd) Avoid creating tunnel vistas by, for example, building deflections into the route or using acceptable screening techniques. This is applicable where the right-of-way is visible from the river.

With regard to location:

- (ee) Avoid entering areas within 200 feet of the Mississippi River. Consideration shall be given to soil, slope and vegetation characteristics and transmission design. This setback shall not apply to crossings of the Mississippi River in cases where placement of transmission structures outside the 200 foot setback would result in considerably higher or more conspicuous structures.

Avoid routing or siting utility transmission lines within river classification zone #1.

With regard to vegetation:

- (ff) Avoid wetlands, except in situations where a route crossing wetlands may be the least environmentally damaging alternative.

- (gg) Avoid passing through commercial or managed forests whenever practicable.

If it is necessary to route through forests, then utilize open areas in order to minimize destruction of forest resources.

With regard to soil characteristics:

- (hh) Avoid areas where a combination of soil, vegetation, and slope characteristics and right-of-way clearing will cause soil erosion or slippage or create sedimentation problems during or after construction.

- (ii) Avoid areas with high water tables, especially if construction requires excavation.

With regard to crossing public waters:

- (jj) Utility crossings of public waters requires a permit from the Commissioner pursuant to Minnesota Statutes, Section 84.415 or 105.42.

- (kk) Avoid open space recreation areas whenever practicable.

(2) Structure Design

With regard to locating the utility overhead or underground:

- (aa) A critical evaluation of all factors shall be made in determining the preferred design but consideration must be given to underground placement and other measures to minimize visual impact. If the proposal is for overhead placement, the applicant shall explain the economic, technological, or land characteristic factors, which make underground placement infeasible.

Economic considerations alone shall not be the major determinant.

- (bb) If overhead design is necessary, the crossing should be screened from view as much as practicable.

With regard to the appearance of the structures:

- (cc) They shall be made as compatible as practicable with the natural area as design limitations allow with regard to height and width, materials used, and color. The height of structures should be proportional to the length of the conductor span.

With regard to the width of the right-of-way:

- (dd) The cleared portion of the right-of-way should be kept to a minimum so as to maximize the screening benefit of natural vegetation while meeting design clearance requirements.

(3) Construction Methods

- (aa) If necessary, construction in wetlands shall be conducted during winter months when feasible and the necessary mitigative measures taken to minimize damage to vegetation and prevent erosion and sedimentation.

- (bb) Construct at times when local fish and wildlife are not spawning or nesting.

- (cc) Effective erosion and sedimentation control programs shall be conducted during all clearing, construction, or reconstruction operations in order to prevent the degradation of the river and adjacent lands.

(4) Safety Considerations

Applicants must adhere to applicable federal and state safety regulations, both with regard to prevention (such as safety valves and circuit breakers) and with regard to emergency procedures in the event of failure (fire suppression, oil spill cleanup).

(5) Right-of-Way Maintenance

- (aa) If possible, natural vegetation of value to fish or wildlife, and which does not pose a hazard to or restrict reasonable use of the utility, shall be allowed to grow in the right-of-way.

- (bb) Where vegetation has been removed, suitable vegetation consisting of native grasses, herbs, shrubs, and trees, should be planted and maintained on the right-of-way if natural revegetation has not occurred within two years after construction.

- (cc) Chemical control of vegetation is discouraged but where such methods are justified, chemicals used and the manner of their use must be in accordance with rules, regulations and other requirements of all state and federal agencies with authority over the use.

Section 12 — Public Roads, River Crossings

1. It is essential to regulate the construction of new public roads and reconstruction of existing public roads within the Mississippi River Zoning District in order to provide maximum protection and preservation of the natural environment and to minimize any adverse effects which may result from such development. These standards provide a basic framework of considerations for review of proposed road construction.

2. A permit as established in Minnesota Statutes Section 105.42, is required from the Commissioner of Natural Resources for the construction or reconstruction, removal, or abandonment of any road or railroad crossing, of a public water.

3. In addition to road construction or reconstruction standards required by state and federal authorities, a conditional use permit from the -----, Minnesota zoning authority shall be required.

4. Public roads as defined herein and subject to the standards and criteria in this section of this ordinance include county, county-state-aid-highways, municipal roads and highways which serve, or are designed to serve, traffic between communities or other traffic areas.

5. A conditional use permit is not required for minor public streets which are intended to serve as access to abutting properties.

6. For each consideration listed below, the applicant shall indicate how he is satisfying the consideration where applicable, or if he is not, why not. In dealing with route design considerations, the applicant must, where applicable, also supply data on relevant site conditions. The county zoning authority shall issue a conditional use permit if the applicant shows he has satisfied to the extent feasible, these considerations:

a. Route Design

- (1) Avoid steep slopes.
- (2) Avoid intrusion into stream valleys and open exposures of water.
- (3) Avoid scenic intrusion by avoiding ridge crests and high points.

With regard to location:

- (4) Avoid new public road routing within 200 feet of Mississippi River.

With regard to vegetation:

- (5) Avoid wetlands.

- (6) Run along fringes of forests rather than through them. But if it is necessary to route through forests, then utilize open areas in order to minimize destruction of forest areas.

With regard to soil characteristics:

- (7) Avoid soils whose high susceptibility to erosion would create sedimentation and pollution problems during and after construction.
- (8) Avoid areas of plastic soils which would be subject to extensive slippage.
- (9) Avoid areas with high water tables, especially if construction requires excavation.

With regard to crossing of public waters:

- (10) A permit from the Commissioner of Natural Resources is required as established in Minnesota Statutes Section 105.42 for a road or railroad crossing, or reconstruction, removal, or abandonment of any existing road or railroad crossing, of a public water.

With regard to open space recreation areas:

- (11) Avoid them whenever practicable.

b. Construction Methods

- (1) Construct new roads so they rest as "lightly on the land" as feasible, avoiding cuts and fills so as to blend into the natural terrain so that it appears to be a part of the natural landscape.
- (2) Reconstruction of an existing public road or railroad should be performed in a manner that would minimize any adverse effect of the natural beauty and environment of the river.
- (3) Effective erosion and sedimentation control programs shall be conducted during all clearing construction, or reconstruction operations in order to prevent the degradation of the river and its adjacent lands.
- (4) Avoid wetlands. But, if necessary and if approved by a permit from the Commissioner of Natural Resources as required by Minnesota Statutes Section 105, construct across wetlands in such a manner which minimizes damage to vegetation, and in a manner so as to minimize erosion and sedimentation.
- (5) Construct bridges and place culverts in a manner which does not isolate wetlands nor impair natural drainage.
- (6) Construct at times when local fish and wildlife are not spawning or nesting.

c. Safety Considerations

Applicants must adhere to applicable federal and state safety regulations with regard to new road construction or reconstruction of an existing road.

d. Right-of-Way Maintenance

- (1) If possible, natural vegetation of value to fish or wildlife, and which does not pose a safety hazard, shall be allowed to grow in the roadside right-of-way.
- (2) Where vegetation has been removed, new vegetation consisting of native grasses, herbs, shrubs, and trees should be planted and maintained on the roadside right-of-way.
- (3) Chemical control of vegetation is discouraged. But where such methods are justified, chemicals used and the manner of their use must be in accordance with rules, regulations and other requirements of all state and federal agencies with authority over their use.

Section 13 – Subdivision

1. No land shall be subdivided which is determined by the ----- county local authorities, or upon recommendation by the Commissioner of Natural Resources to be unsuitable by reason of flooding, inadequate drainage, soil and rock formations with severe limitations for development, severe erosion potential unfavorable topography, inadequate water supply or sewage treatment capabilities or any other feature likely to be harmful to the health, safety or welfare of the future residents of the proposed subdivision or the community.
2. The provisions otherwise set forth in this ordinance and in other applicable local ordinances shall apply to all plats, except Planned Cluster Development.

3. Copies of all proposed plats within the Mississippi River and headwaters lakes zoning districts shall be submitted to the Commissioner of Natural Resources for review at least thirty (30) days prior to the approval or disapproval of such plats by the governing body so as to enable the Commissioner to advise the governing body on the suitability of the land for such subdivisions.
4. For planned cluster developments the following standards will apply, in addition to any applicable provisions of the ----- County Zoning Ordinance.
- a. A planned cluster development may be allowed only when the proposed clustering provides a better means of preserving agricultural land, open space, woods, scenic views, wetlands, and other features of the natural environment than traditional subdivision development.
- b. Except for minimum setbacks and height limits, altered dimensional standards may be allowed as exceptions to this ordinance for planned cluster developments provided:
- (1) Preliminary plans are reviewed by the Mississippi Headwaters Board as provided in Section 15 of this ordinance and are approved by the Commissioner of Natural Resources prior to their enactment by -----.
- (2) Central sewage facilities are installed which meet the standards, criteria, rules or regulations of the Minnesota Department of Health and the Pollution Control Agency.
- (3) Open space is preserved. This may be accomplished through the use of restrictive deed covenants, public dedications, granting of scenic easements, or other methods.
- (4) There is not more than one centralized boat launching facility for each cluster.
- (5) The density of such planned cluster development shall not exceed two dwelling units per five (5) acres.

Section 14 – Administration

1. Authority

- a. The provisions of this ordinance shall be administered by the designated ----- authority.
- b. The Board of Adjustment of -----, Minnesota shall act upon all questions as they arise in the administration of this ordinance; to hear and decide appeals and applications for variances; and to review any order, requirements, decisions, or determination made by the Zoning Authority, who is charged with enforcing this ordinance in the manner prescribed by Minnesota Statutes Chapter 394, as amended.
- c. Permit fees and inspection fees as may be established by resolution of -----, Minnesota shall be collected by the Zoning Authority for deposit with ----- and credited to the appropriate fund.

2. Nonconforming Uses, Substandard Uses

- a. Nonconforming uses. Uses nonpermitted by this ordinance but which are in existence prior to the effective date of this ordinance shall be nonconforming uses. Such uses may be continued but shall not be intensified, enlarged, or expanded beyond the permitted or delineated boundaries of the use of the activity as stipulated in the most current permit issued prior to the adoption of this ordinance.
- b. Such use shall not be changed to another nonconforming use or be reestablished if discontinued for a continuous twelve (12) month period. The County Assessor shall notify the Zoning Officer in writing of instances of nonconforming uses which have been discontinued for a continuous twelve-month period.
- c. If a nonconforming structure is destroyed by any cause, to an extent exceeding fifty percent of its fair market value as indicated by the records of the County Assessor, a future structure or use of the site shall conform to this ordinance.
- d. Normal maintenance of a building or other structure containing or related to a lawful nonconforming use is permitted, including necessary nonstructural repairs and incidental alterations which do not extend or intensify the nonconforming use.
- e. Substandard uses. All uses in existence prior to the effective date of enactment or amendment of this ordinance which are permitted or conditional uses within the Mississippi River zoning district(s), but do not meet the minimum lot area, setbacks or other

dimensional requirements of this ordinance are standard uses, and shall be allowed to continue provided that: any structural alteration or addition to a standard use which will increase the standard dimensions shall not be allowed.

3. Conditional Uses

- a. Prior to the granting of a conditional use permit by the ----- planning commission the applicant must show how he/she has met the standards and criteria contained in this ordinance.
- b. The applicant for a conditional use permit which, in the opinion of the planning commission, may result in a material adverse effect on the environment may be requested by the board to demonstrate the nature and extent of the effect.

4. Variances

- a. The grant of a variance requires the presence of all the following conditions.
 - (1) The strict enforcement of county zoning controls will result in unnecessary hardship. "Hardship" as used in connection with granting of a variance means that the property in question cannot be put to a reasonable use under the conditions allowed by the zoning provisions. Economic considerations alone shall not constitute a hardship if a reasonable use for the property exists under the terms of the ordinance.
 - (2) Granting of the variance is not contrary to the purpose and intent of the zoning provision contained within the Upper Mississippi River Management Plan, its standards and criteria, and is consistent with the policies adopted by the Mississippi Headwaters Board.
 - (3) There are exceptional circumstances unique to the subject property which were not created by the landowner.
 - (4) Granting of the variance shall not allow any use which is neither a permitted or conditional use within the zoning district established in the Upper Mississippi River Management Plan, in which the subject property is located.
 - (5) Granting of the variance will not alter the essential character of the zoning district(s) established in the Upper Mississippi River Management Plan.
- b. The applicant for a variance which, in the opinion of the board of adjustment, may result in a material adverse effect on the environment may be requested by the board to demonstrate the nature and extent of the effect.
- c. All variances to the requirements of this ordinance must be reviewed in accordance with Section 15 of this ordinance.

5. Inconsistent Plats

- a. Inconsistent Plats: Approval of a plat which is inconsistent with this ordinance is permissible only if the detrimental impact of the inconsistency is more than overcome by other protective characteristics of the proposal.
- b. All inconsistent plats approved by the ----- must be reviewed in accordance with Section 15 of this ordinance.

6. Amendments

- a. This ordinance may be amended whenever the public necessity and the general welfare require such amendments by the procedure specified in this section. Amendments to this ordinance must be reviewed by the Mississippi Headwaters Board as specified in Section 15 of this ordinance.
- b. Requests for amendments of this ordinance shall be initiated by a petition of the owner or owners of the actual property; or by action of -----, Minnesota.
- c. An application for an amendment shall be filed with the county zoning authority.
- d. Upon receipt of the application and other requested materials, the ----- authority shall conduct a public hearing in the manner prescribed by Minnesota Statutes.
- e. Following the public hearing, the county authority shall make a report of its recommendations on the proposed amendment and shall file a copy with ----- within sixty (60) days after the hearing. Mississippi Headwaters Board review must be obtained as specified in Section 15 before the proposed amendment becomes effective.
- f. To defray the administrative costs of processing requests for an

amendment to this ordinance, a fee not exceeding administrative costs shall be paid by the petitioners, such fee shall be determined by the ----- Board of Commissioners.

Section 15 – Review Procedures

1. Applicability

- a. In order to ensure that the standards here are not nullified by unjustified exceptions and particular cases, and to promote uniformity in the treatment of applications for such exceptions review procedures hereby established for certain decisions consist of those which (1) directly affect the use of land within the Mississippi Headwaters Board designated zoning district boundary or (2) includes one of the following types of action:
 - (1) Adopting or amending an ordinance regulating the use of land, including rezoning particular tracts of land.
 - (2) Granting a variance from a provision of the local land use ordinance which relates to the zoning dimension provisions of the Mississippi Headwaters Board plan or any zoning dimension provisions established in this plan.
 - (3) Approving a plat which is inconsistent with the local land use ordinance adopted under the Mississippi Headwaters Board plan.
- b. No such local action shall be effective until the Mississippi Headwaters Board has reviewed and submitted comments to the respective county.

2. Procedures

- a. A copy of all notices of any public hearings, or where a public hearing is not required, a copy of the application to consider zoning amendments, variances, or inconsistent plats under the local ordinance shall be sent to the Mississippi Headwaters Board for review.
 - (1) A copy of such applications shall be sent to the Mississippi Headwaters Board for their review at least thirty (30) days prior to the hearings or meetings to decide on such applications.
 - (2) The Mississippi Headwaters Board shall review such applications to determine their consistency with the county zoning ordinance and their impact on the overall essential character of the River area, and the Board shall develop findings and recommend the approval, with or without conditions, or the nonapproval of these applications.
 - (3) The Mississippi Headwaters Board shall report its findings and recommendations to the appropriate county within twenty one (21) days from the date of application from said local governments.
 - (4) The counties shall notify the Mississippi Headwaters Board within ten (10) days regarding the final action taken on these applications.
 - (5) Copies of all final plats within the zoning district boundaries shall be forwarded to the Commissioner within ten (10) days of approval by the respective county.

Section 16 – Enforcement

1. It is declared unlawful for any person to violate any of the terms and provisions of this ordinance. Violation thereof shall be a misdemeanor. Each day that a violation is permitted to exist shall constitute a separate offense.
2. In the event of a violation or a threatened violation of this ordinance, ----- or the Mississippi Headwaters Board, in addition to other remedies, may institute appropriate actions or proceedings to prevent, restrain, or abate such violations or threatened violations.
3. Any taxpayer or taxpayer of ----- may institute mandamus proceedings in the District Court to compel specific performance by the proper official or officials of any duty required by this ordinance.
4. This ordinance shall have full force and effect from and after its passage, approval, and publication by law.

Section 17 – Classifications, Headwaters Lakes Standards

a. Zoning Classifications (by river segment)

Description	Classification*
from Lake Itasca to river mile 47	1
from river mile 47 to Bemidji	2
from outlet of Lake Bemidji to Allen's Bay	2
from outlet of Cass Lake to Lake Winnibigoshish	2
from outlet of Lake Winnibigoshish to Bass Brook Twp.	2
from Grand Rapids to Itasca/Aitkin Co. line	2
from Itasca/Aitkin Co. line to City of Aitkin	2
from City of Aitkin to slack pool above Brainerd dam	2
slack pool above Brainerd dam	2
from Little Falls to southern Boundary of Morrison County	2

*Does not include incorporated areas or headwaters lakes.

b. Minimum Zoning Standards for Headwaters Lakes**

(1) For Lakes Irving, Bemidji, Stump, Cass, and Winnibigoshish, which are presently classified as GD (General Development) lakes under existing shoreland ordinances, the following minimum zoning standards shall apply:

Shoreland Zoning District Depth	1300 ft.
Minimum lot size	30,000 sq. ft.
Building setback (from OHWM)	100 ft.
Sewage system setback (from OHWM)	75 ft.
Vegetative cutting regulations	Same as county shoreland ordinance
Minimum lot width at the building line and water line (OHWM)	100 ft.

(2) For lakes Wolf, Andrusia, and Little Winnibigoshish, which are presently classified as RD or RD-2 lakes under existing shoreland ordinances, the existing standard shall apply where more protective than the above standards, except that the shoreland zoning district depth shall be 1300 feet.

** The above zoning standards do not apply to incorporated areas.

(3) The above classifications and minimum zoning standards shall apply only to those Mississippi River or headwaters lakes zoning districts designated in this ordinance that are within the jurisdiction of County.

Proposed Ordinance Review & Certification Procedure

The MHB intends to seek authorship and passage of legislation which would, among other things, vest the Board with the authority to review and certify certain county zoning decisions.

This certification procedure would apply to those decisions which, if arbitrarily made, would have the effect of negating the purpose, goals and intent of the plan to provide meaningful river protection.

Because such enabling legislation has not yet been passed, this procedure has not been incorporated into the model ordinance. Rather, it would be adopted as an amendment to the ordinance by the counties after enactment. The specific certification procedure would amend Section 15 of the ordinance.

If such enabling state legislation is passed, Section 15 of the proposed model ordinance would be amended as follows:

Section 15 – Review and Certification Procedures

1. Applicability

a. In order to ensure the standards here are not nullified by unjustified exceptions and particular cases, and to promote uniformity in the treatment of applications for such exceptions, review and certification procedures hereby established for certain decisions consist of those which (1) directly affect the use of land within the

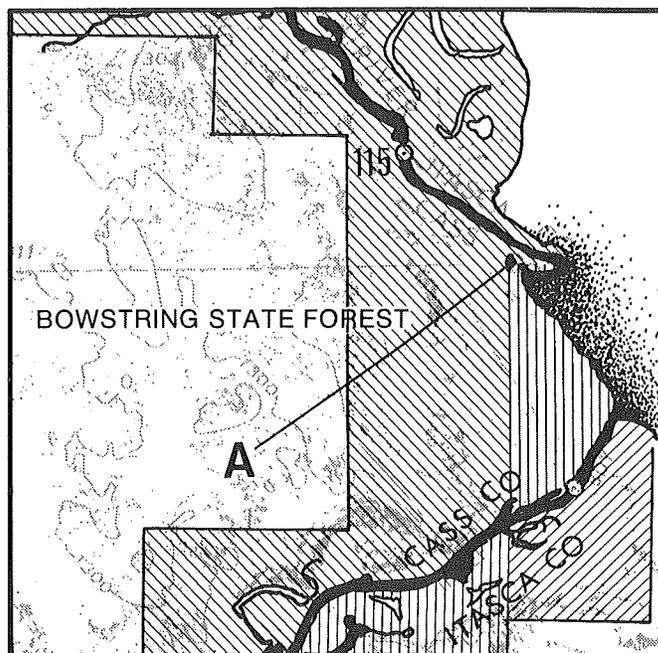
Mississippi Headwaters Board designated zoning district boundary or (2) includes one of the following types of action:

1. Adopting or amending an ordinance regulating the use of land, including rezoning particular tracts of land.
 2. Granting a variance from a provision of the local land use ordinance which relates to the zoning dimension provisions of the Mississippi Headwaters Board plan or any zoning dimension provisions established in this plan.
 3. Approving a plat which is inconsistent with the local land use ordinance adopted under the Mississippi Headwaters Board plan.
- b. The land use ordinance or amendment must comply with the policy of the joint powers board agreement and the management plan prepared pursuant to the authority contained in M.S.A. 471.59.
- c. No such local action shall be effective until the Mississippi Headwaters Board has reviewed and certified such actions.
2. Procedures
- a. A copy of all notices of any public hearings, or where a public hearing is not required, a copy of the application to consider zoning amendments, variances, or inconsistent plats under the local ordinance shall be received by the MHB at least thirty (30) days prior to such hearings or meetings to consider such actions. The notice or application shall include a copy of the proposed ordinance or amendment, or a copy of the proposed inconsistent plats, or a description of the requested variance.
 - b. The local authority shall notify the MHB of its final decision on the proposed action, within 10 days of the decision.
 - c. The MHB shall, no later than 20 days from the time they receive notice of the final decision, communicate to the local authority either:
 1. Certification of approval, with or without conditions; or
 2. Notice of non-approval.
 - d. The action becomes effective when and only when either:
 1. The final decision taken by the county has previously received certification of approval from the MHB; or
 2. The county receives certification of approval after its final decision; or
 3. Twenty days have elapsed from the day the MHB received notice of the final decision, and the county has received from the MHB neither certification of approval nor notice of nonapproval; or
 4. The MHB certifies their approval after conducting a public hearing.
 - e. In the case of notice of nonapproval of an ordinance or a variance or an inconsistent plat, either the applicant, or the chief executive officer of the county may, within 30 days of said notice, file with the MHB a demand for hearing. If the demand for hearing is not made within the 30 days, the notice of nonapproval becomes final. Also:
 1. The hearing shall be held in the county seat of the county to which the action applies, within 60 days of the demand for it but not before 2 weeks published notice. Notice and the conduct of the hearing and the allocation of costs of the hearing shall be accomplished in the same manner as provided in Minnesota Stats. 105.44, subdivisions 5 and 6 (1971) as amended.
 2. Within 30 days after the hearing, the MHB shall either certify their approval of the proposed action, or deny it. Their decision shall be based upon findings of fact made on substantial evidence found in the hearing record.
 - f. Copies of all plats within the zoning district boundaries shall be forwarded to the Commissioner within ten (10) days of approval by the respective county.

This procedure is virtually the same as that contained in Minn. Regs. NR81 except that the certification procedure itself rests with the Mississippi Headwaters Board, rather than the Commissioner of Natural Resources. Also, the MHB review and notice period is twenty (20) days rather than the thirty (30) days allowed the DNR Commissioner under NR81.

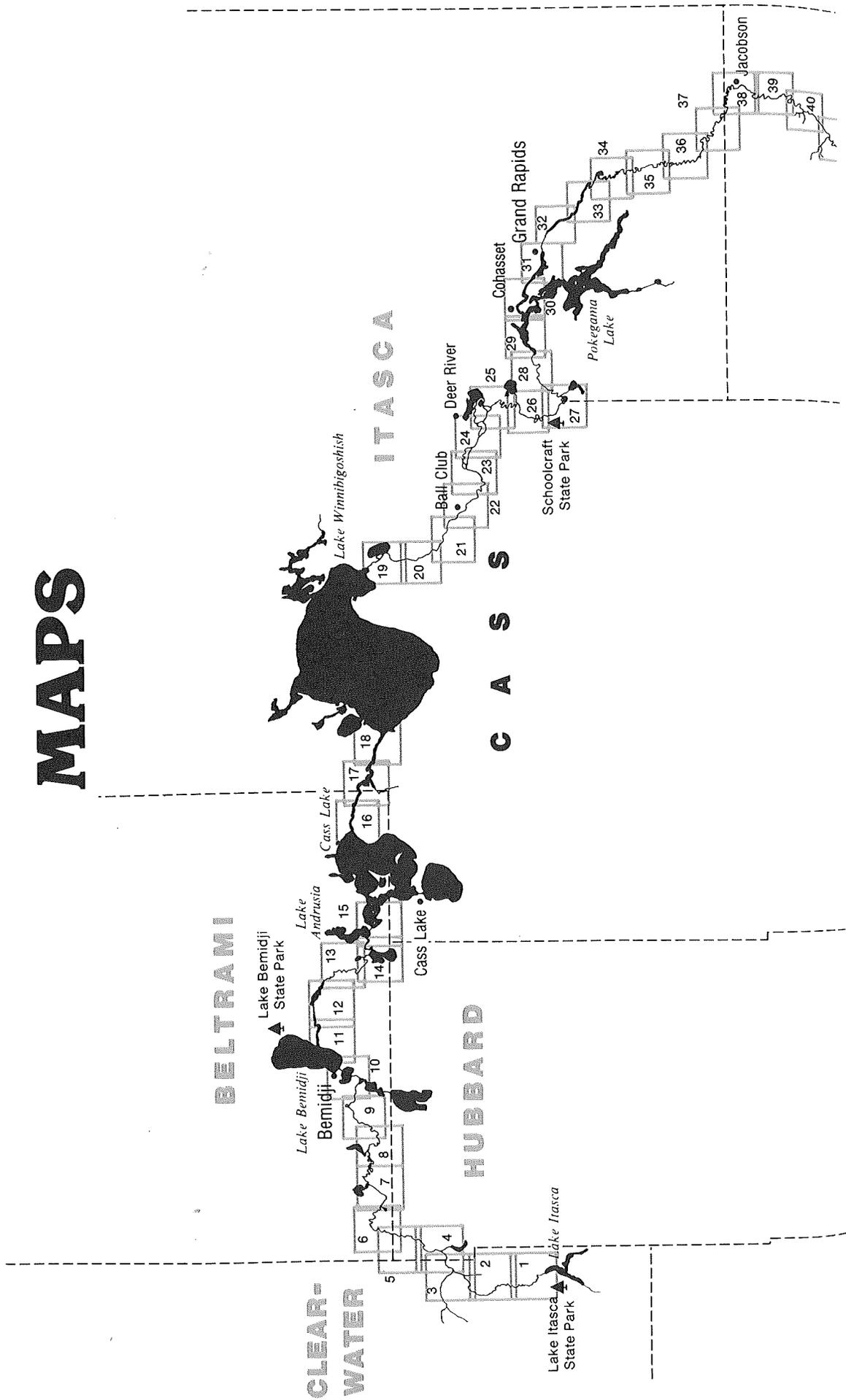
We used this procedure for the MHB because it provides a logical and timely process for review and certification.

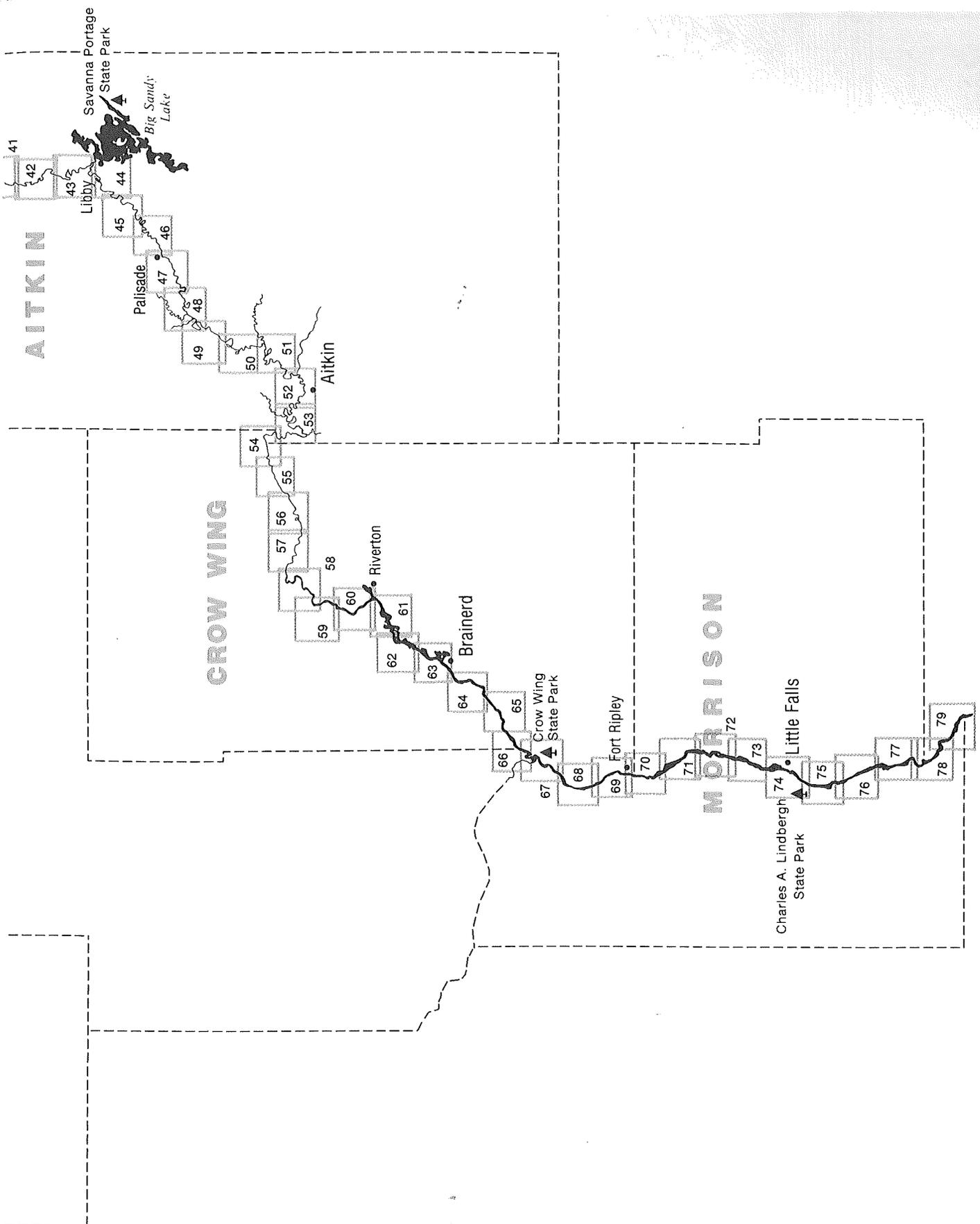
Upper Mississippi River
MAPS

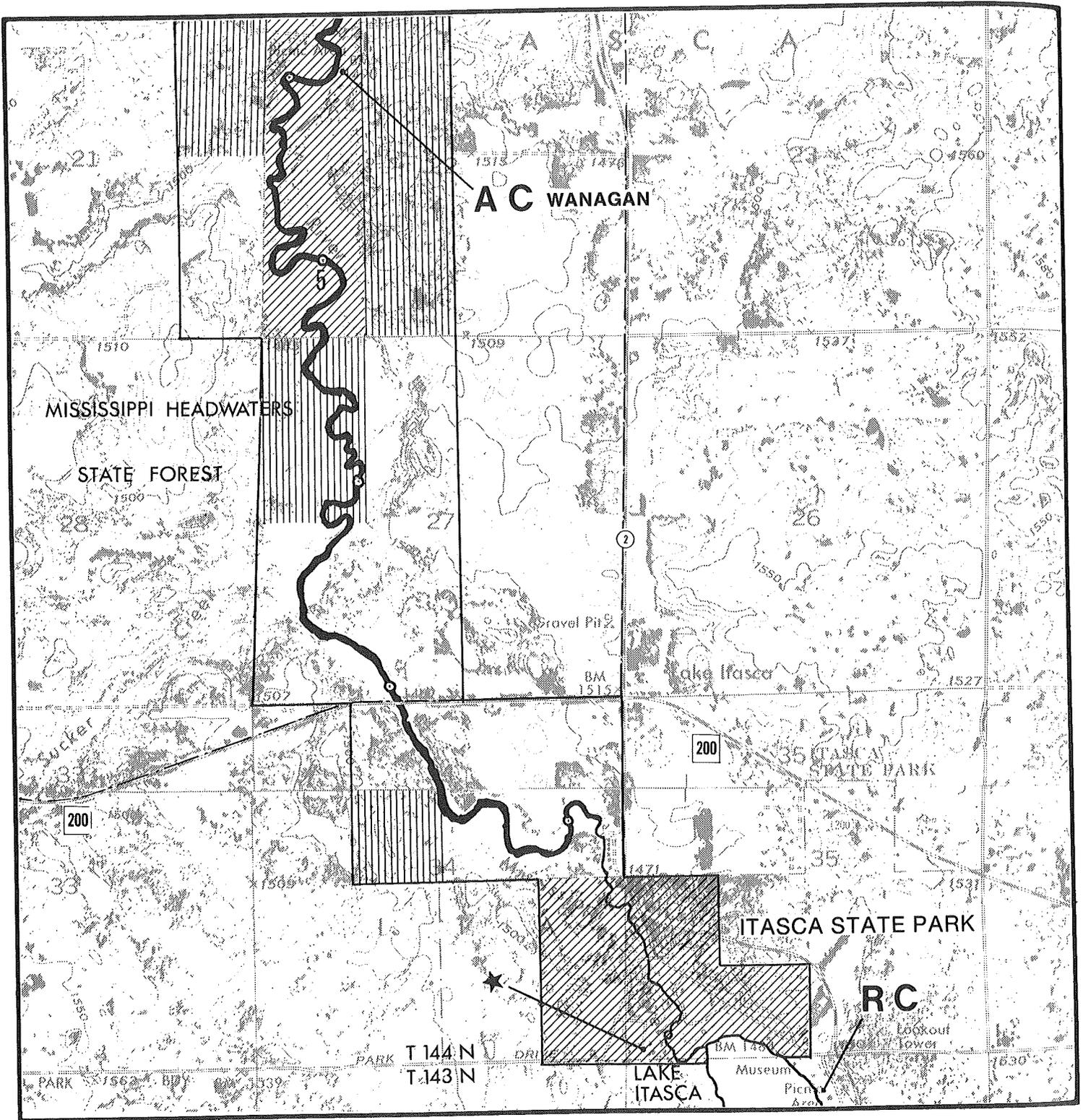


A Management Plan For The Upper Mississippi River

MAPS

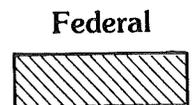
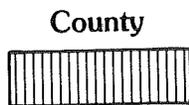
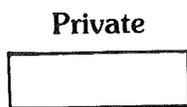






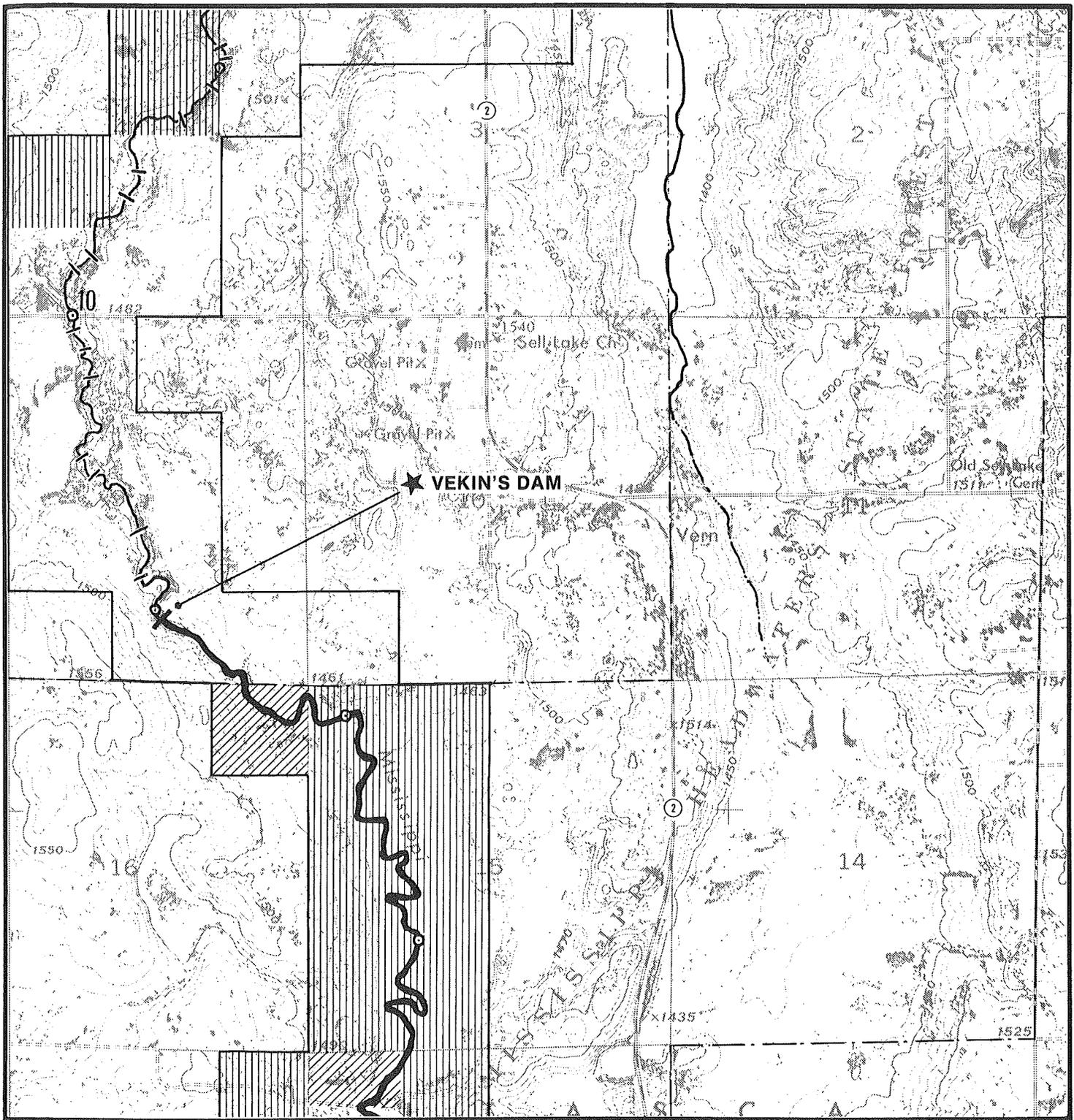
Map Legend

Surrounding Land Ownership



Scale: 1" = 2,000'

MAP NUMBER 1

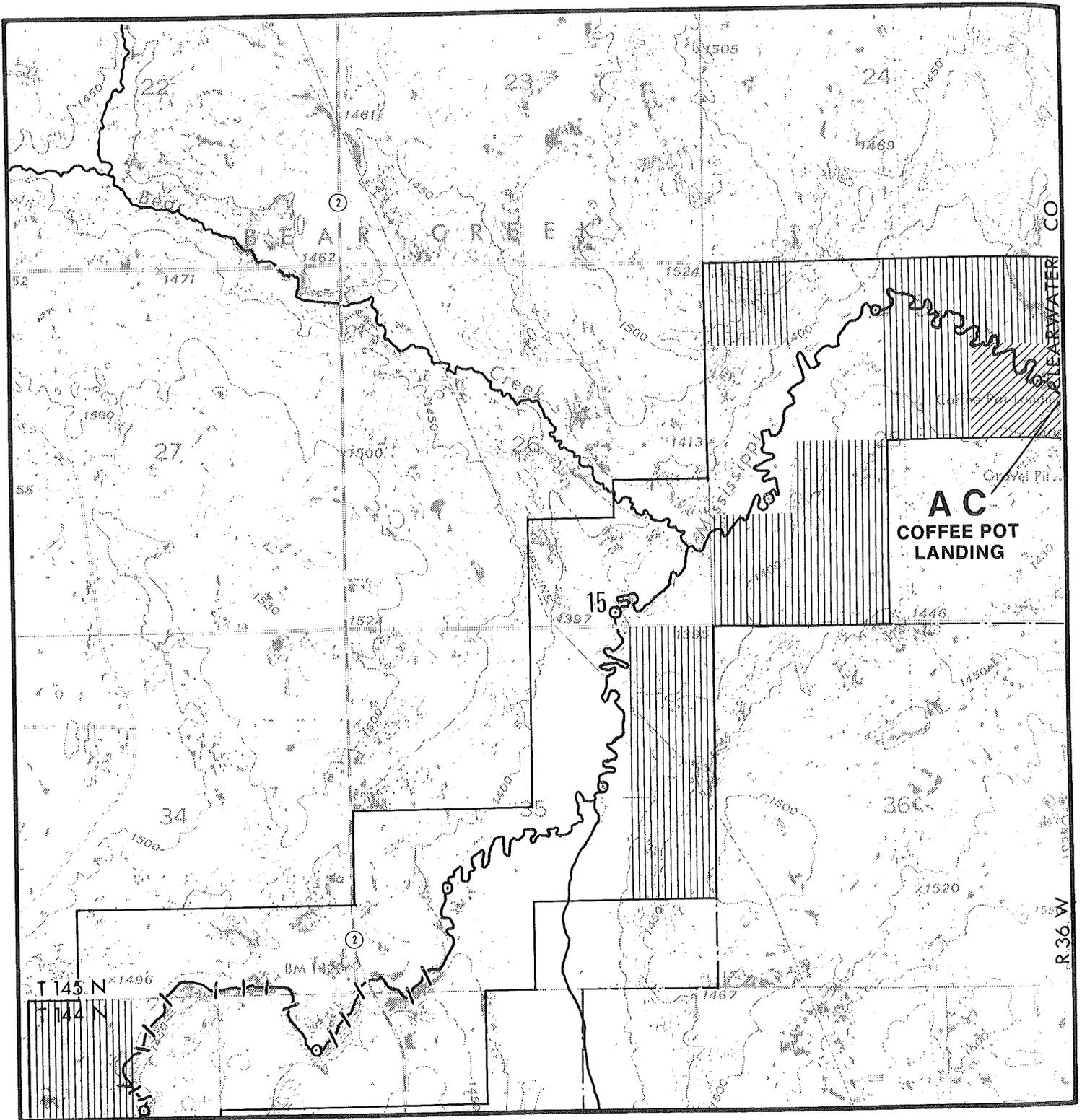


Map Legend

Zoning District Boundary	
River Mile	
Rapids	
RR Crossing	

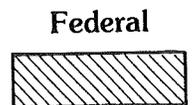
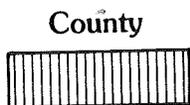
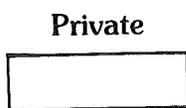
	Existing	Proposed
Access	A	A
Rest Area	R	R
Historic Site	★	☆
Portage	P	P
Campsite	C	C

MAP NUMBER 2



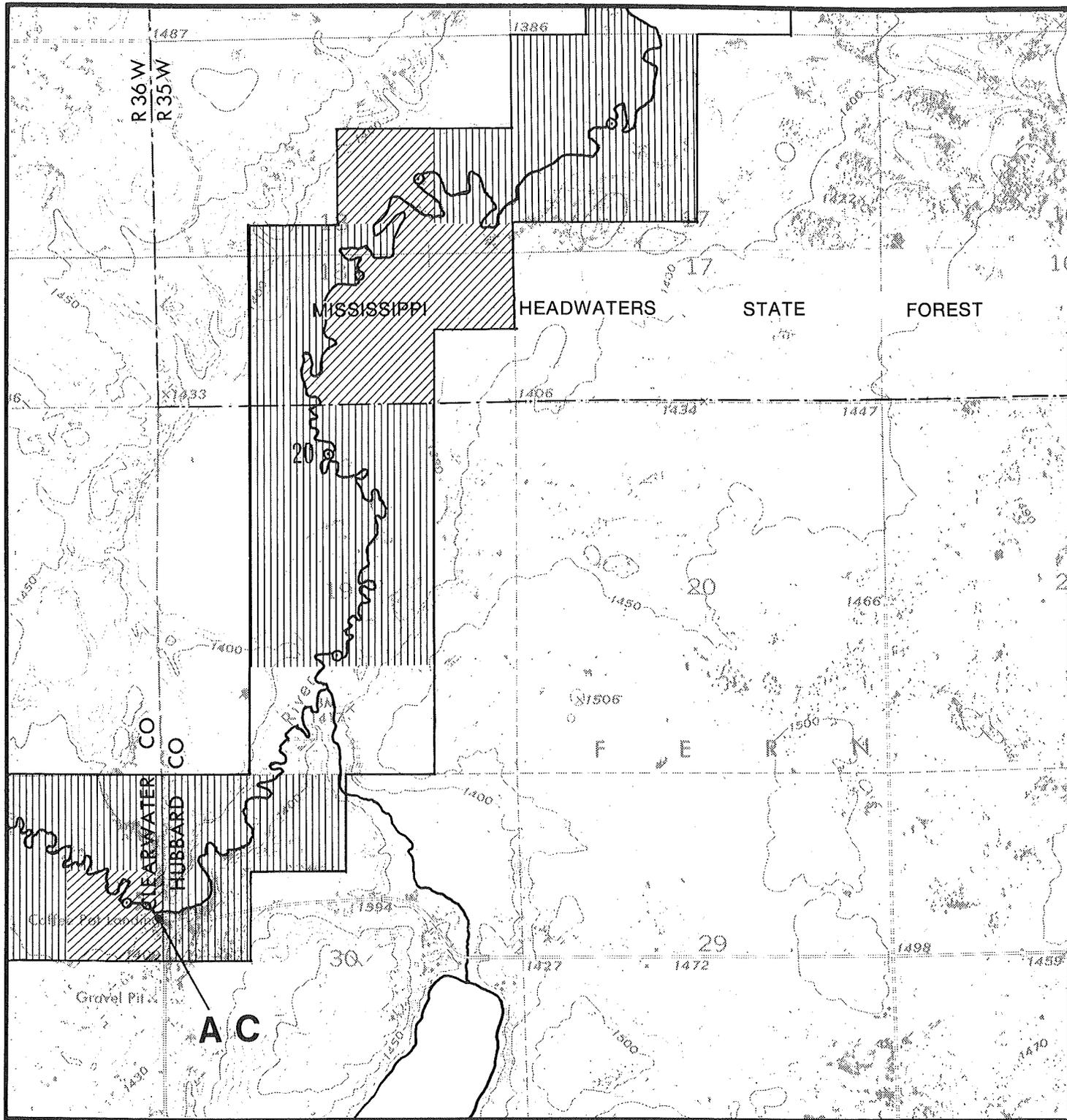
Map Legend

Surrounding Land Ownership



Scale: 1" = 2,000'

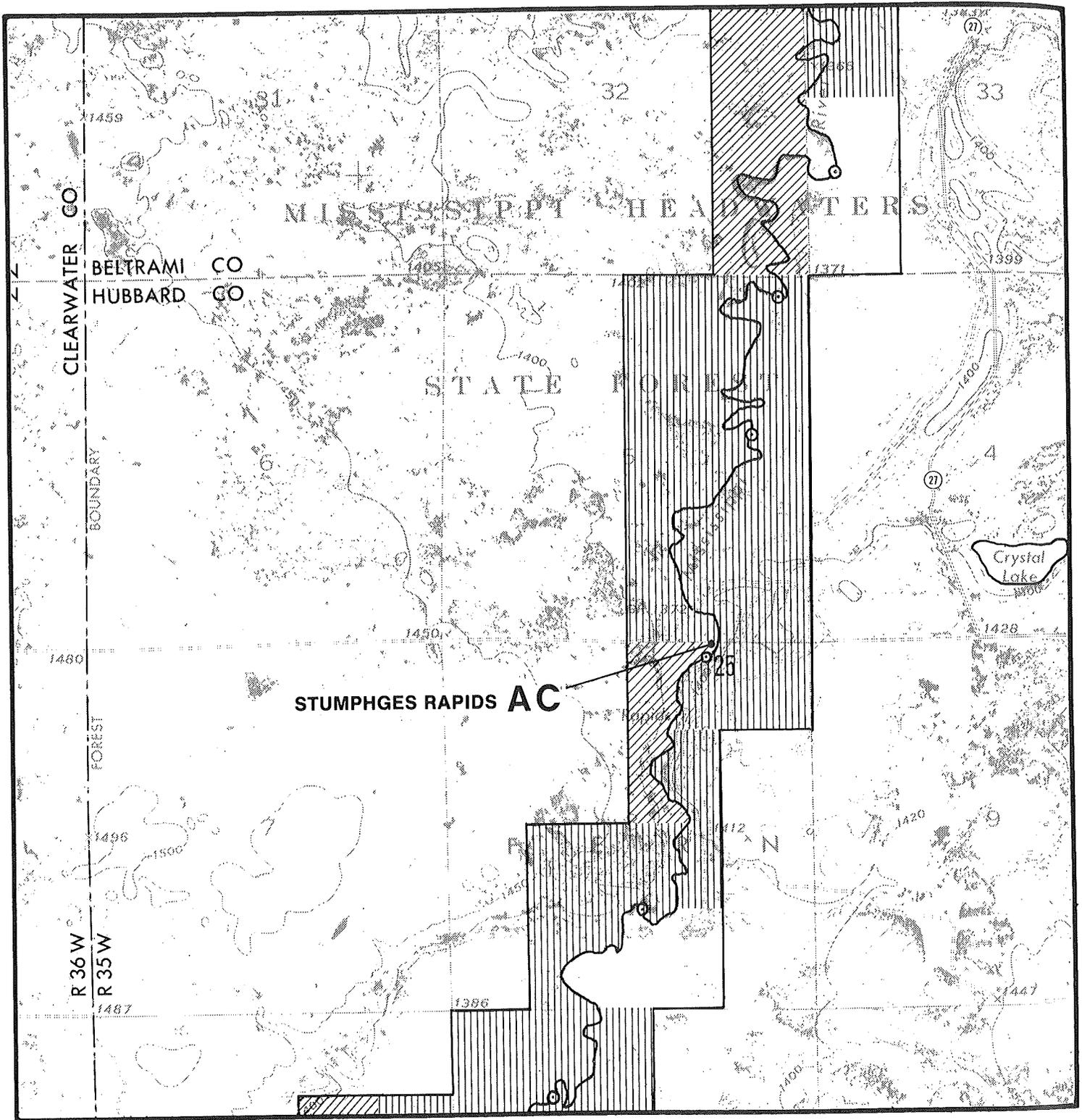
MAP NUMBER 3



Map Legend

Zoning District Boundary		Access	A	A
River Mile		Rest Area	R	R
Rapids		Historic Site	★	★
RR Crossing		Portage	P	P
		Campsite	C	C

MAP NUMBER 4



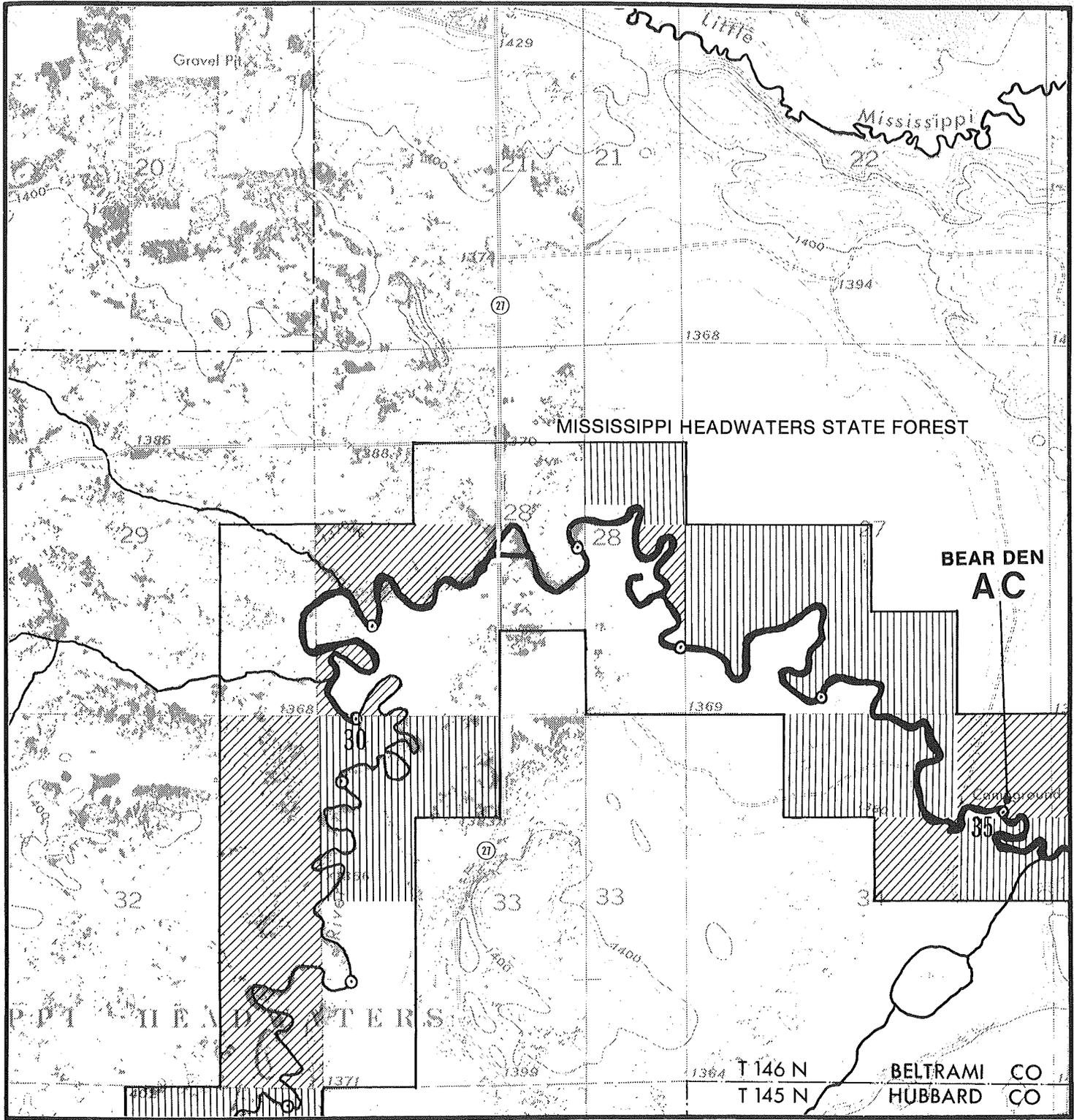
Map Legend

Surrounding Land Ownership



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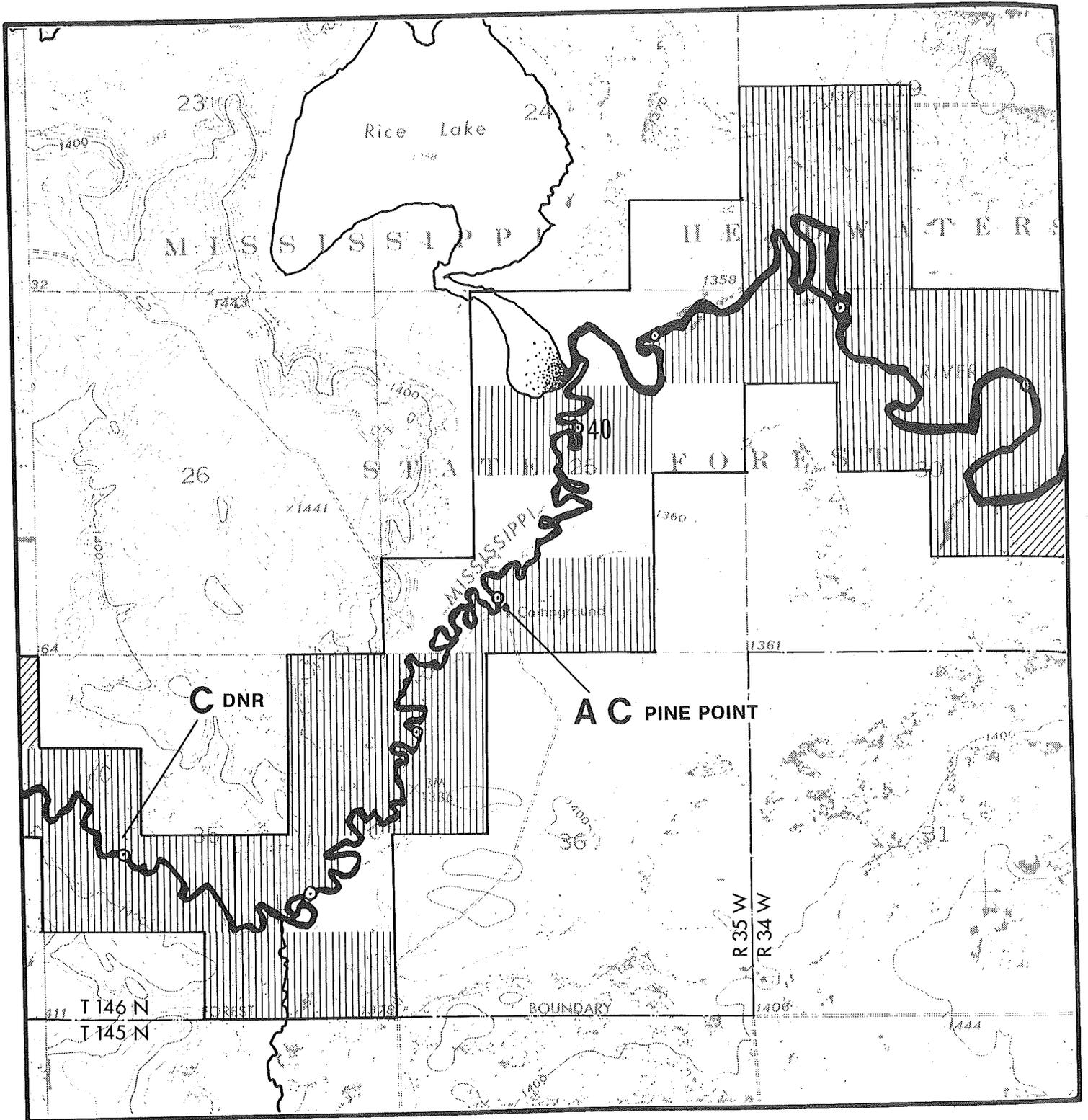
MAP NUMBER 5



Map Legend

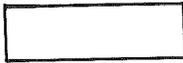
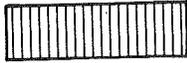
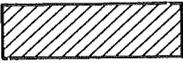
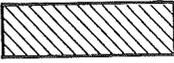
- Zoning District Boundary 
- River Mile 
- Rapids 
- RR Crossing 

	Existing	Proposed
Access	A	A
Rest Area	R	R
Historic Site	★	★
Portage	P	P
Campsite	C	C



Map Legend

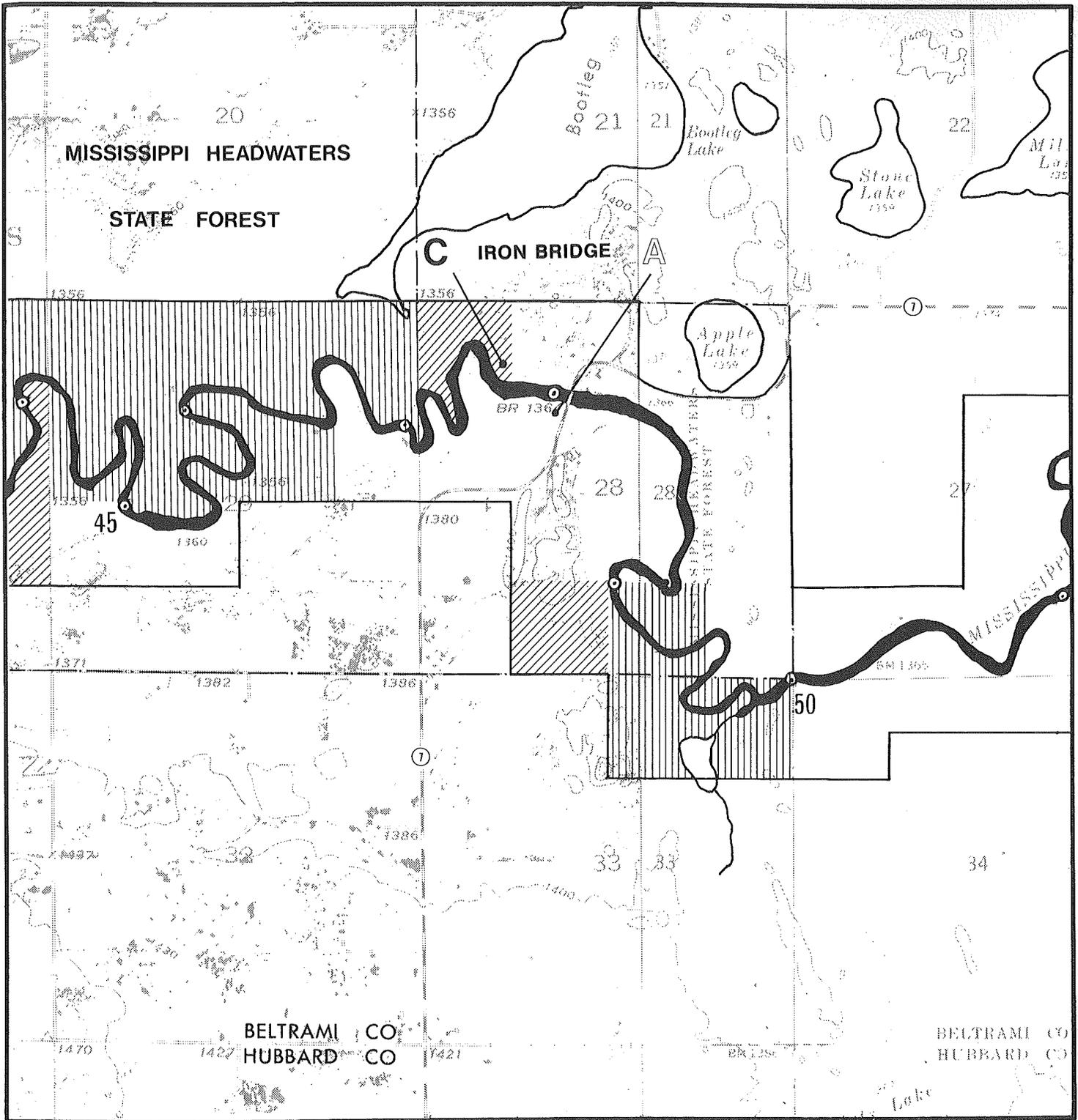
Surrounding Land Ownership

- | | | | |
|--|---|---|--|
| Private
 | County
 | State
 | Federal
 |
|--|---|---|--|



Scale: 1" = 2,000'

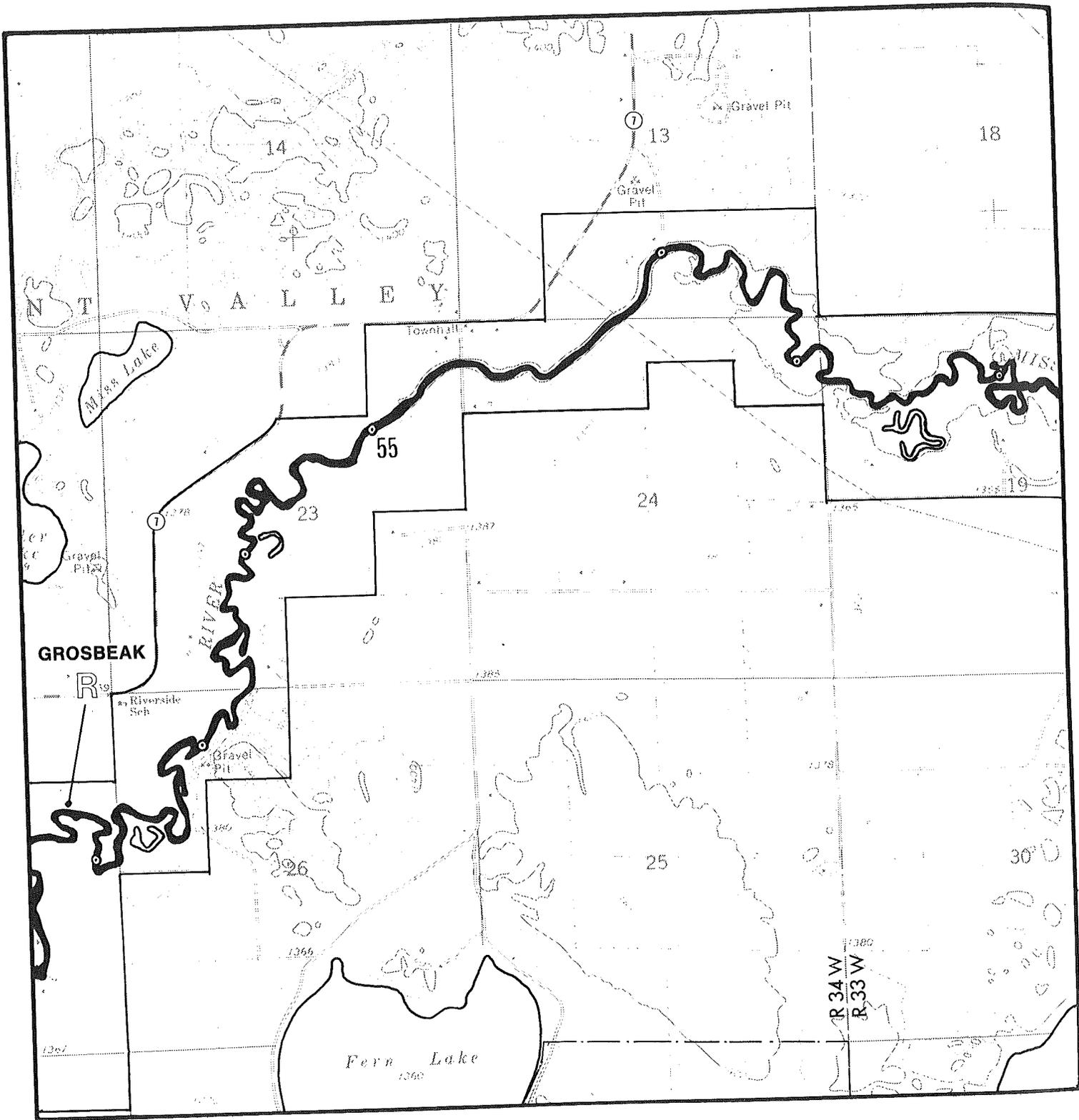
MAP NUMBER 7



Map Legend

- Zoning District Boundary 
- River Mile 
- Rapids 
- RR Crossing 

	Existing	Proposed
Access	A	A
Rest Area	R	R
Historic Site	★	☆
Portage	P	P
Campsite	C	C



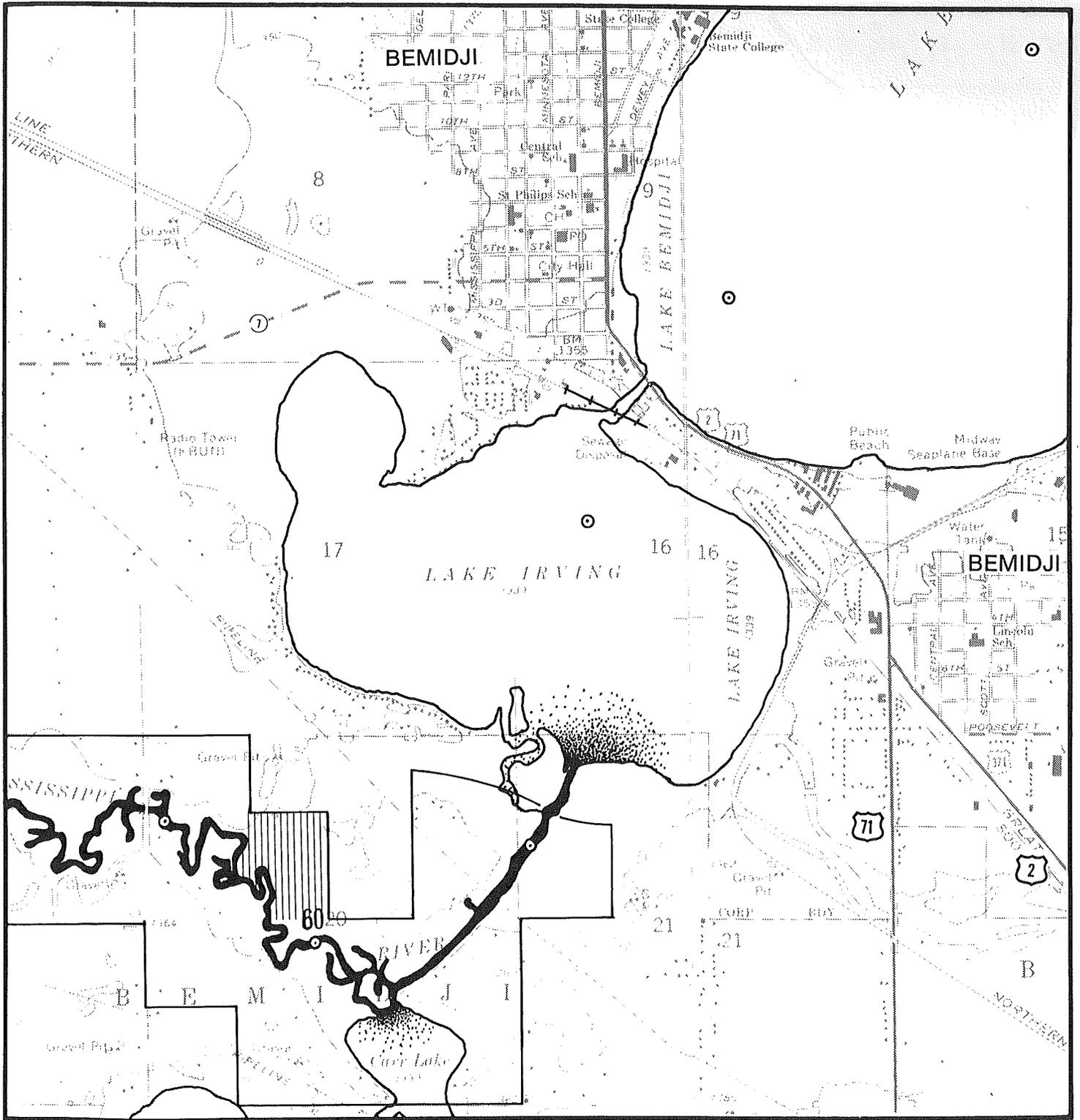
Map Legend

Surrounding Land Ownership



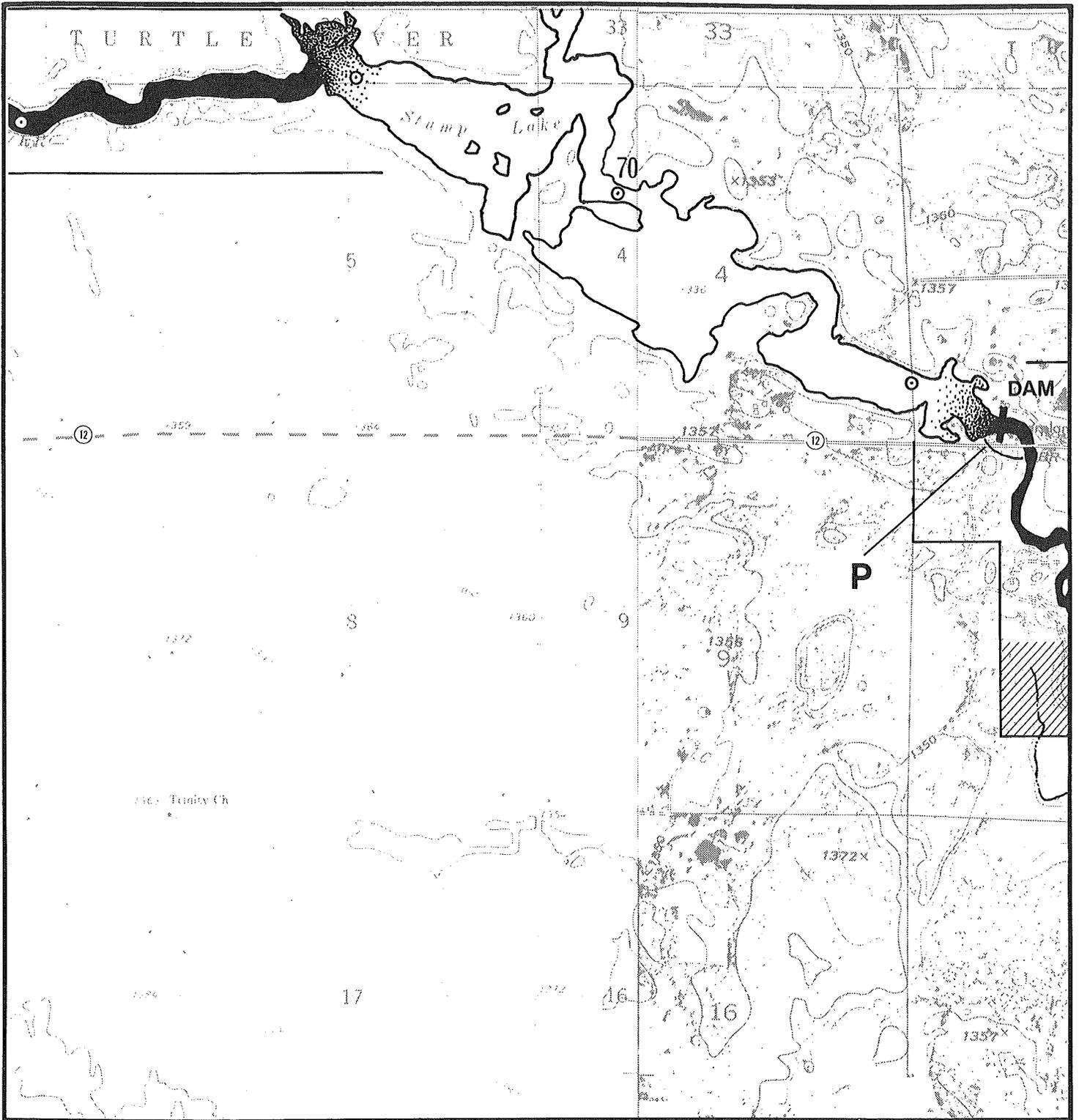
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MAP NUMBER 9



Map Legend

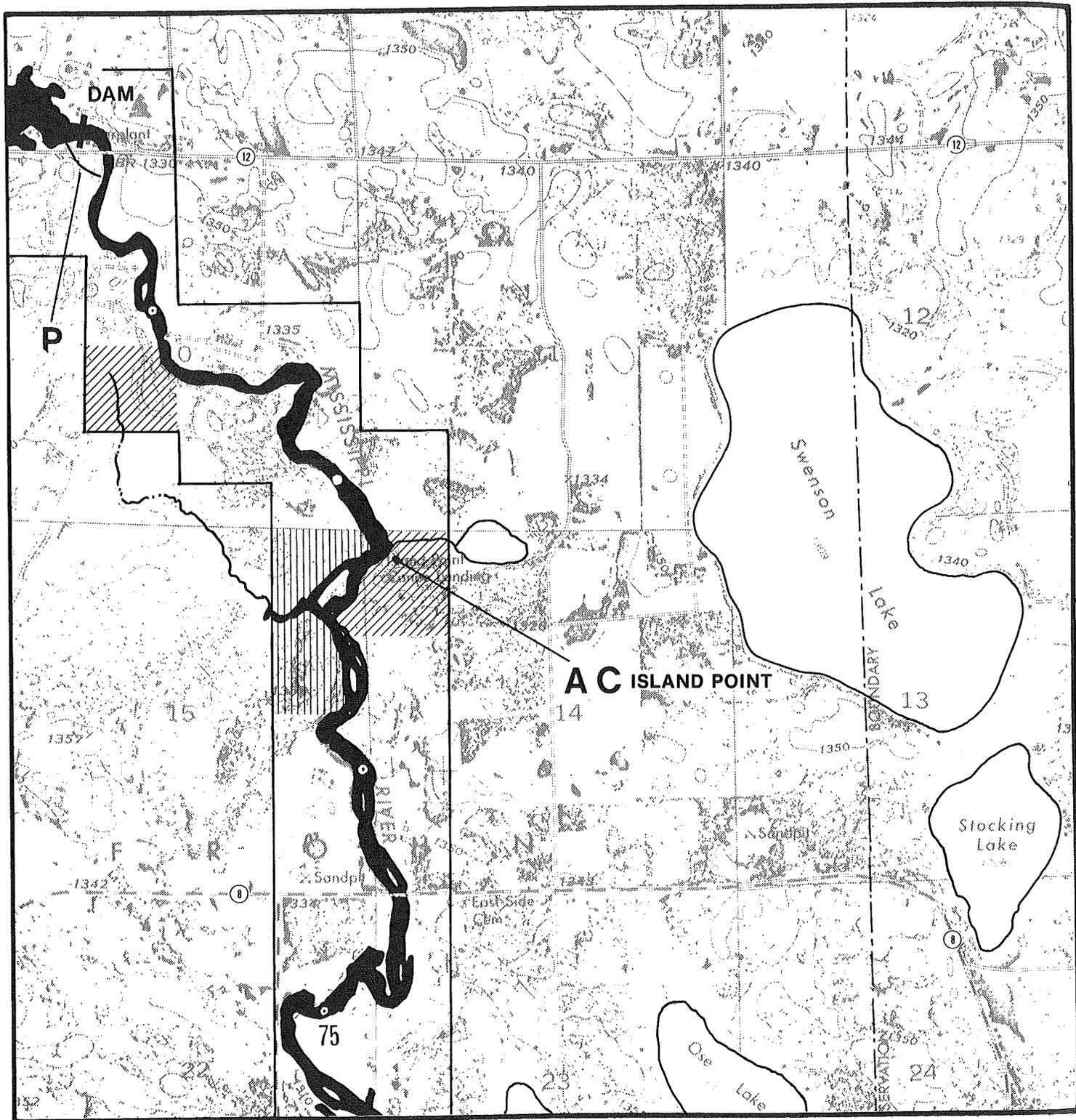
		Existing	Proposed
Zoning District Boundary		A	A
River Mile		R	R
Rapids		★	★
RR Crossing		P	P
		C	C
		A	A
		R	R
		★	★
		P	P
		C	C



Map Legend

Zoning District Boundary	
River Mile	
Rapids	
RR Crossing	

	Existing	Proposed
Access	A	A
Rest Area	R	R
Historic Site	★	★
Portage	P	P
Campsite	C	C

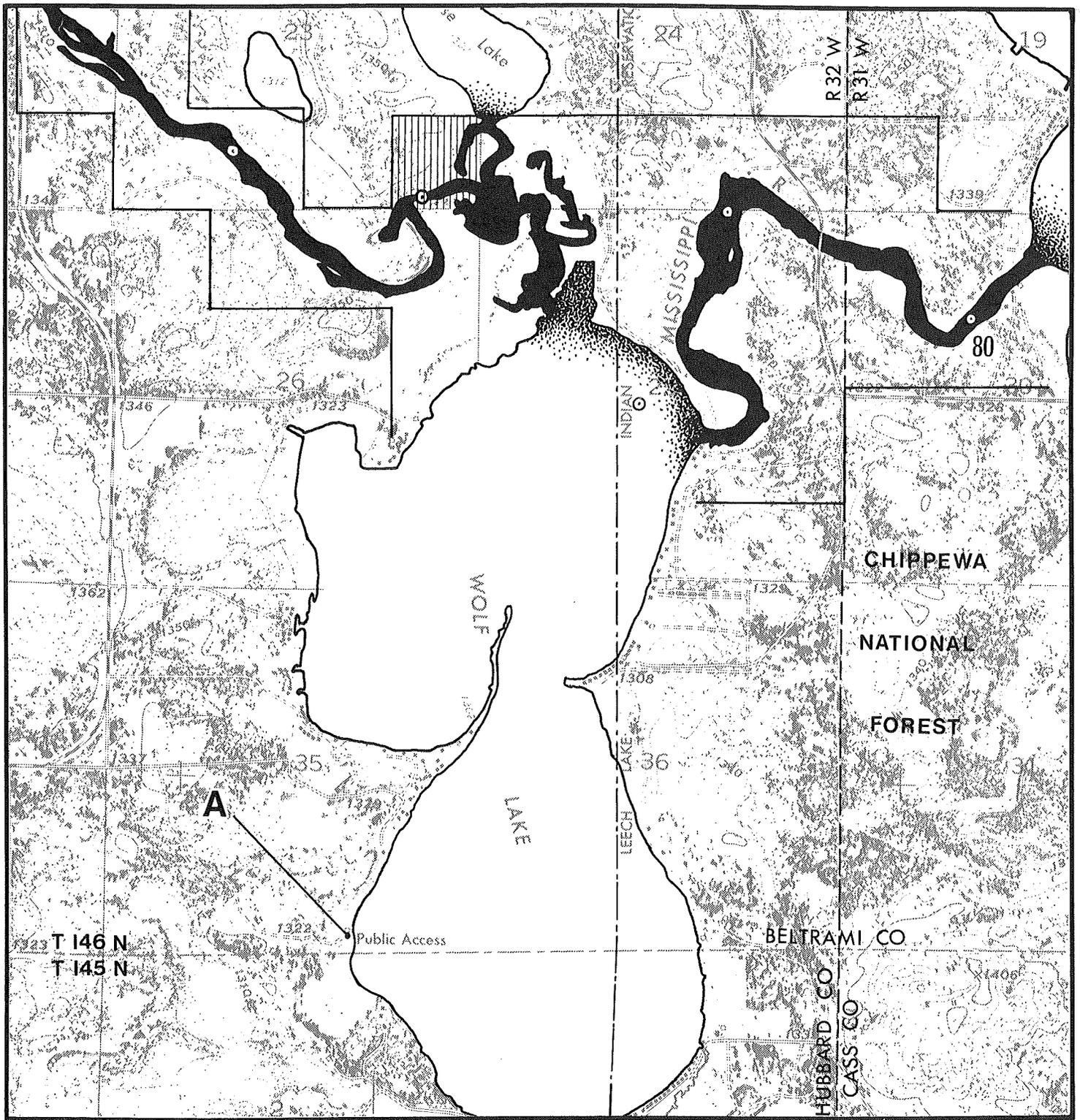


Map Legend

Surrounding Land Ownership



Scale: 1" = 2,000'



Map Legend

Zoning District Boundary



River Mile



Rapids



RR Crossing



Existing

Proposed

Access

A

A

Rest Area

R

R

Historic Site

★

★

Portage

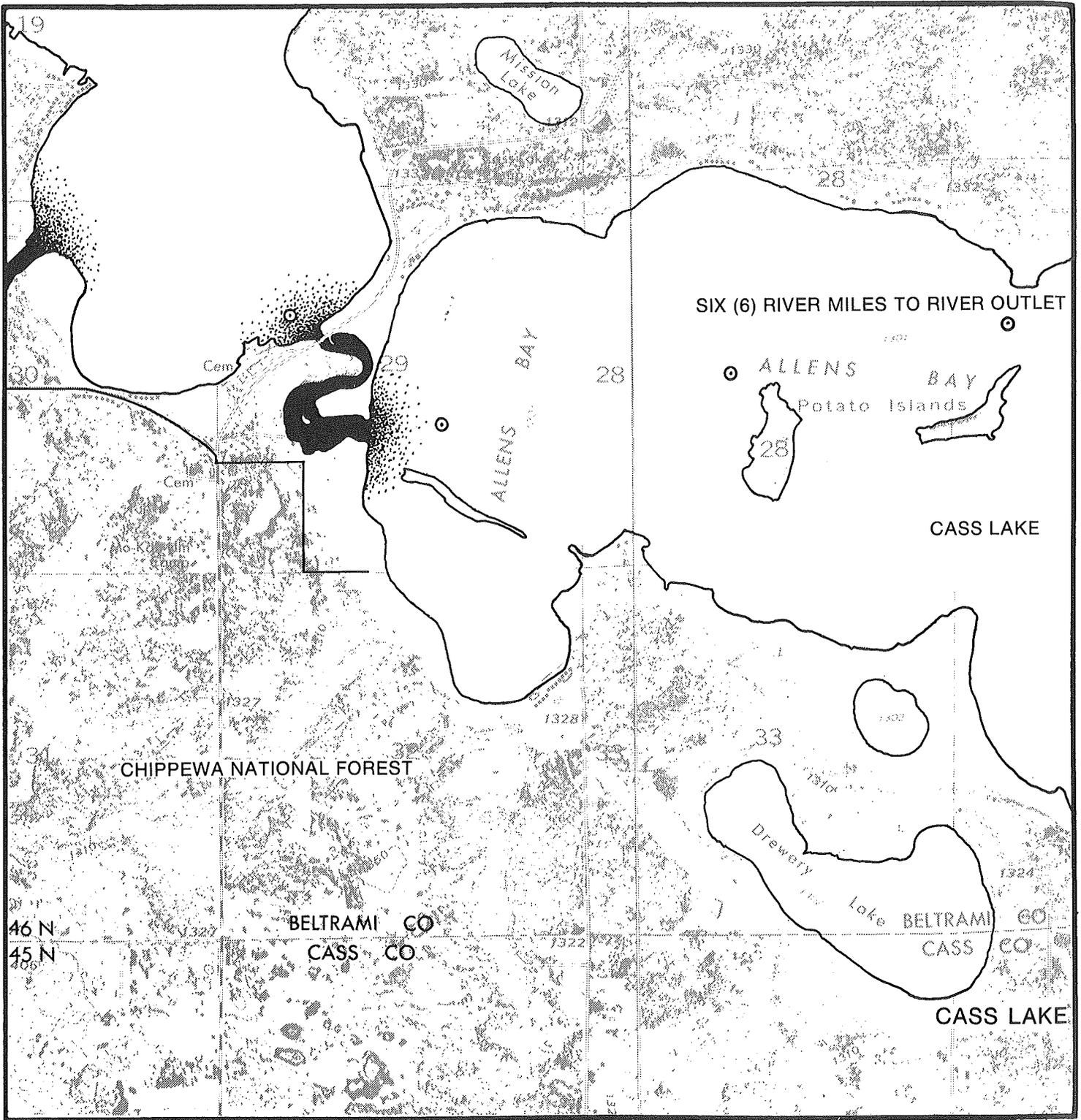
P

P

Campsite

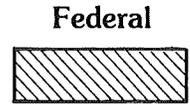
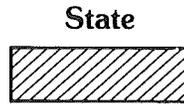
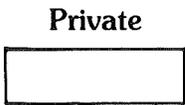
C

C

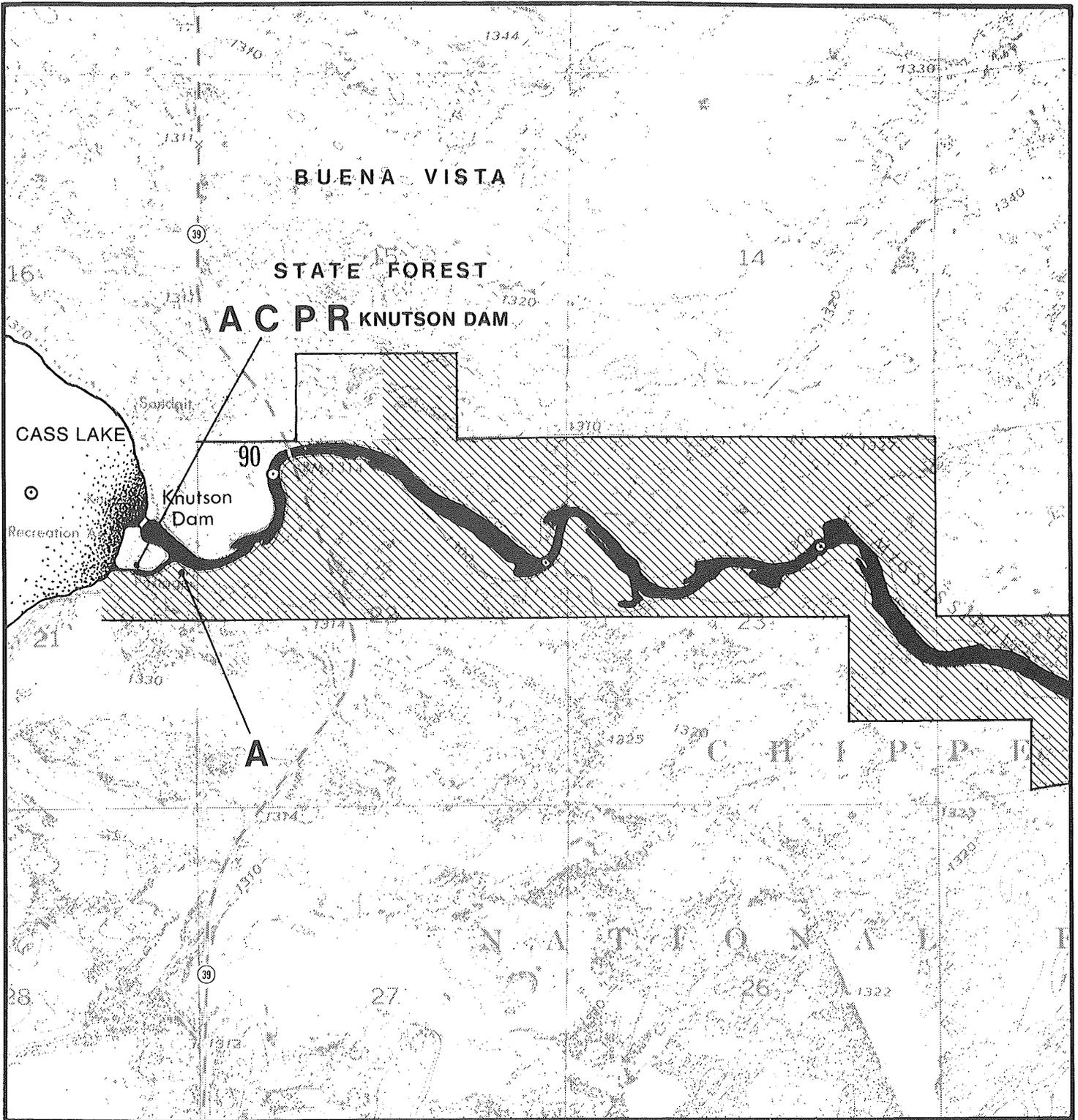


Map Legend

Surrounding Land Ownership

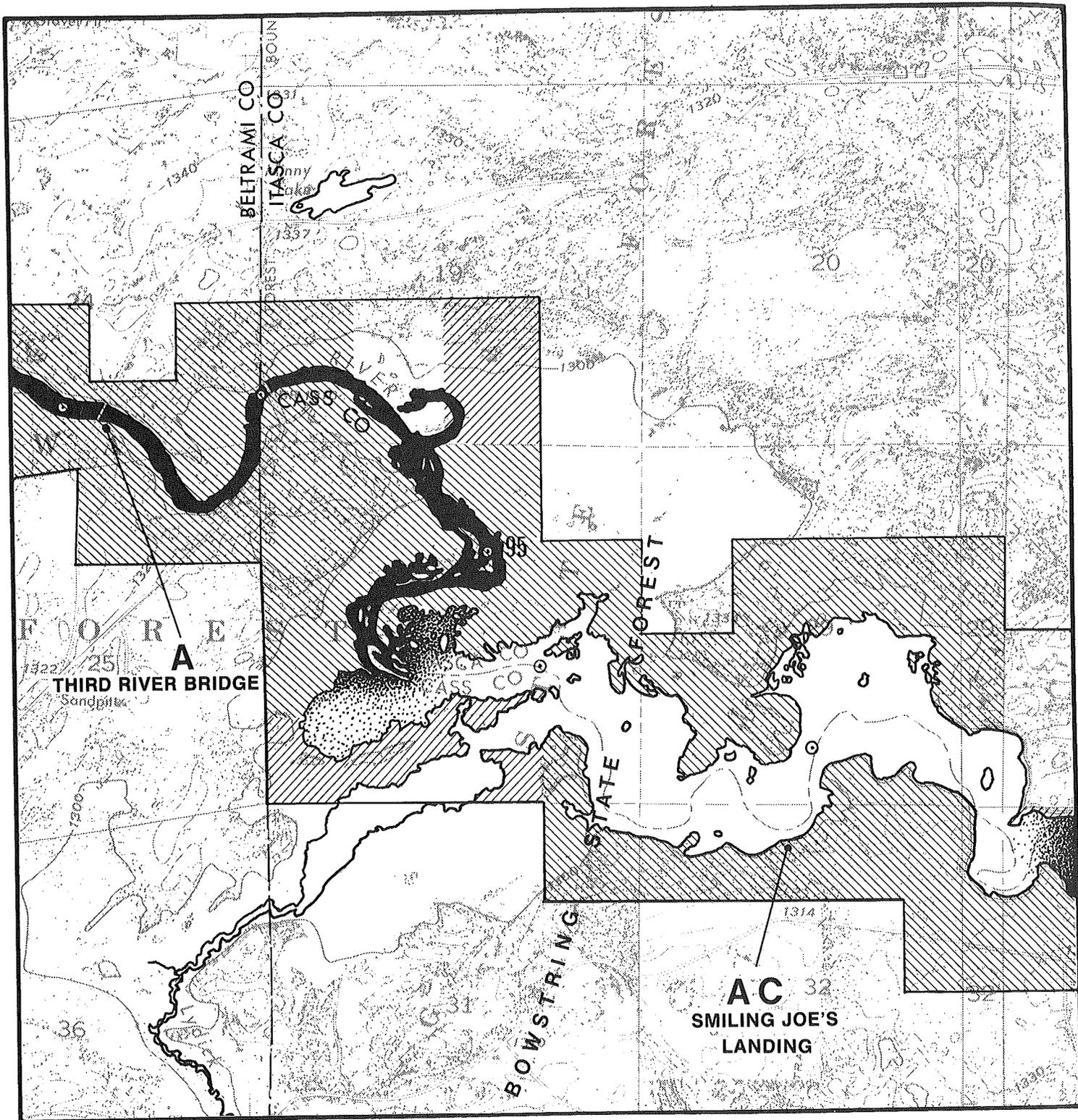


Scale: 1" = 2,000'



Map Legend

		Existing	Proposed
Zoning District Boundary			
River Mile			
Rapids			
RR Crossing			
		Access	
		Rest Area	
		Historic Site	
		Portage	
		Campsite	
		A	A
		R	R
		★	★
		P	P
		C	C

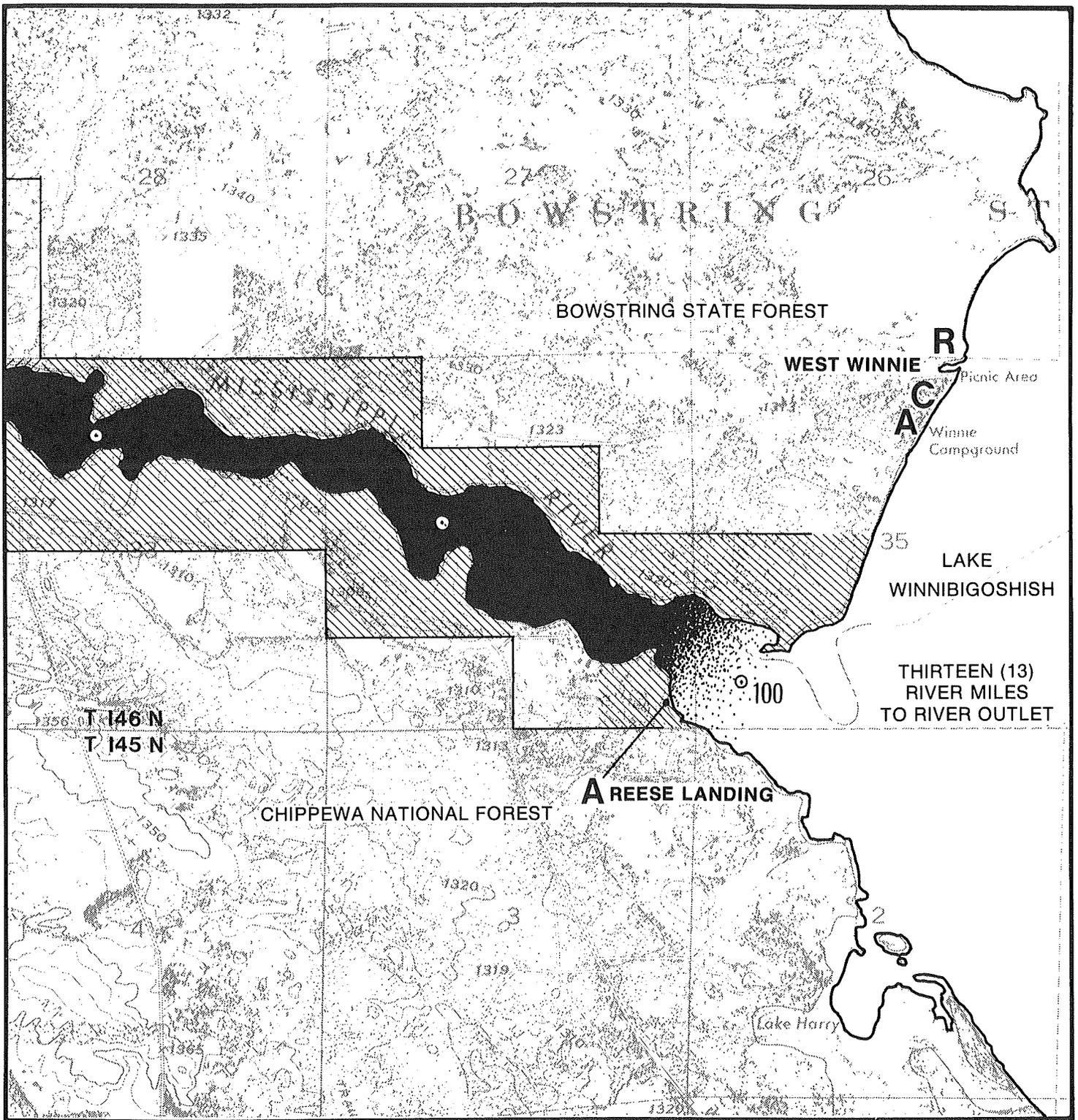


Map Legend

Surrounding Land Ownership



Scale: 1" = 2,000'



Map Legend

Zoning District Boundary



River Mile



Rapids



RR Crossing



Access

A

A

Rest Area

R

R

Historic Site

★

☆

Portage

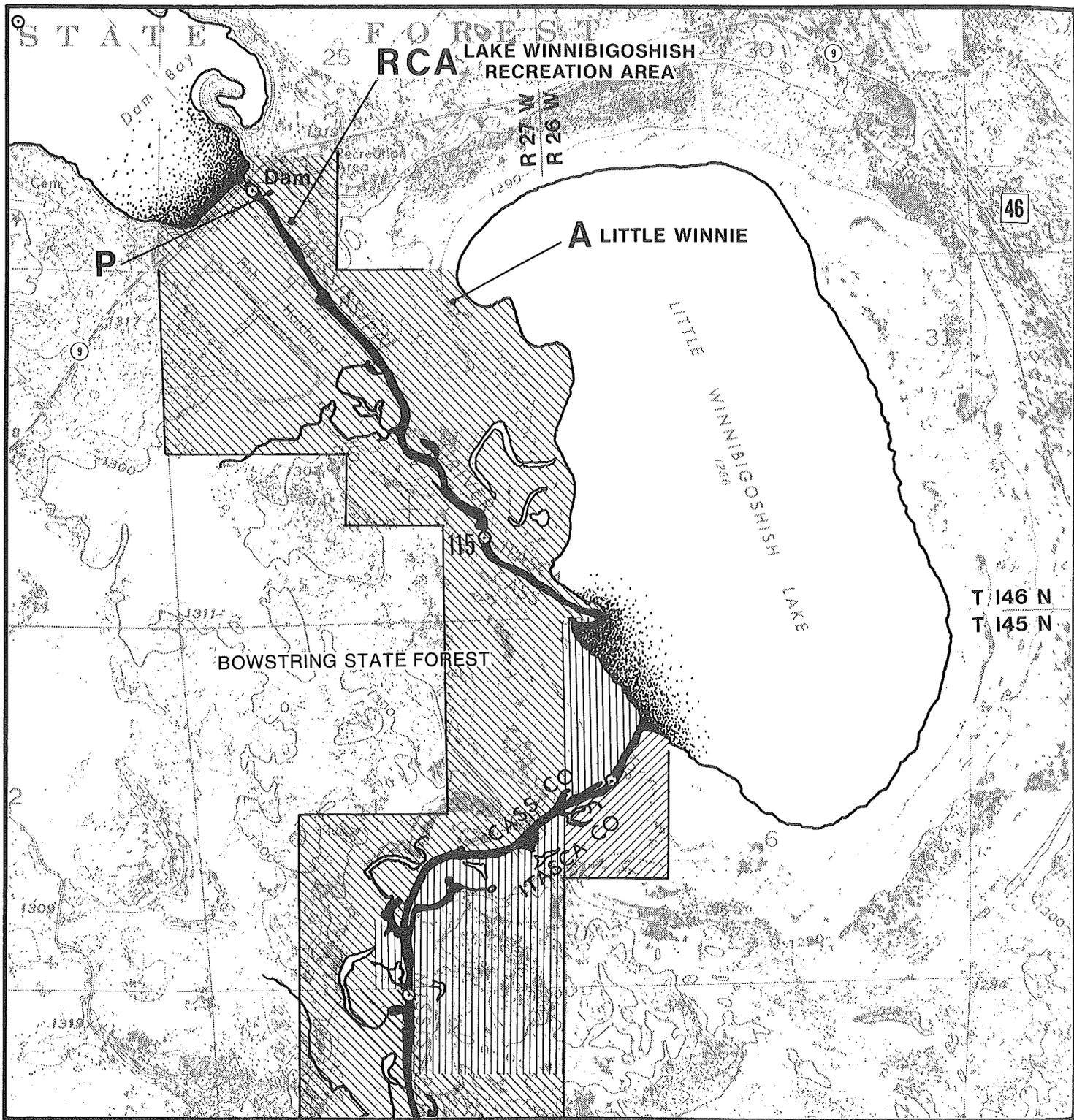
P

P

Campsite

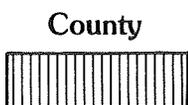
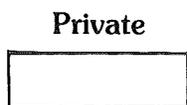
C

C



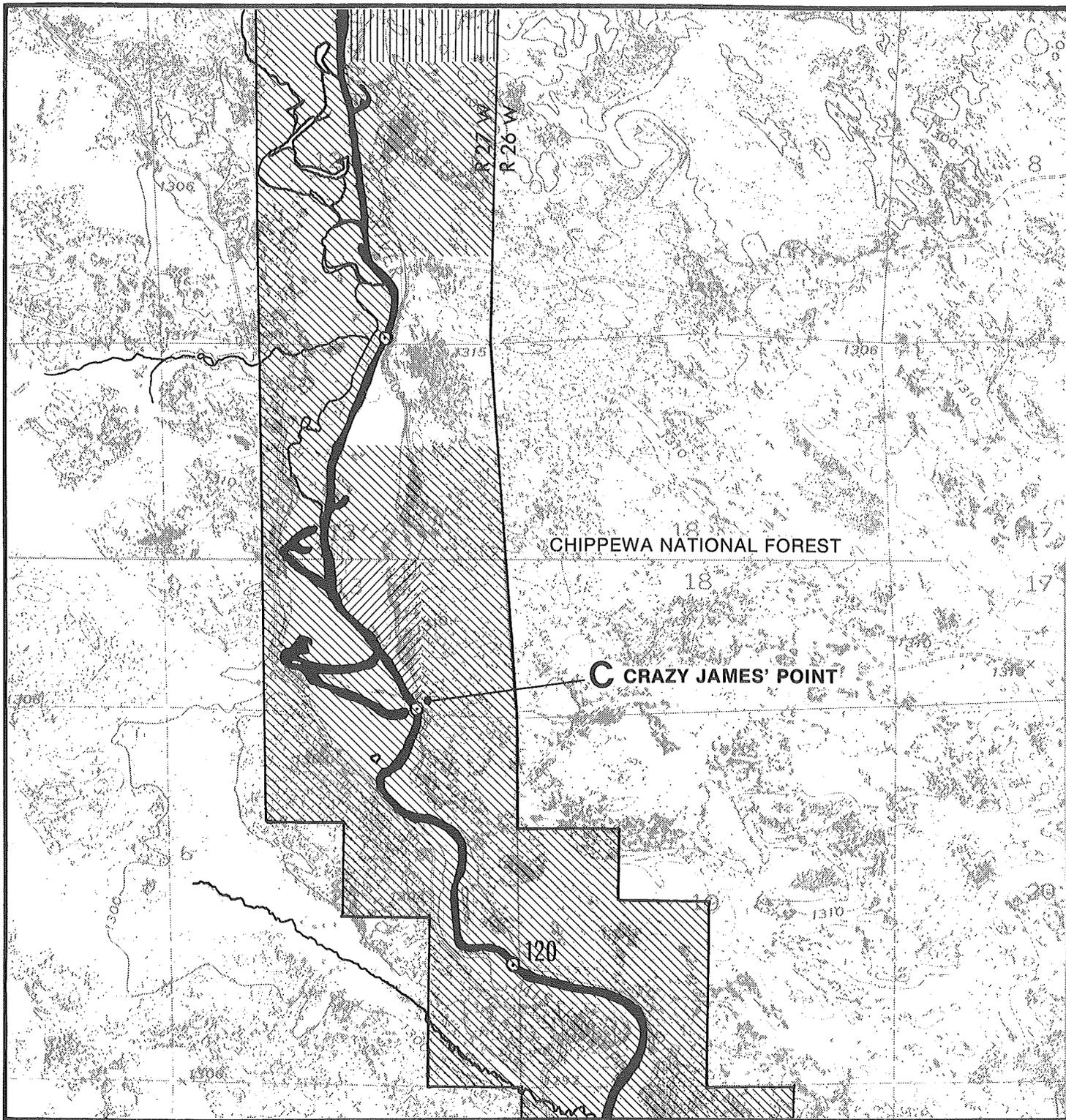
Map Legend

Surrounding Land Ownership



Scale: 1" = 2,000'

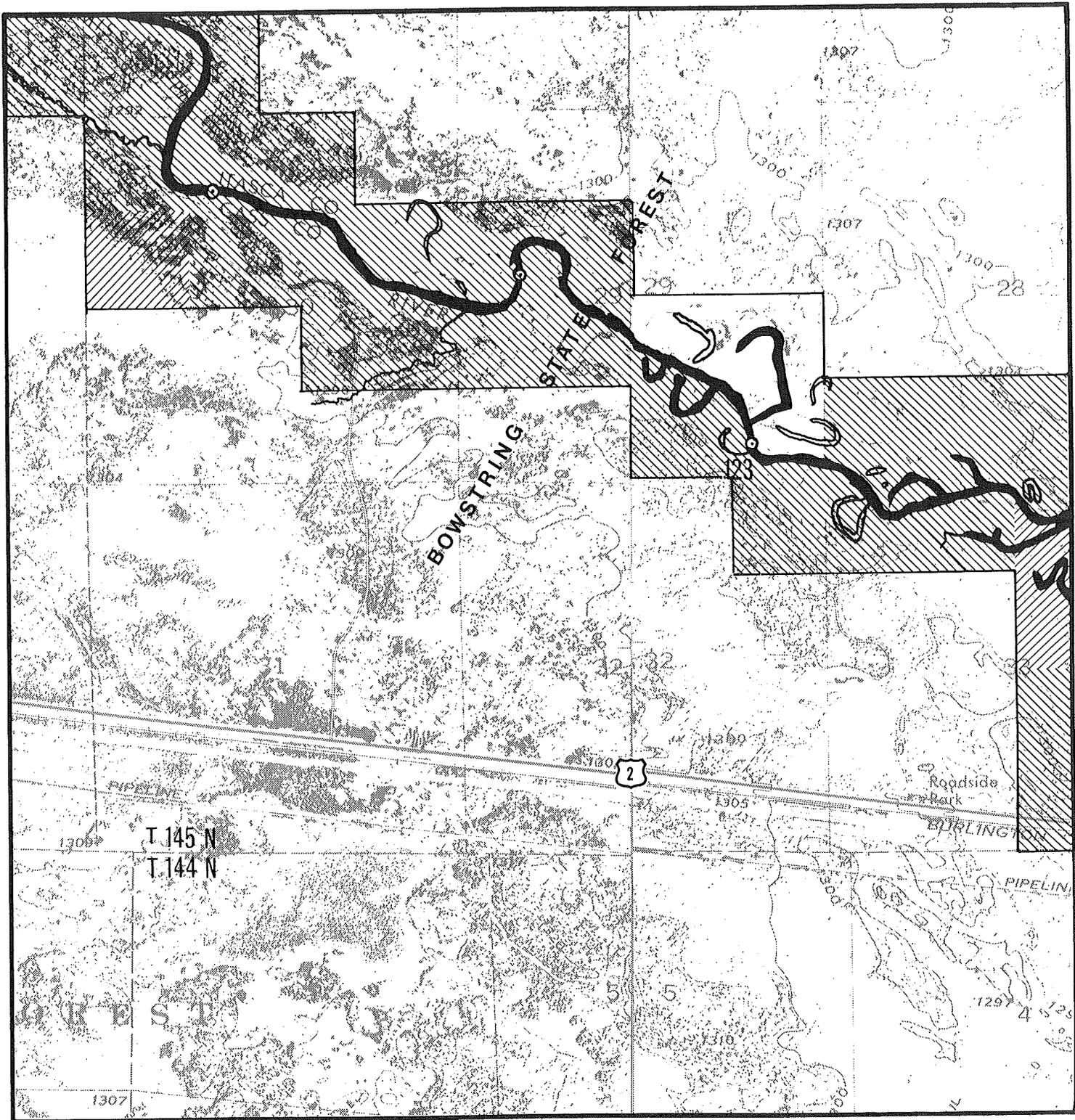
MAP NUMBER 19



Map Legend

Zoning District Boundary	
River Mile	
Rapids	
RR Crossing	

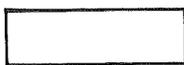
	Existing	Proposed
Access	A	A
Rest Area	R	R
Historic Site	★	☆
Portage	P	P
Campsite	C	C



Map Legend

Surrounding Land Ownership

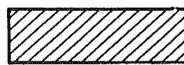
Private



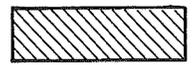
County



State

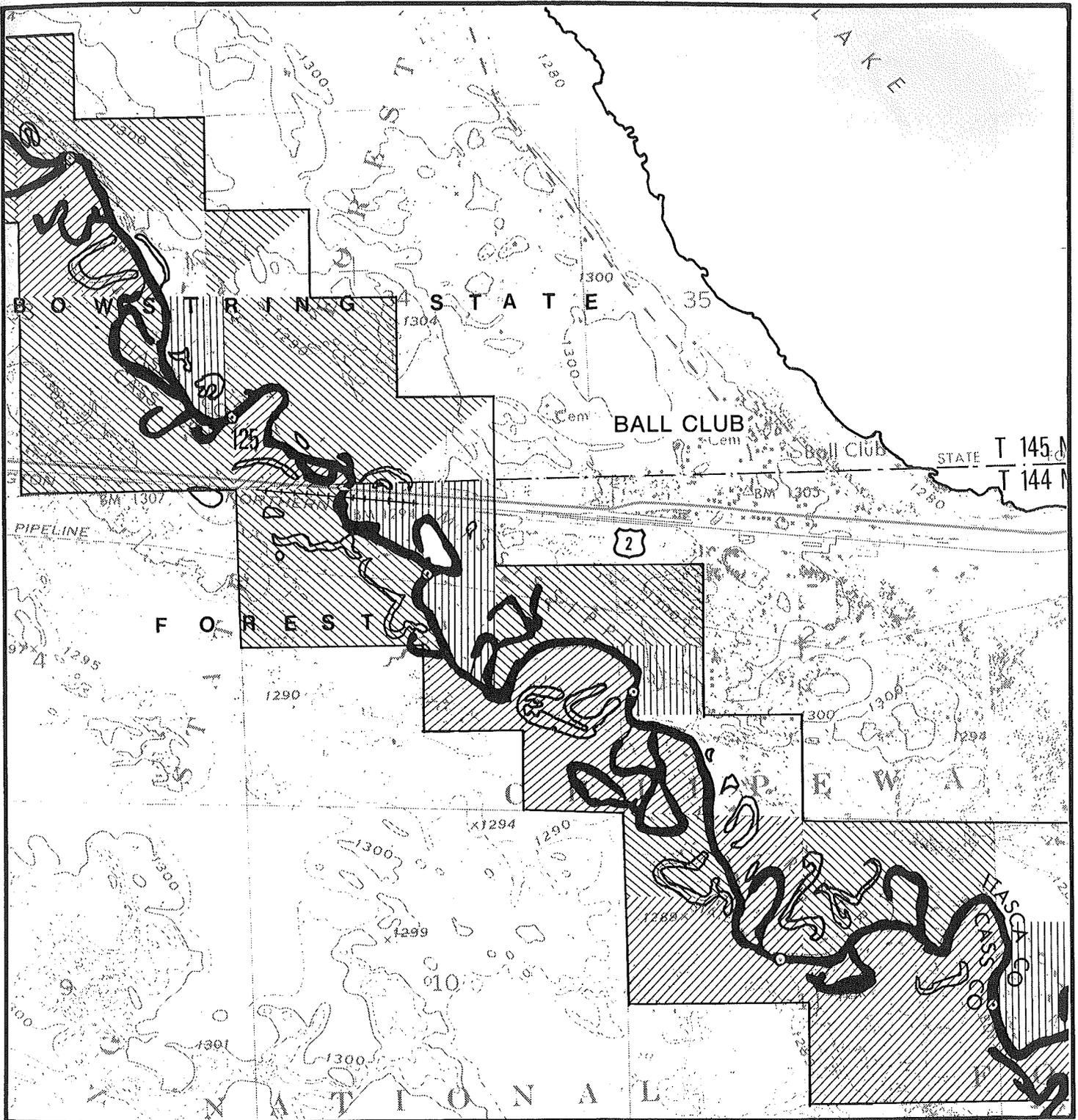


Federal



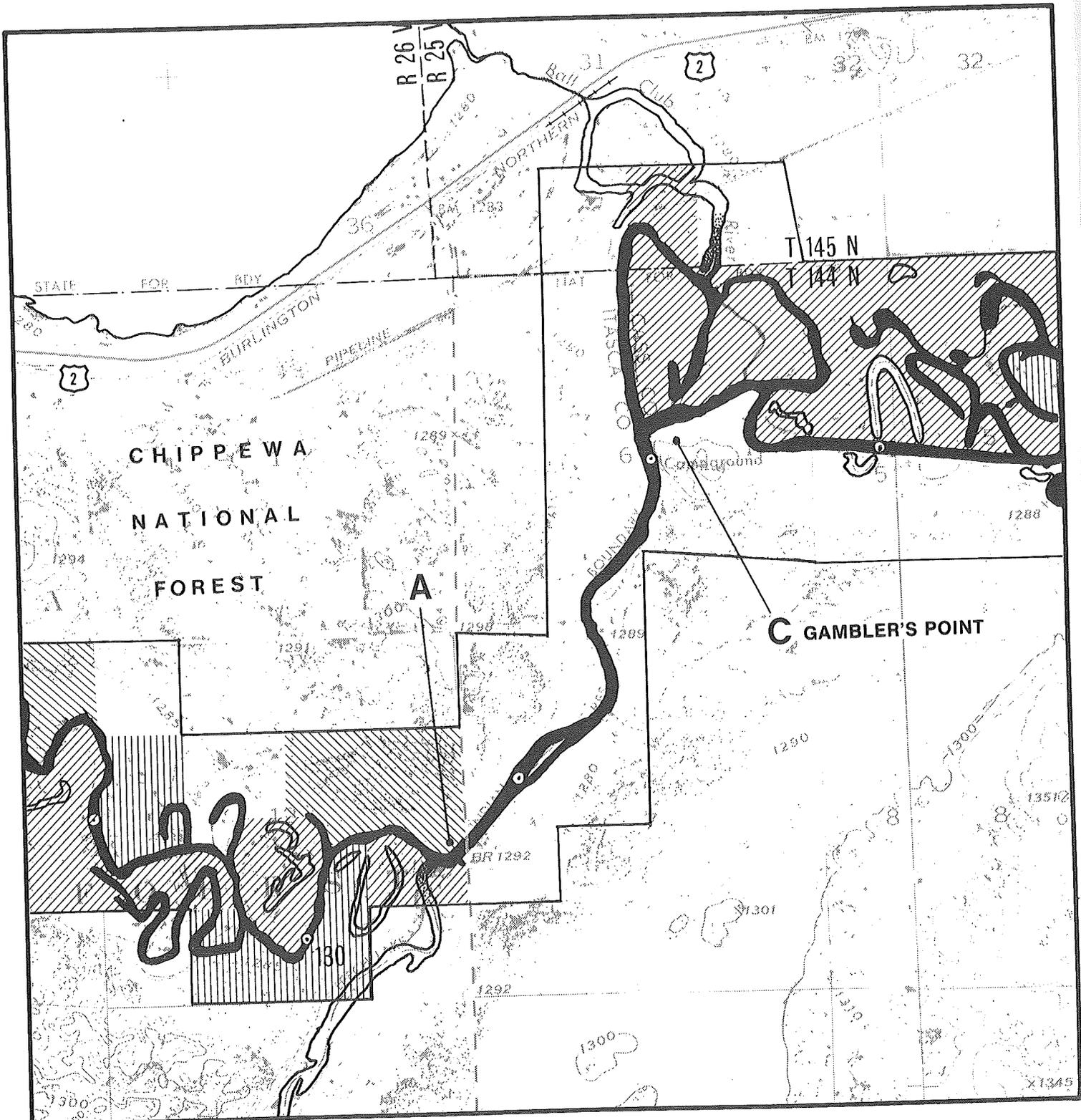
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MAP NUMBER 21



Map Legend

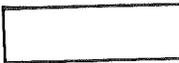
		Existing	Proposed
Zoning District Boundary		A	A
River Mile		R	R
Rapids		★	★
RR Crossing		P	P
		C	C
		A	A
		R	R
		★	★
		P	P
		C	C

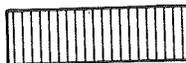


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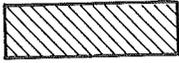
Surrounding Land Ownership

- Private


- County


- State

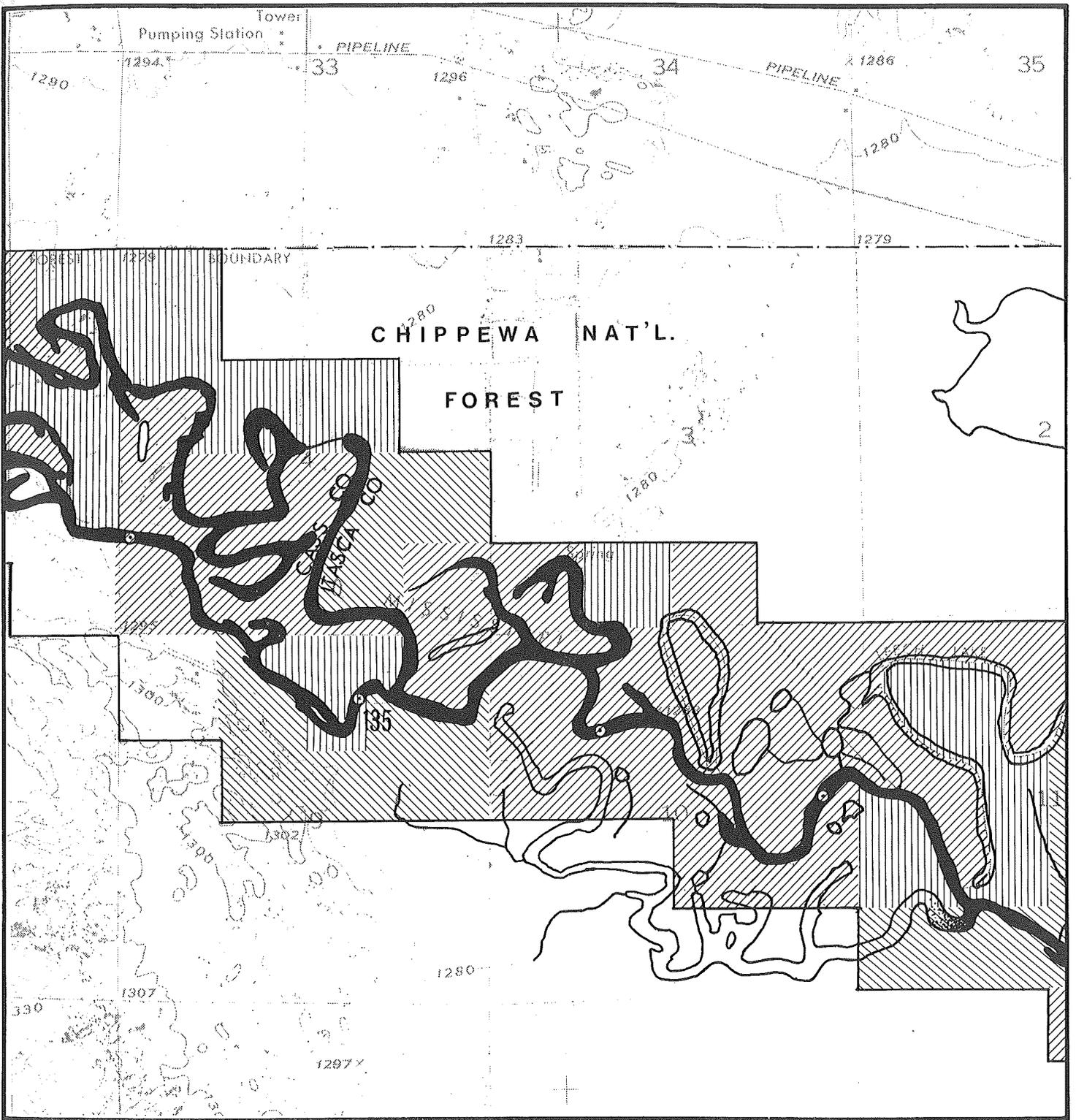

- Federal





Scale: 1" = 2,000'

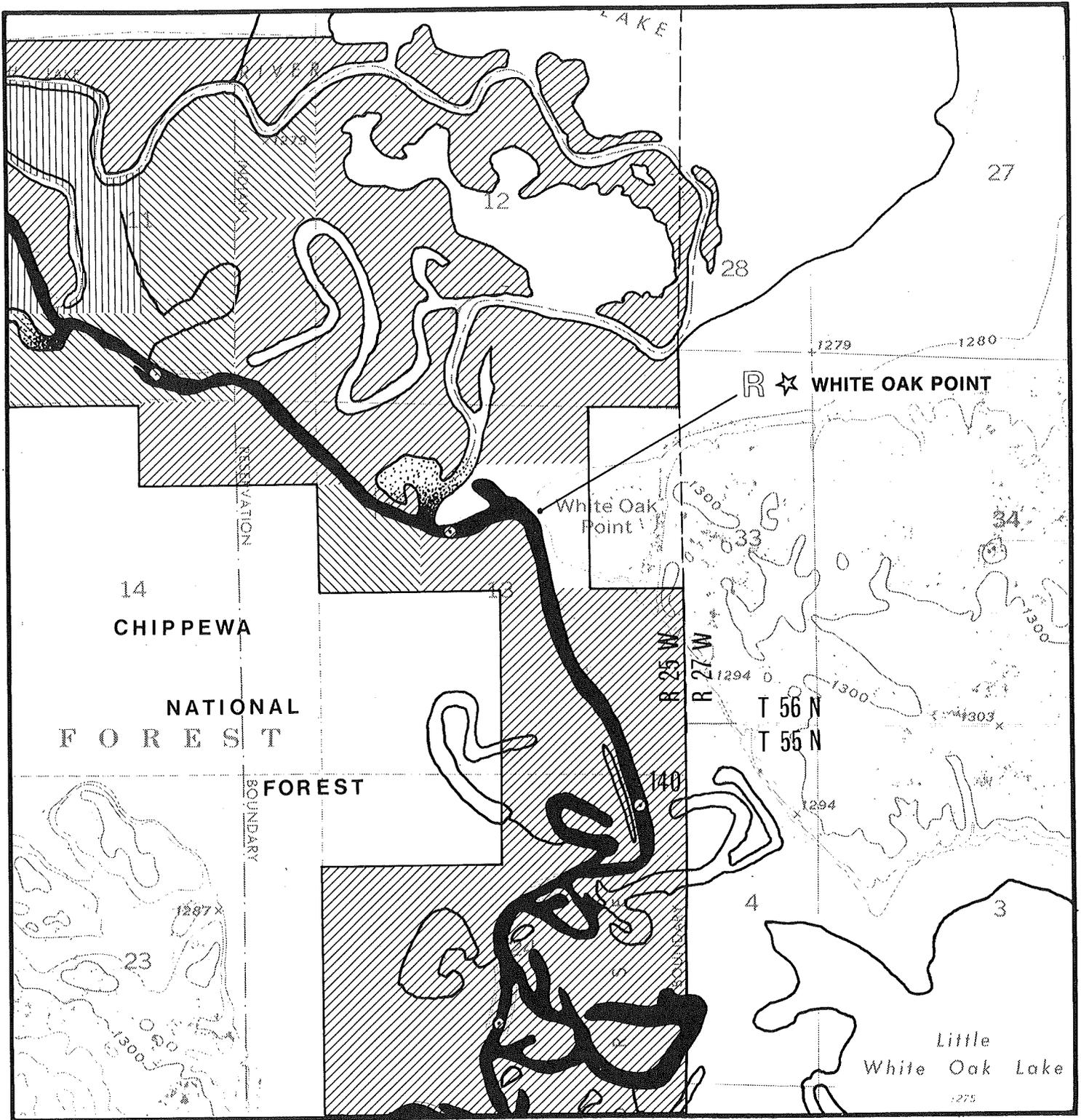
MAP NUMBER 23



Map Legend

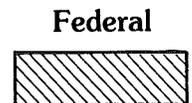
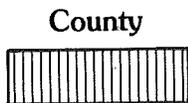
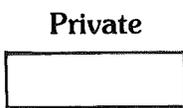
Zoning District Boundary	
River Mile	
Rapids	
RR Crossing	

	Existing	Proposed
Access	A	A
Rest Area	R	R
Historic Site	★	★
Portage	P	P
Campsite	C	C



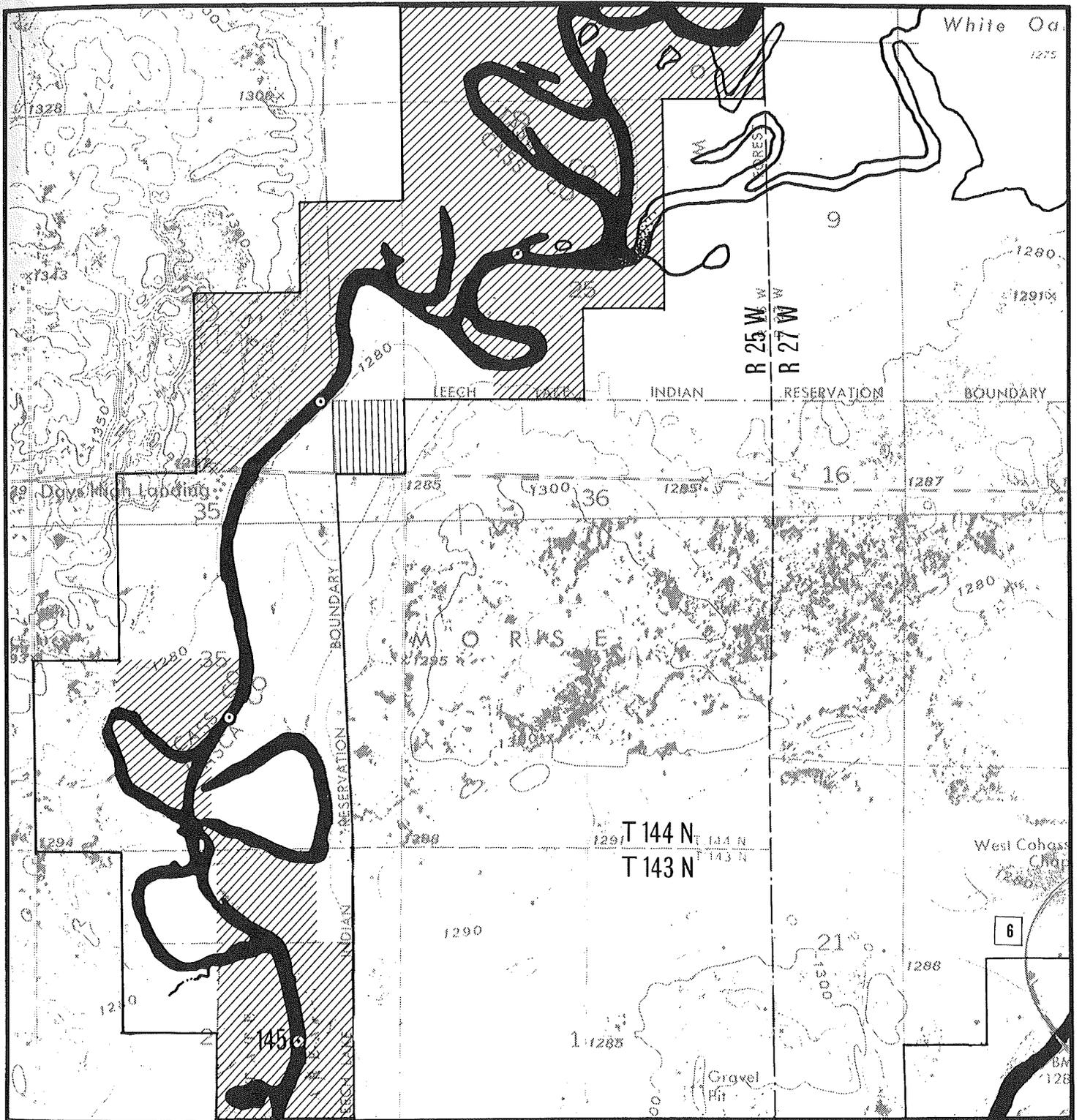
Map Legend

Surrounding Land Ownership

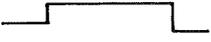


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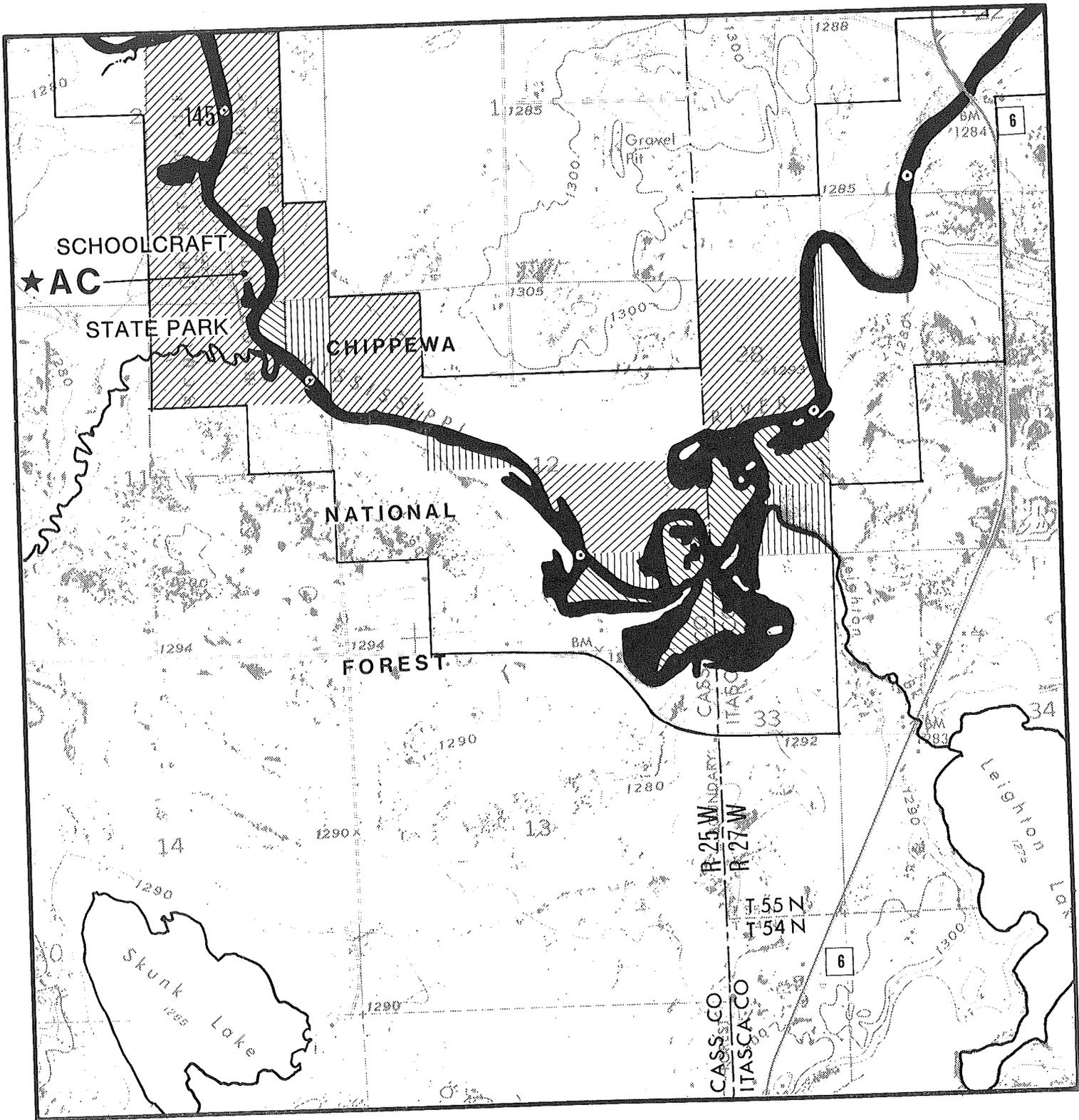
MAP NUMBER 25



Map Legend

Zoning District Boundary	
River Mile	
Rapids	
RR Crossing	

	Existing	Proposed
Access	A	A
Rest Area	R	R
Historic Site	★	★
Portage	P	P
Campsite	C	C



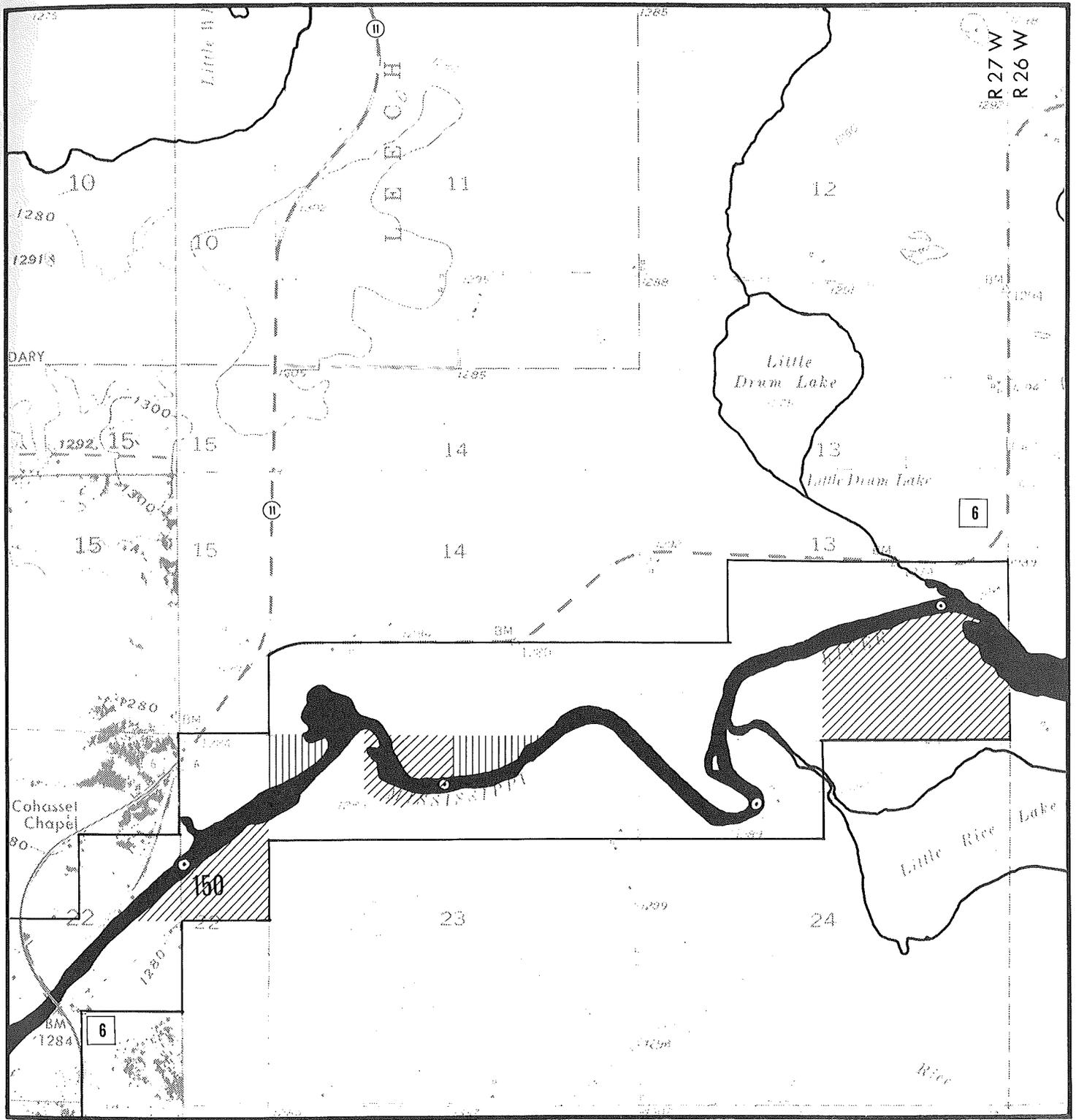
Map Legend

Surrounding Land Ownership



Scale: 1" = 2,000'

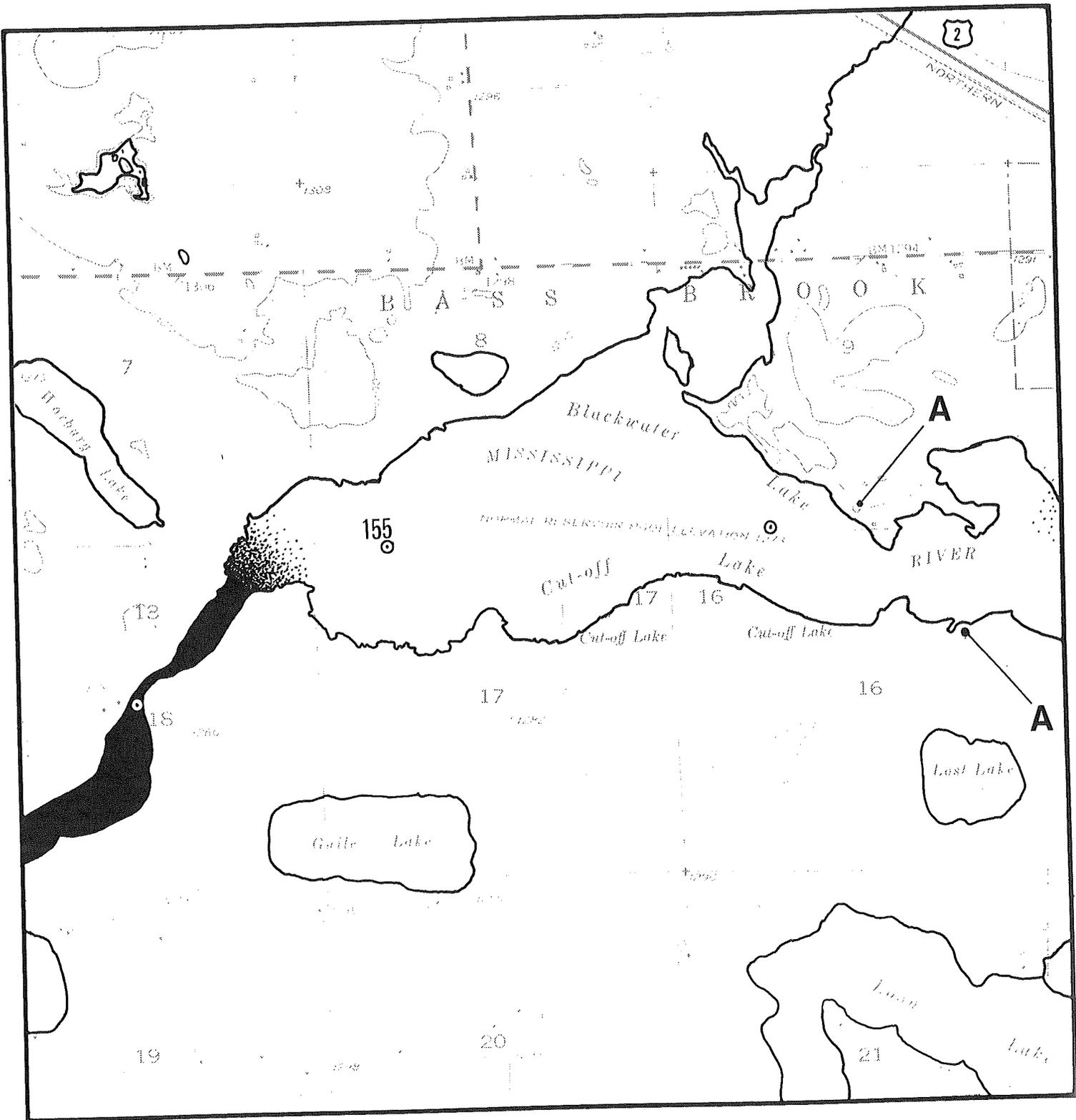
MAP NUMBER 27



Map Legend

- Zoning District Boundary 
- River Mile 
- Rapids 
- RR Crossing 

	Existing	Proposed
Access	A	A
Rest Area	R	R
Historic Site	★	☆
Portage	P	P
Campsite	C	C



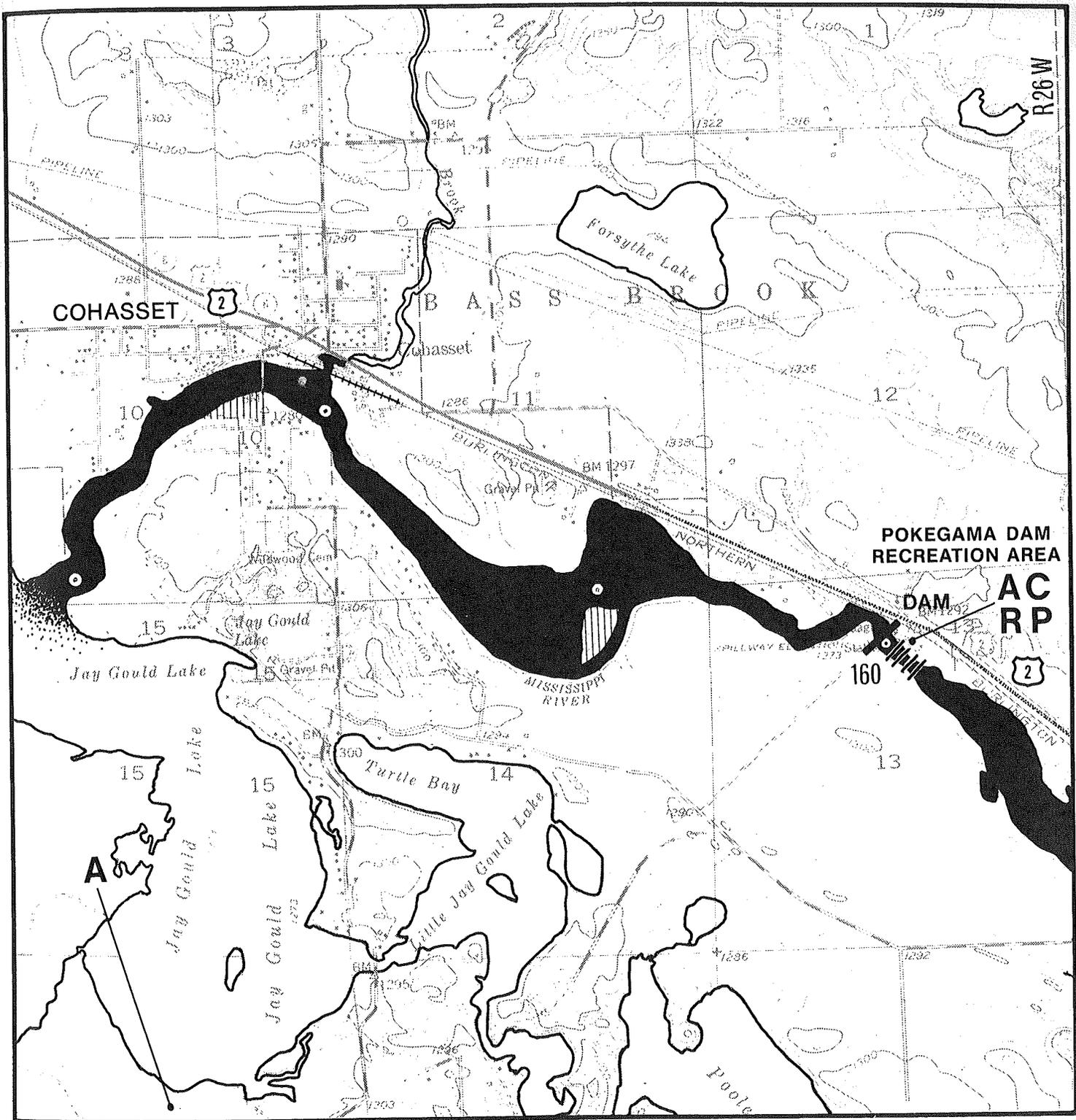
Map Legend

Surrounding Land Ownership



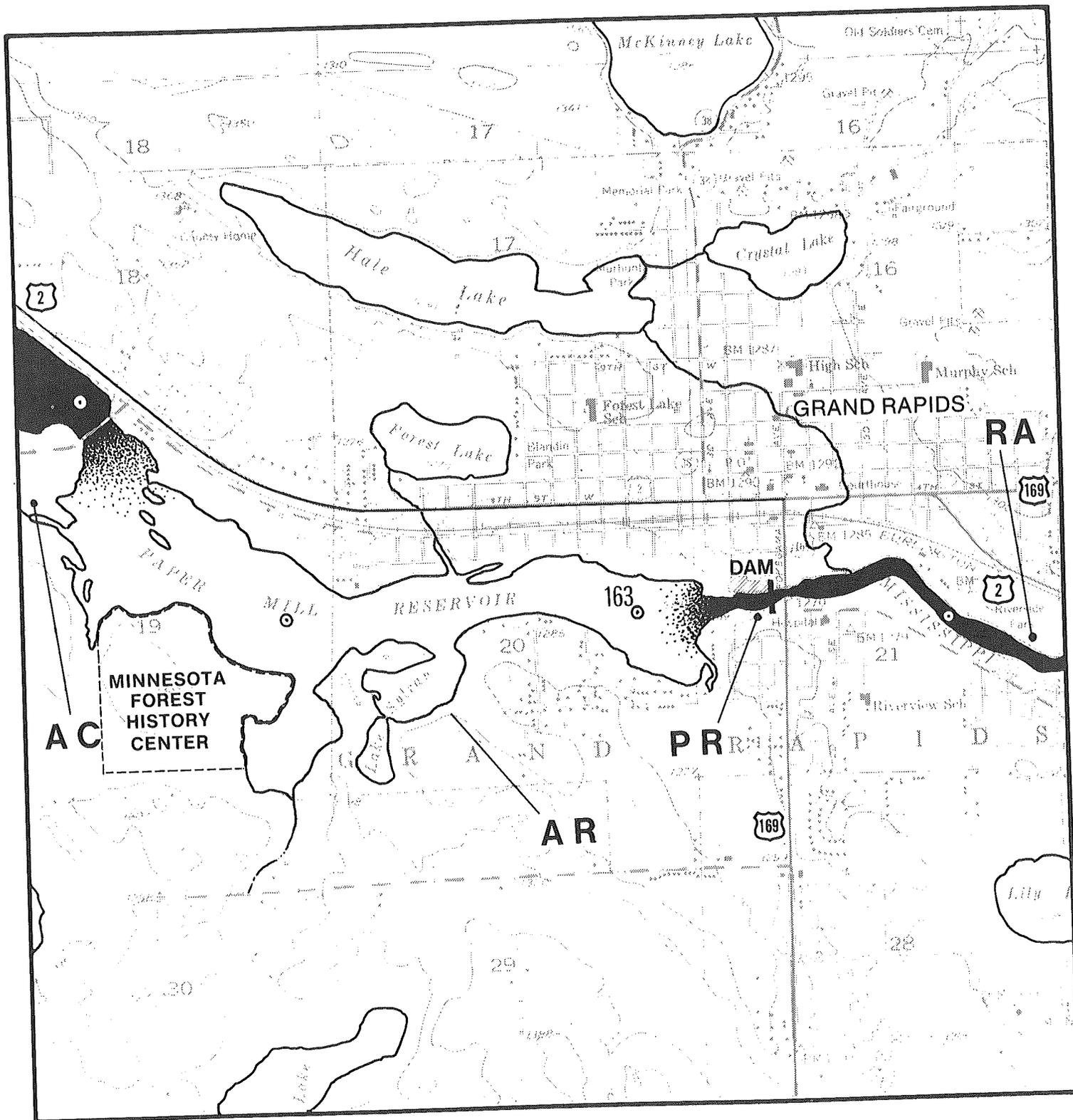
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MAP NUMBER 29



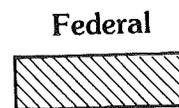
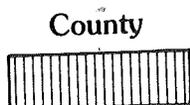
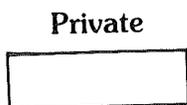
Map Legend

		Existing	Proposed
Zoning District Boundary			
River Mile			
Rapids			
RR Crossing			
		Access	A
		Rest Area	R
		Historic Site	★
		Portage	P
		Campsite	C



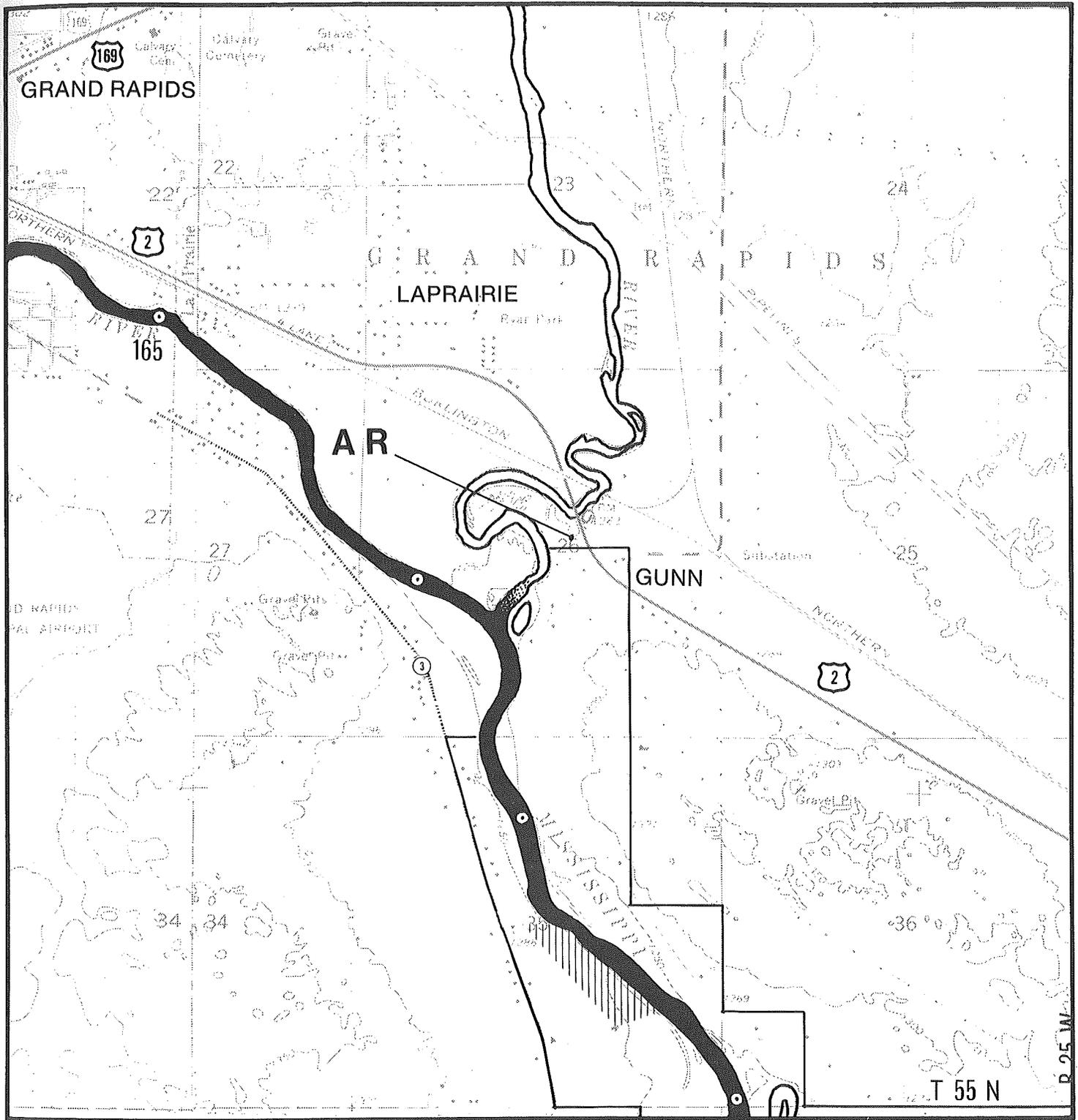
Map Legend

Surrounding Land Ownership



Scale: 1" = 2,000'

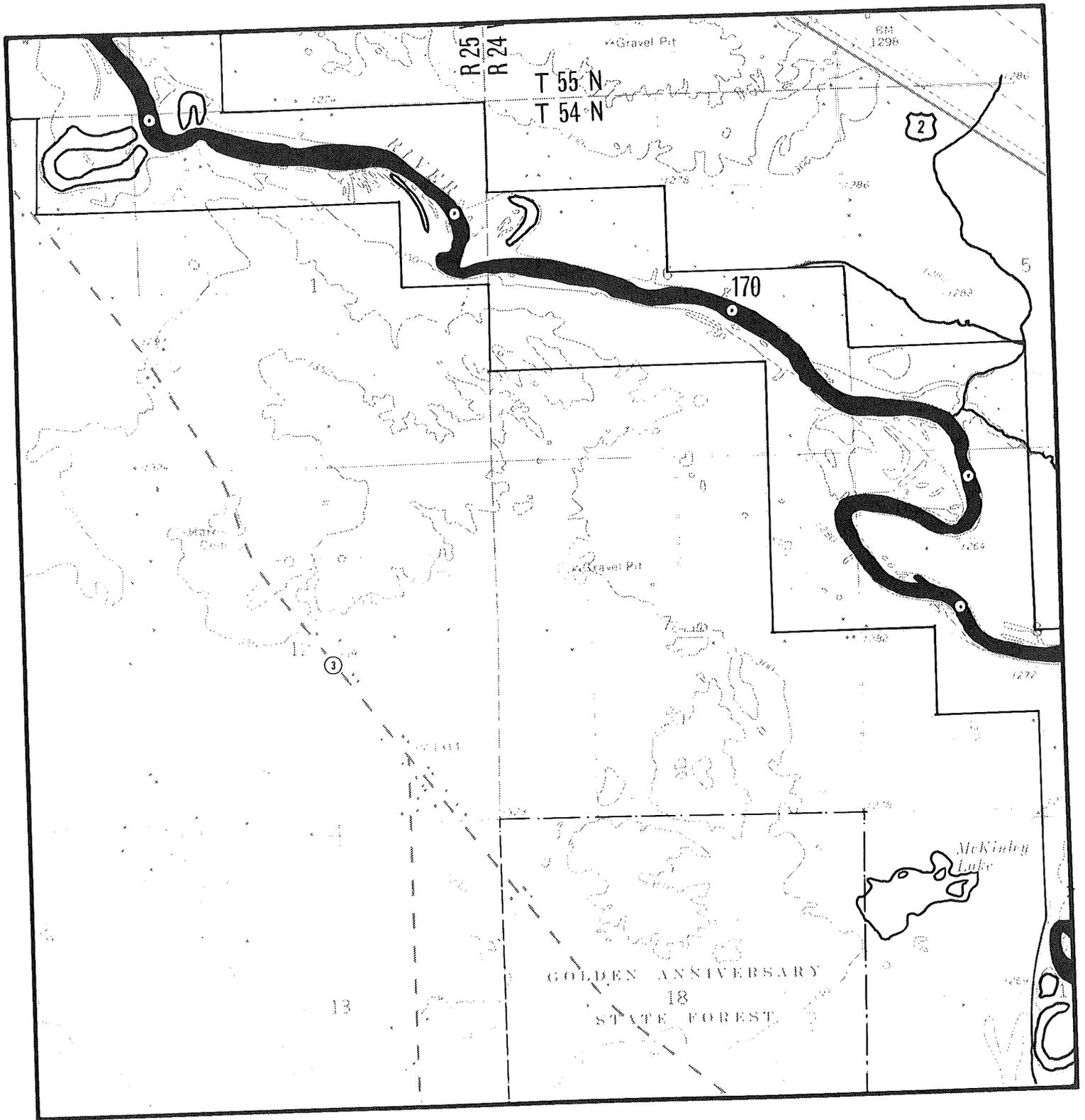
MAP NUMBER 31



Map Legend

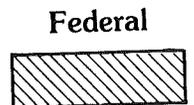
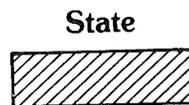
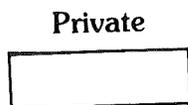
Zoning District Boundary	
River Mile	
Rapids	
RR Crossing	

	Existing	Proposed
Access	A	A
Rest Area	R	R
Historic Site	★	☆
Portage	P	P
Campsite	C	C



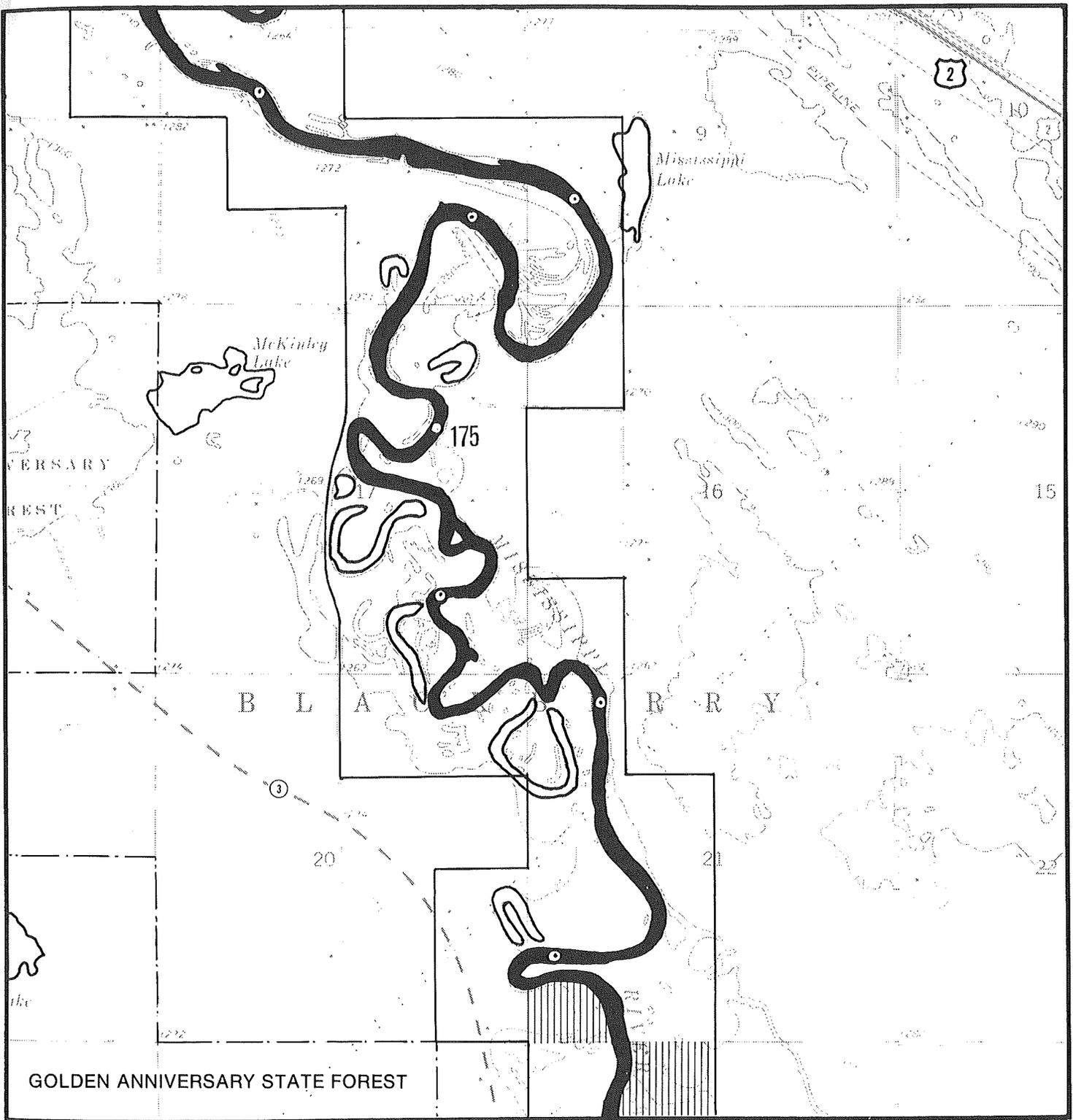
Map Legend

Surrounding Land Ownership



Scale: 1" = 2,000'

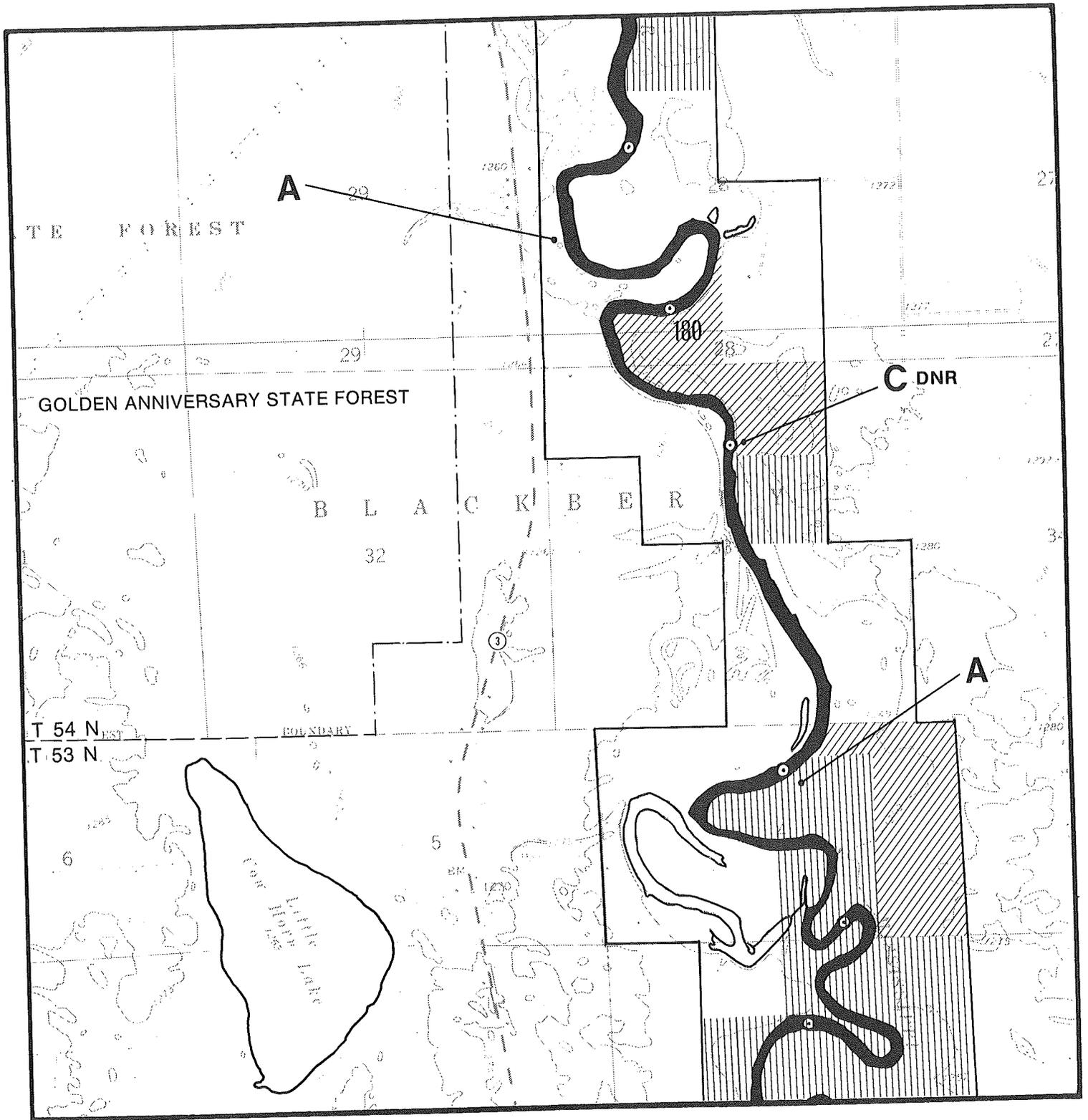
MAP NUMBER 33



Map Legend

Zoning District Boundary	
River Mile	
Rapids	
RR Crossing	

	Existing	Proposed
Access	A	A
Rest Area	R	R
Historic Site	★	★
Portage	P	P
Campsite	C	C



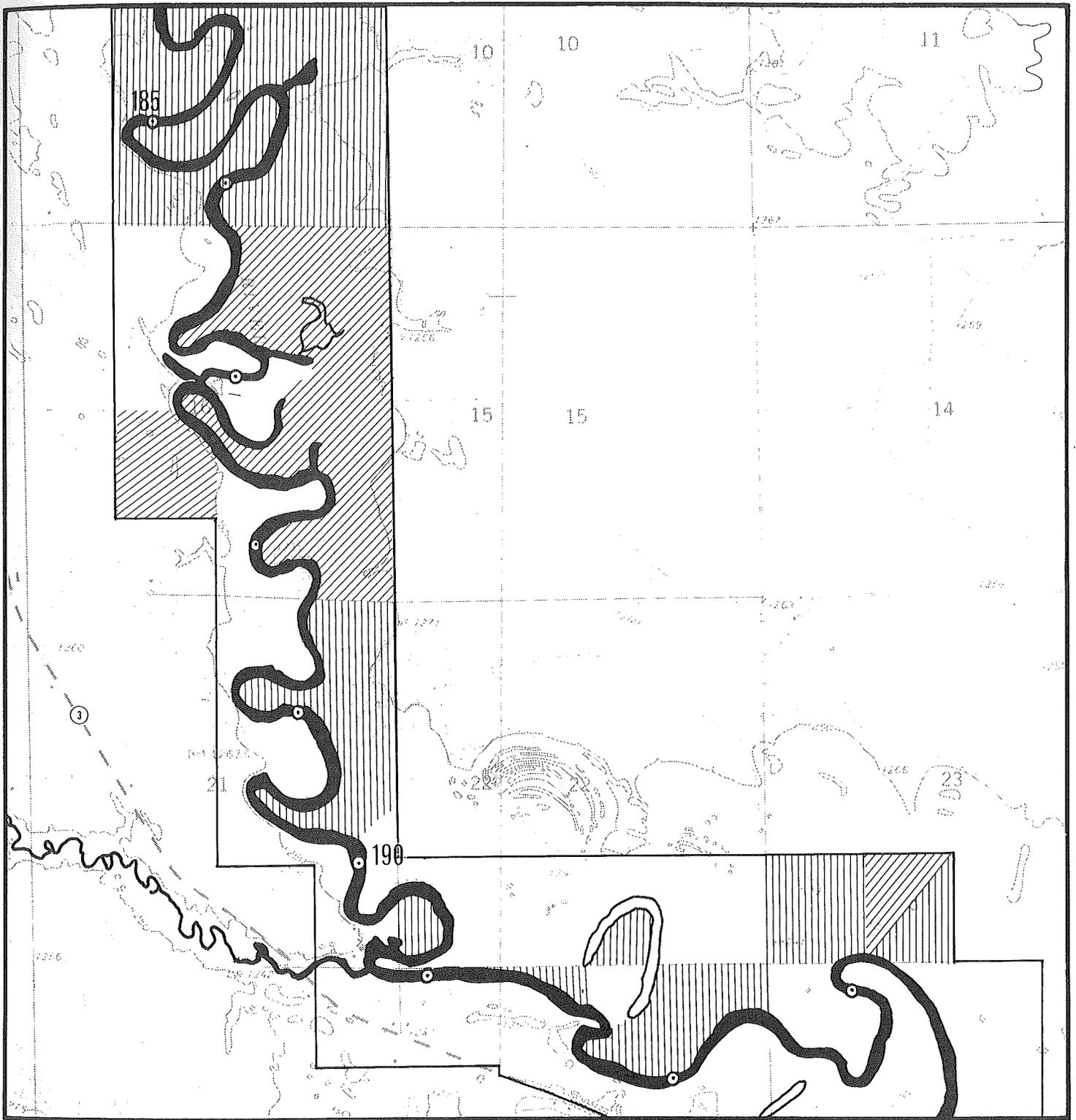
Map Legend

Surrounding Land Ownership



Scale: 1" = 2,000'

MAP NUMBER 35



Map Legend

Zoning District Boundary



River Mile



Rapids



RR Crossing



Access

A

Rest Area

R

Historic Site



Portage

P

Campsite

C

Existing

Proposed

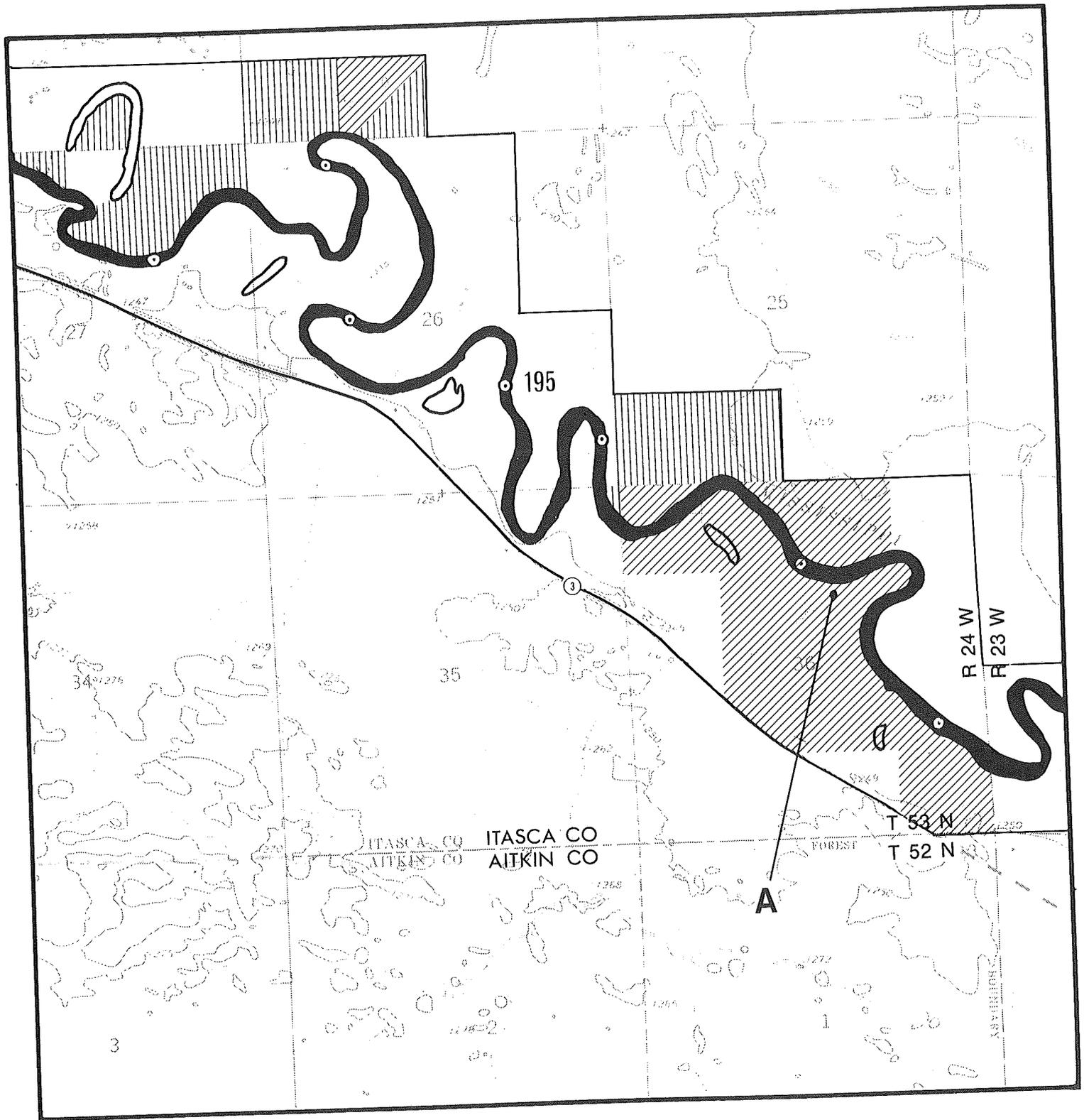
A

R



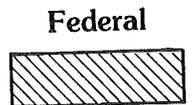
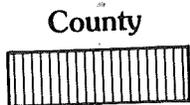
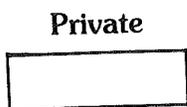
P

C



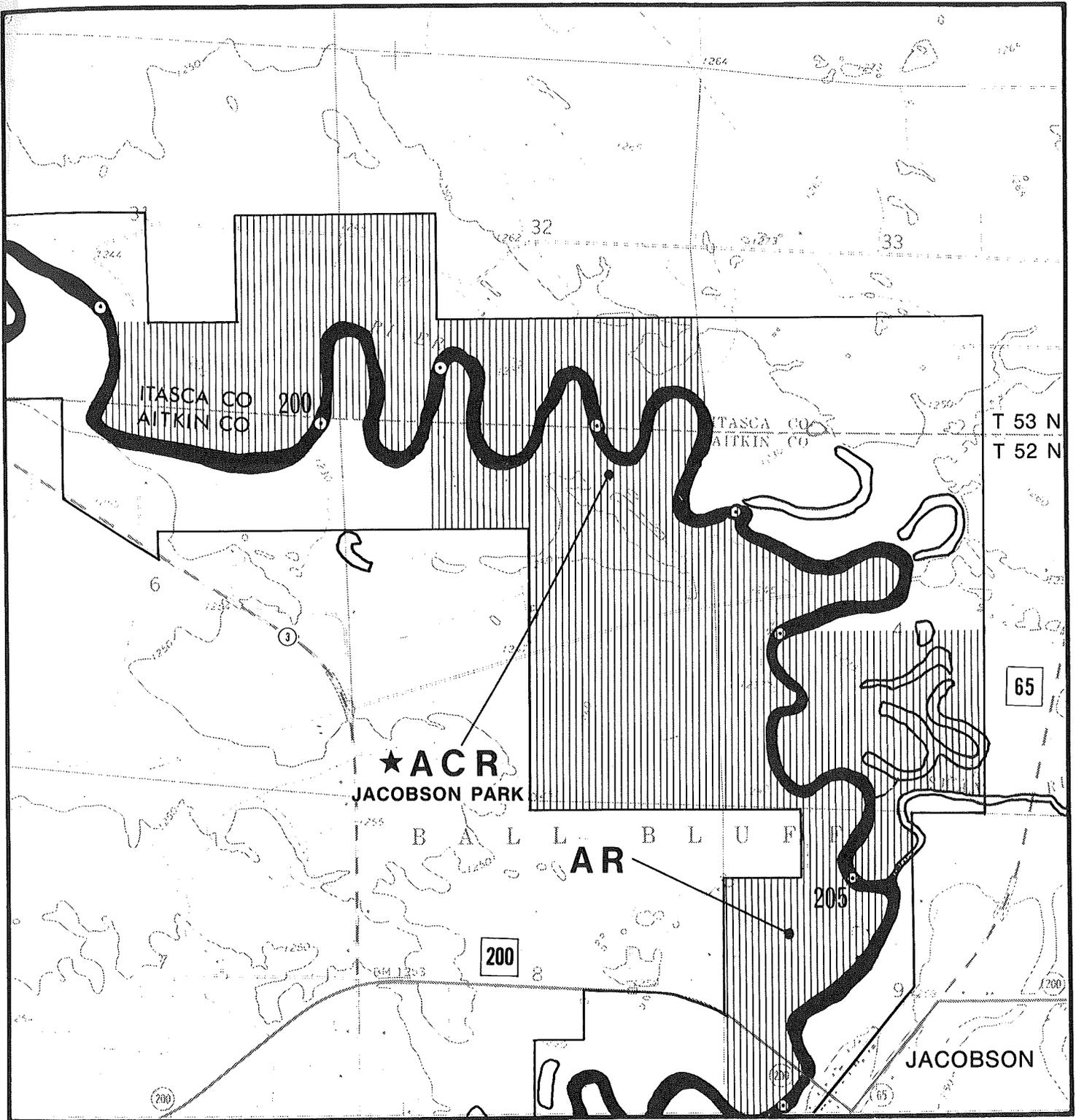
Map Legend

Surrounding Land Ownership



Scale: 1" = 2,000'

MAP NUMBER 37



Map Legend

Zoning District Boundary



River Mile



Rapids



RR Crossing



Access

Existing

Proposed

A

A

Rest Area

R

R

Historic Site

★

☆

Portage

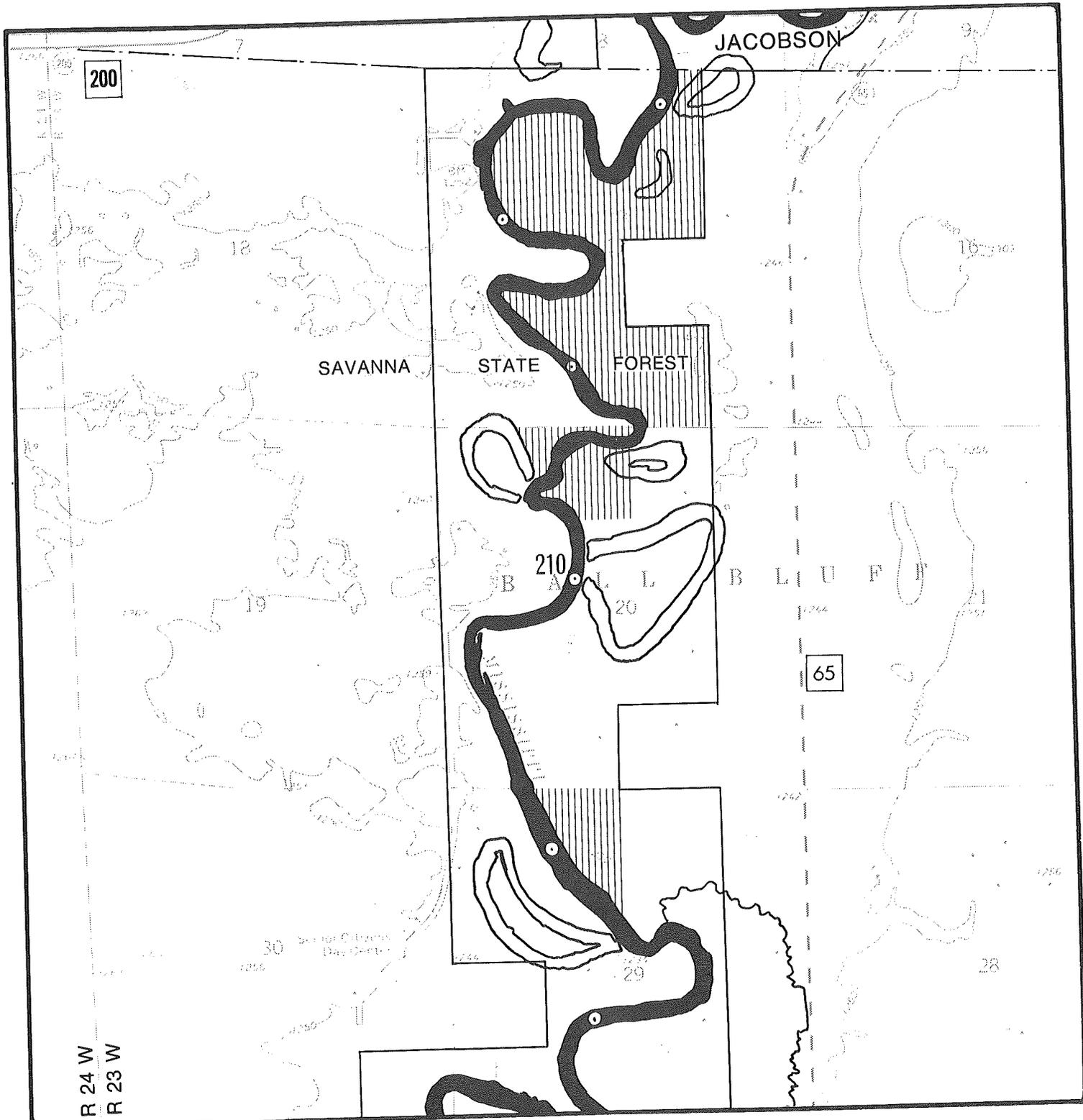
P

P

Campsite

C

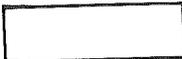
C



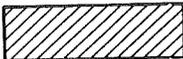
Map Legend

Surrounding Land Ownership

- Private


- County


- State

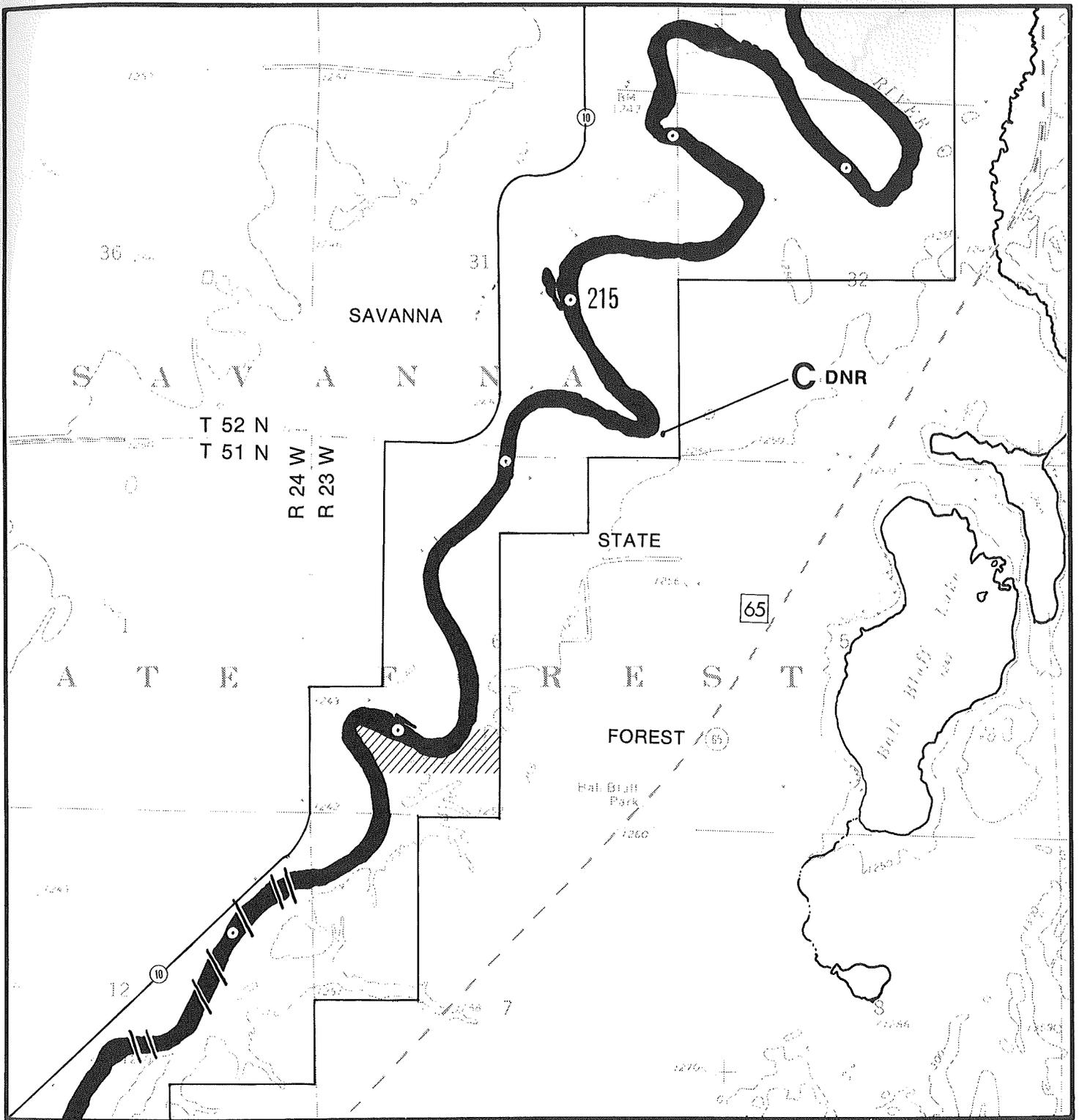

- Federal





Scale: 1" = 2,000'

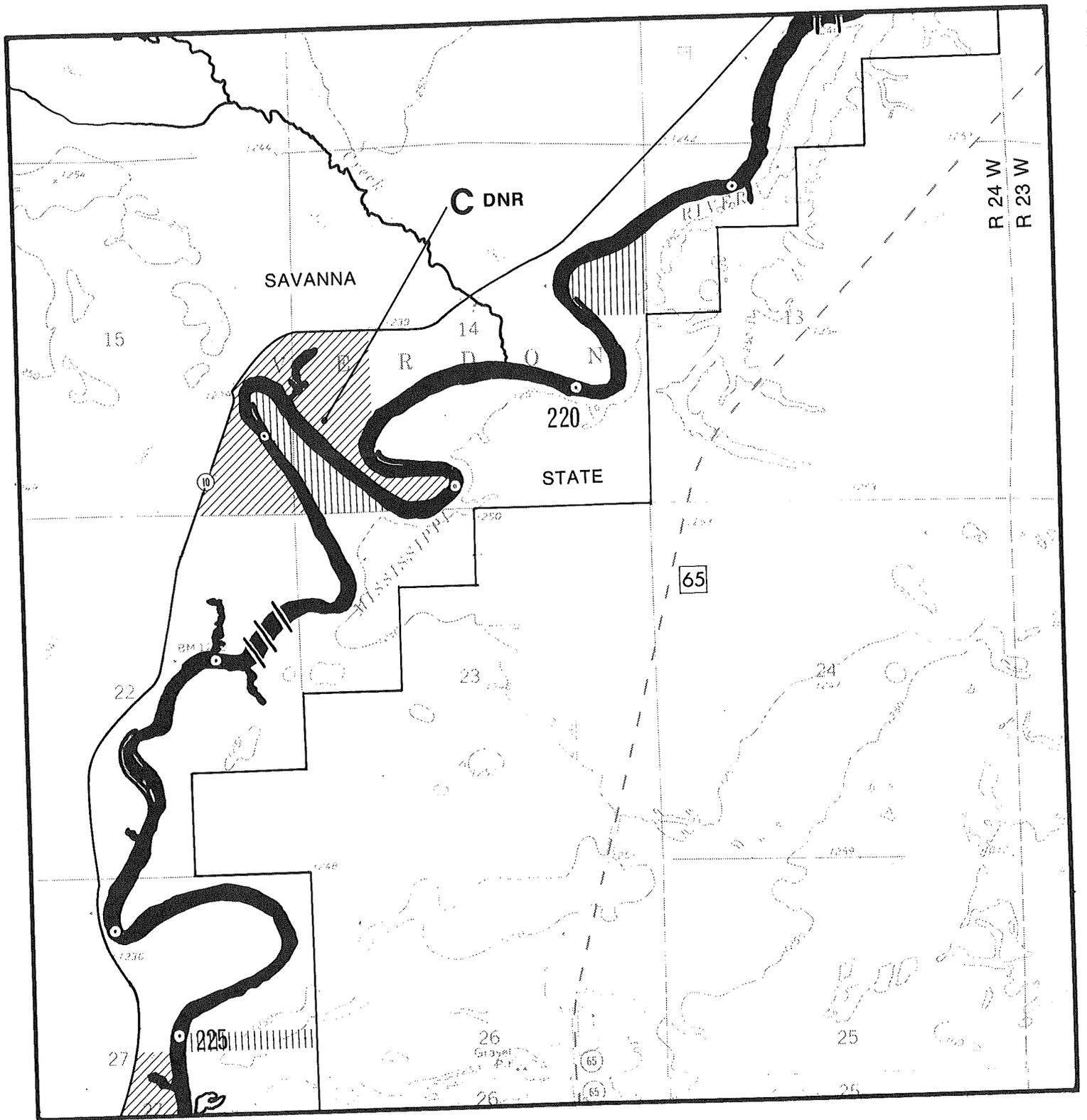
MAP NUMBER 39



Map Legend

Zoning District Boundary	
River Mile	
Rapids	
RR Crossing	

	Existing	Proposed
Access	A	A
Rest Area	R	R
Historic Site	★	★
Portage	P	P
Campsite	C	C



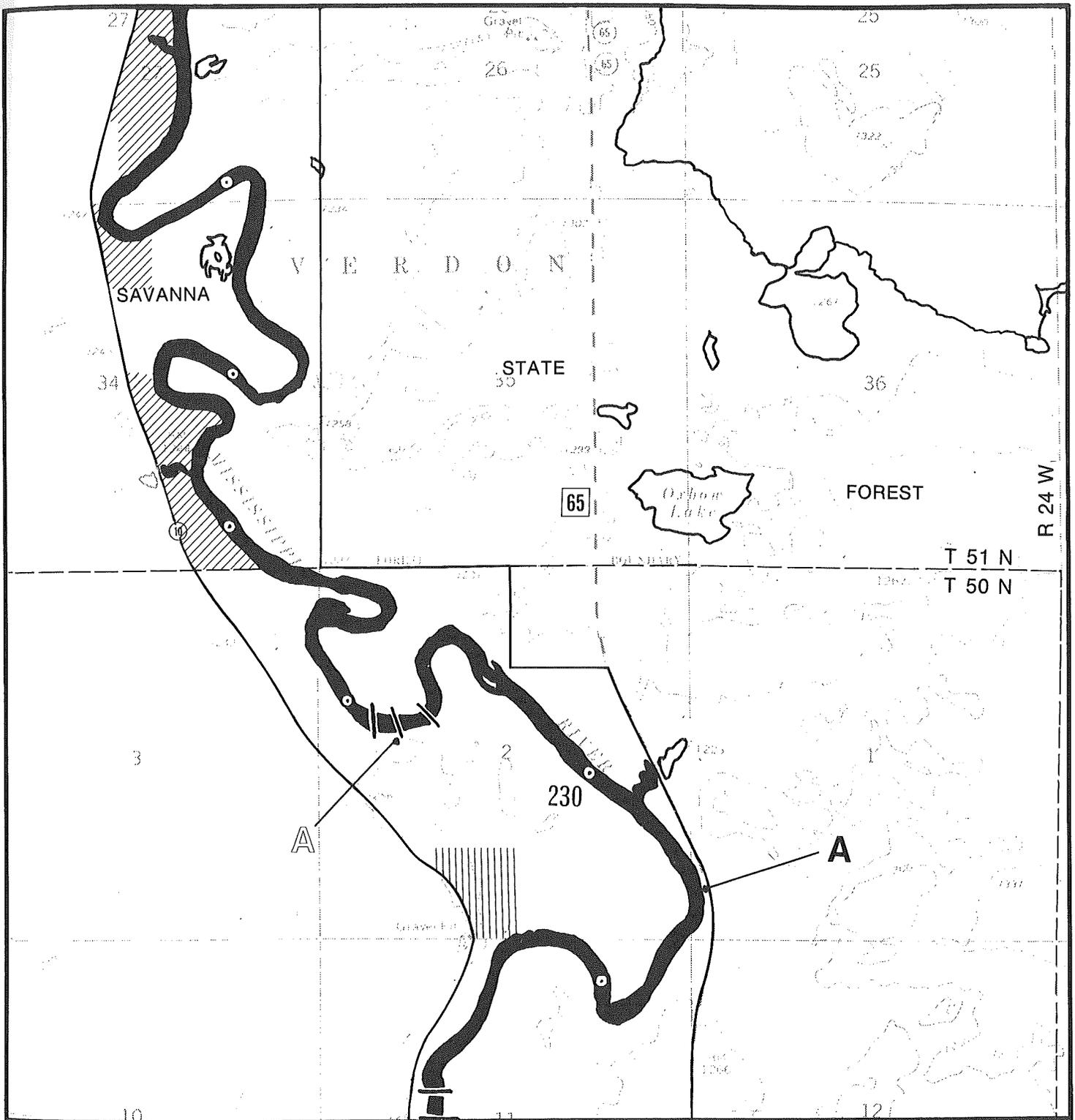
Map Legend

Surrounding Land Ownership



Scale: 1" = 2,000'

MAP NUMBER 41



Map Legend

Zoning District Boundary



River Mile



Rapids



RR Crossing



Access

Existing
A

Proposed
A

Rest Area

R

R

Historic Site

★

★

Portage

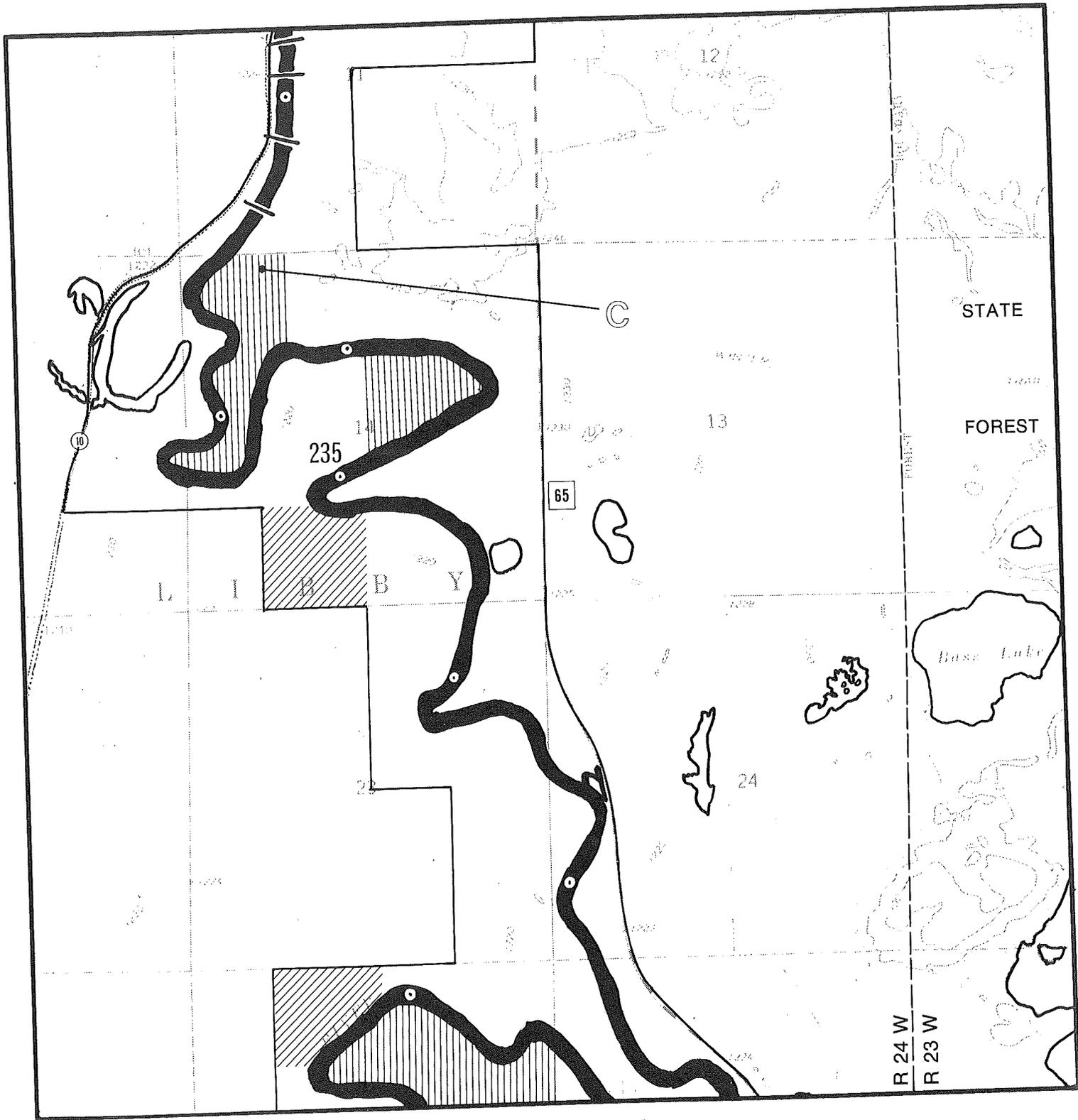
P

P

Campsite

C

C



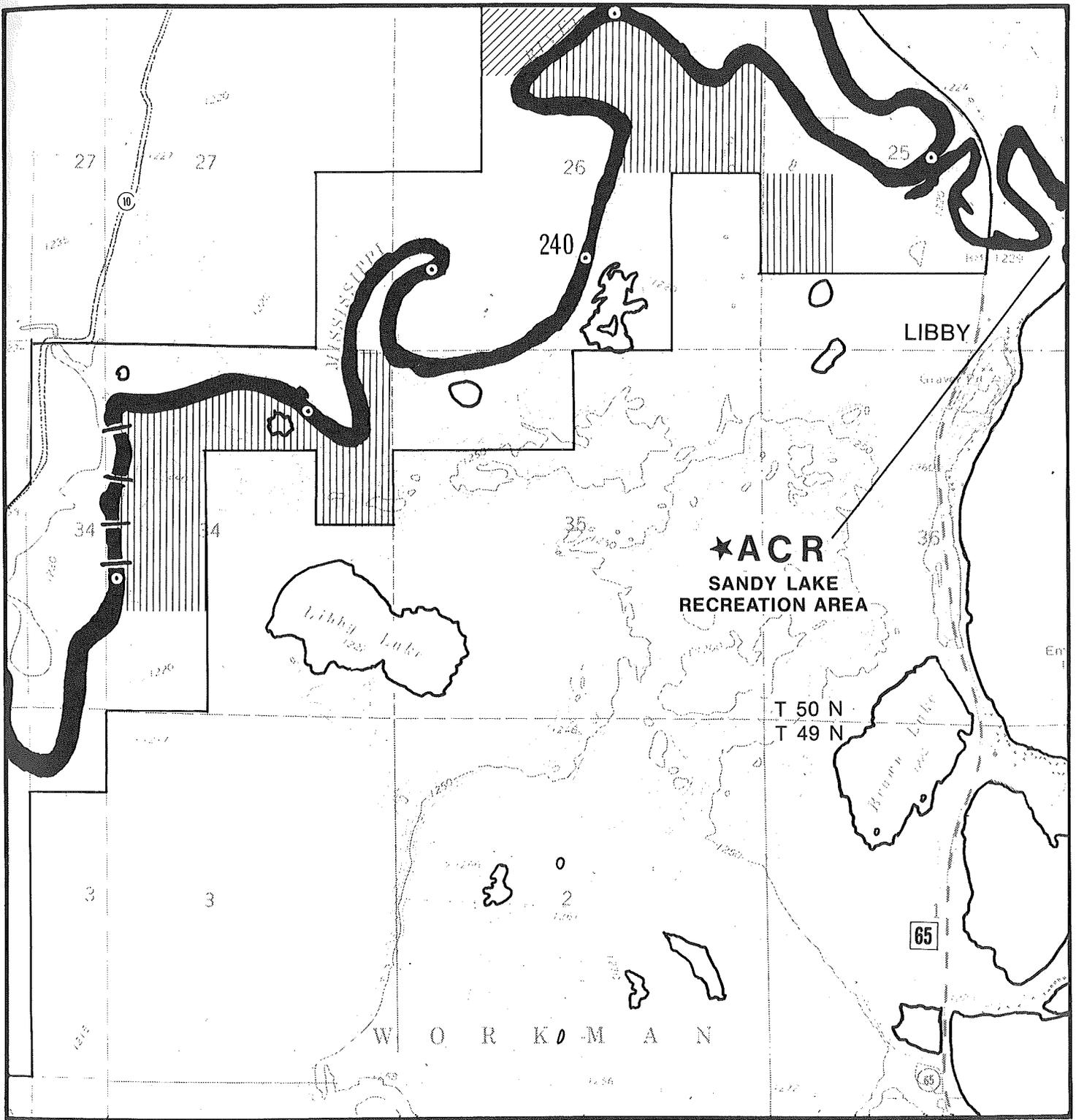
Map Legend

Surrounding Land Ownership



Scale: 1" = 2,000'

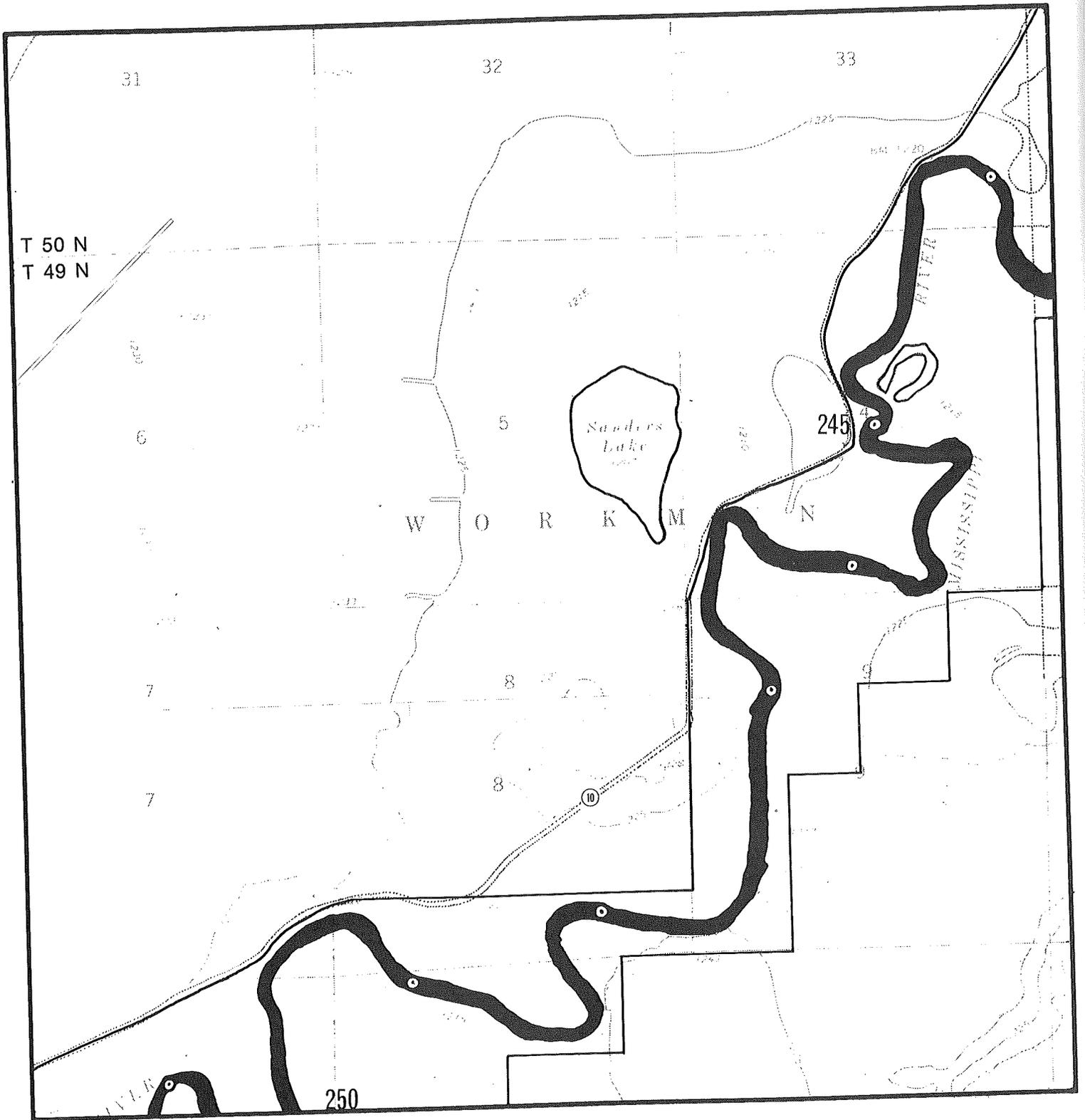
MAP NUMBER 43



Map Legend

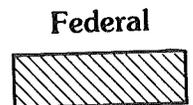
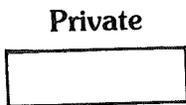
Zoning District Boundary	
River Mile	
Rapids	
RR Crossing	

	Existing	Proposed
Access	A	A
Rest Area	R	R
Historic Site	★	★
Portage	P	P
Campsite	C	C



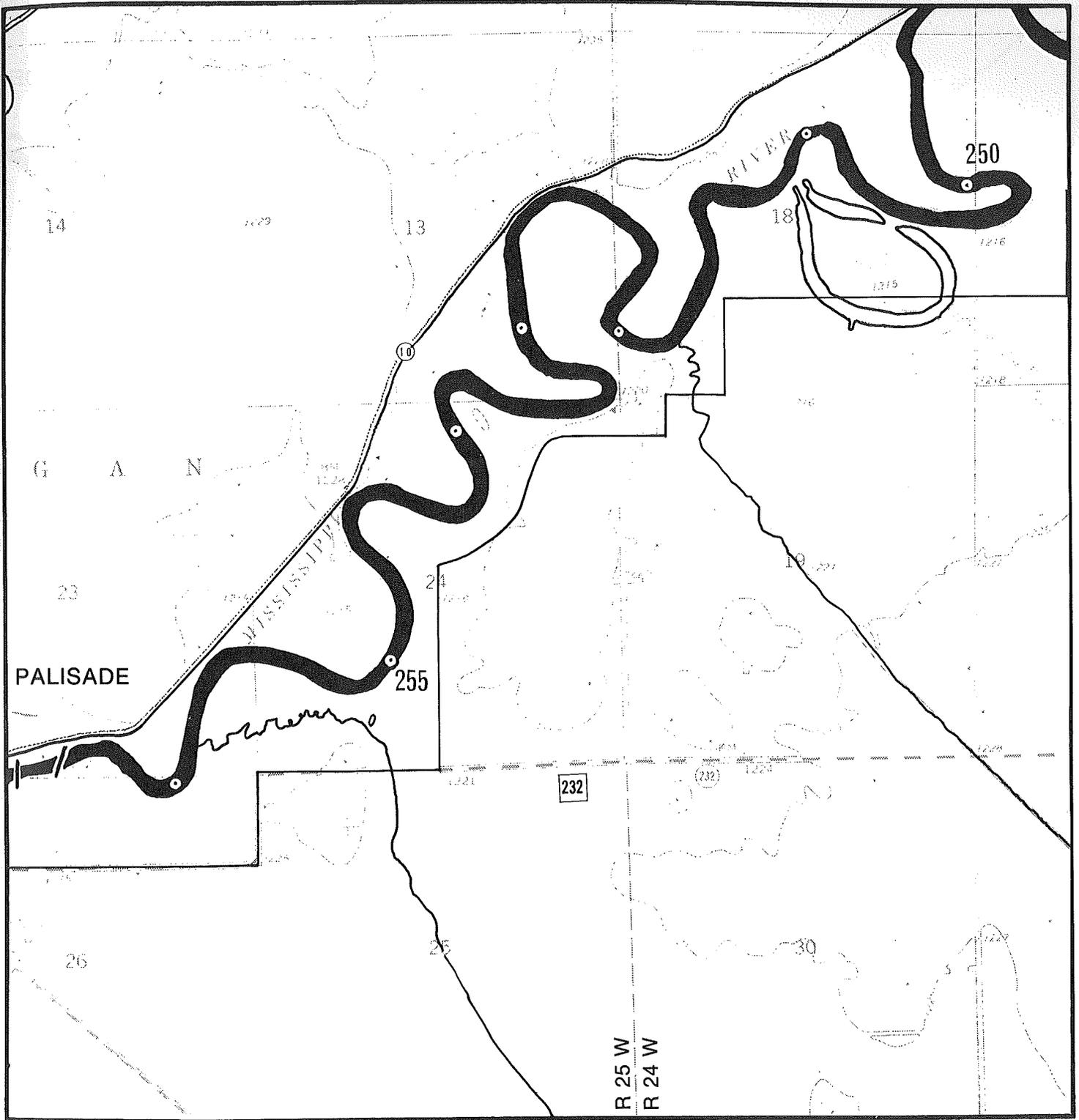
Map Legend

Surrounding Land Ownership



Scale: 1" = 2,000'

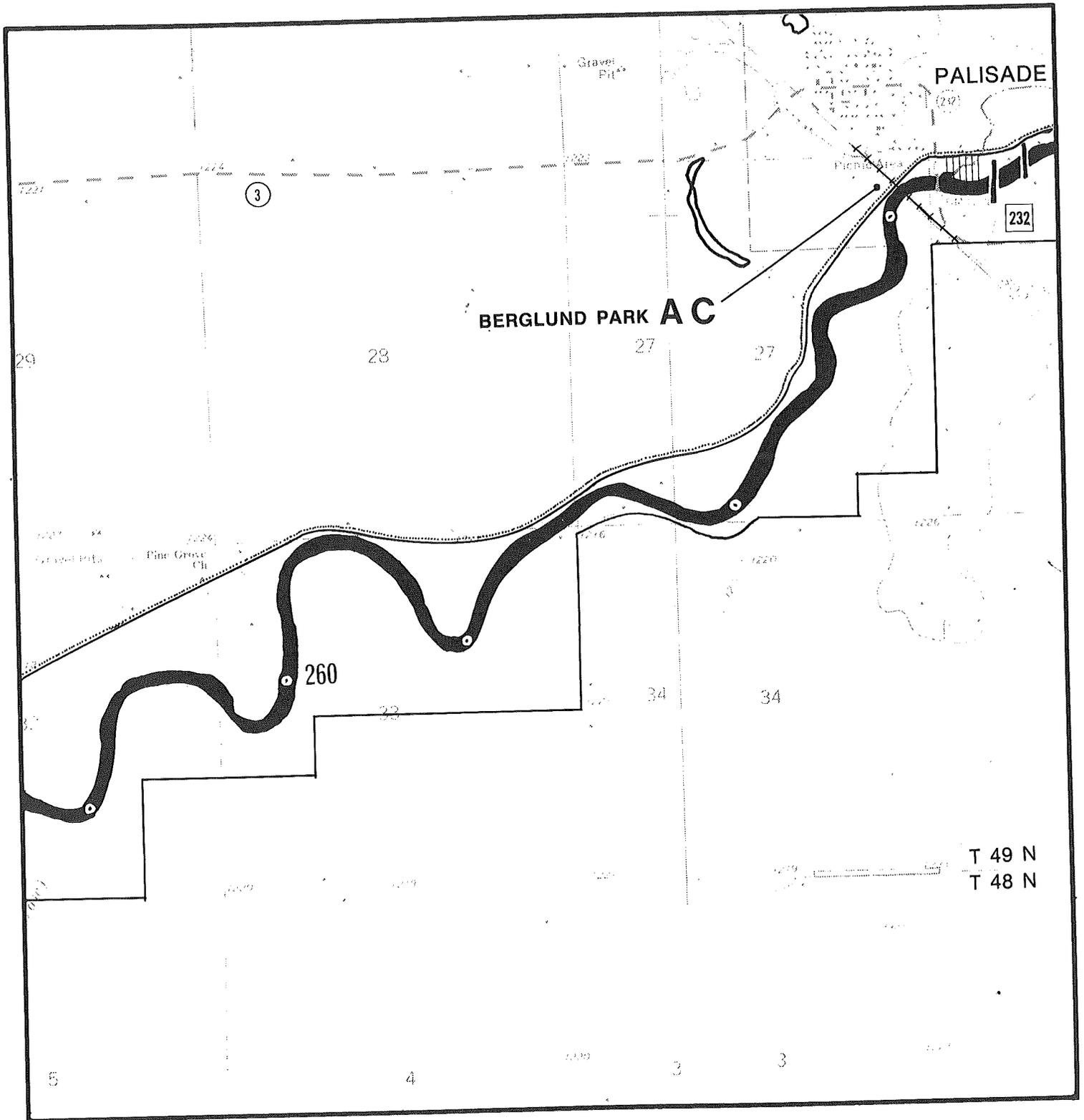
MAP NUMBER 45



Map Legend

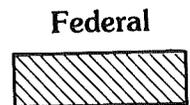
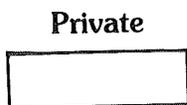
Zoning District Boundary	
River Mile	
Rapids	
RR Crossing	

	Existing	Proposed
Access	A	A
Rest Area	R	R
Historic Site	★	★
Portage	P	P
Campsite	C	C



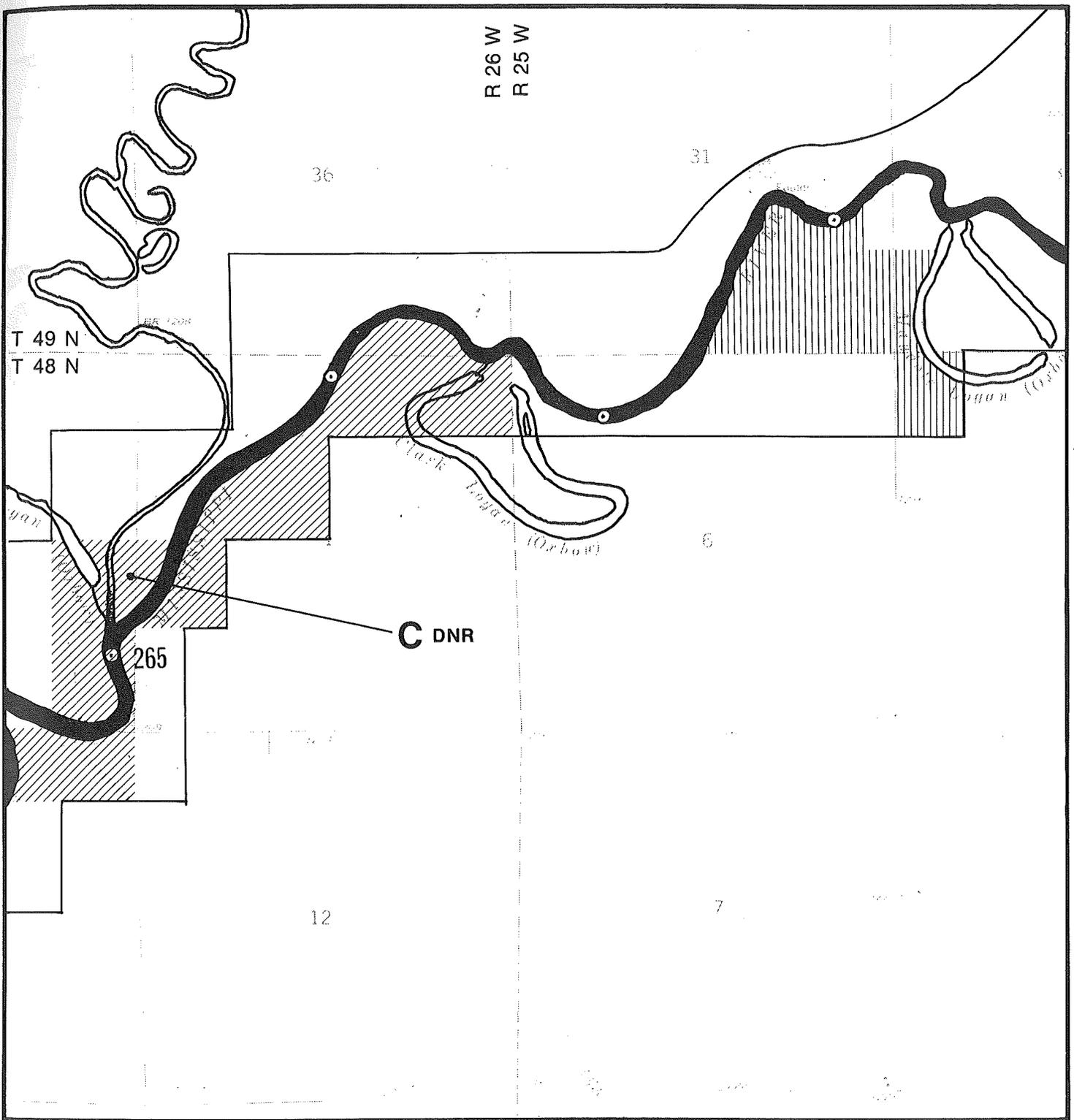
Map Legend

Surrounding Land Ownership



Scale: 1" = 2,000'

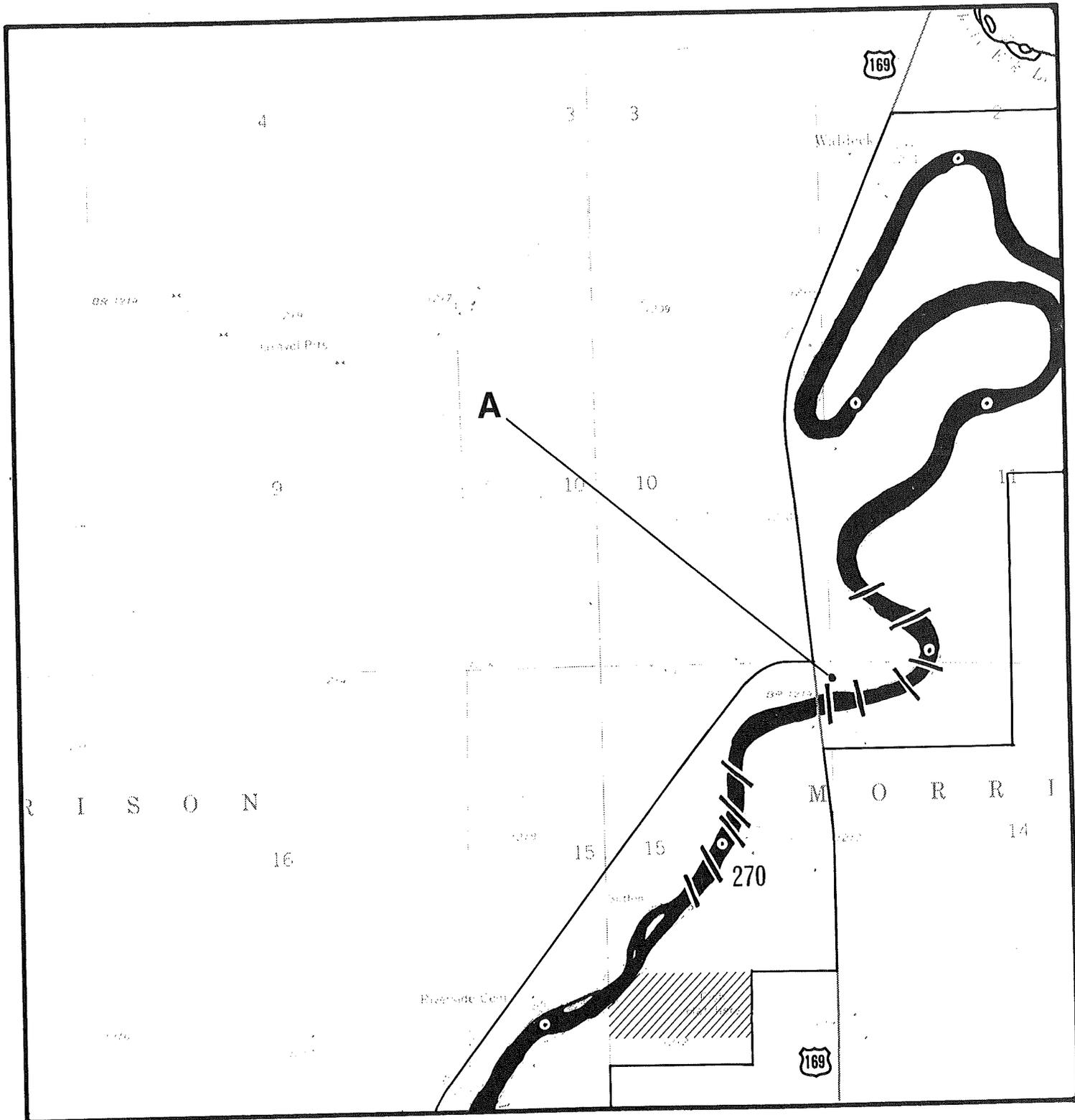
MAP NUMBER 47



Map Legend

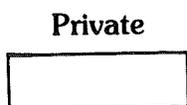
Zoning District Boundary	
River Mile	
Rapids	
RR Crossing	

	Existing	Proposed
Access	A	A
Rest Area	R	R
Historic Site	★	★
Portage	P	P
Campsite	C	C



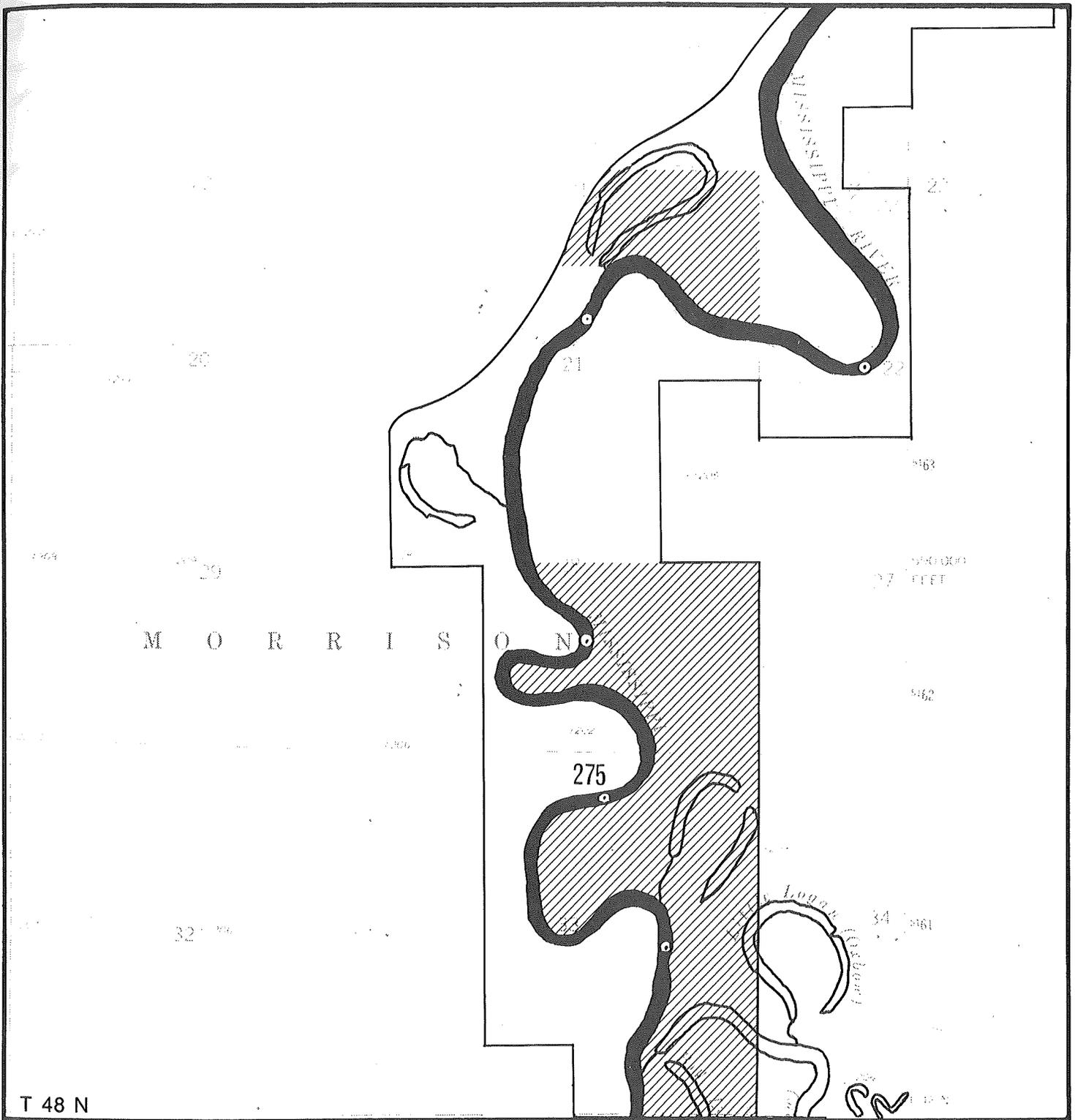
Map Legend

Surrounding Land Ownership



Scale: 1" = 2,000'

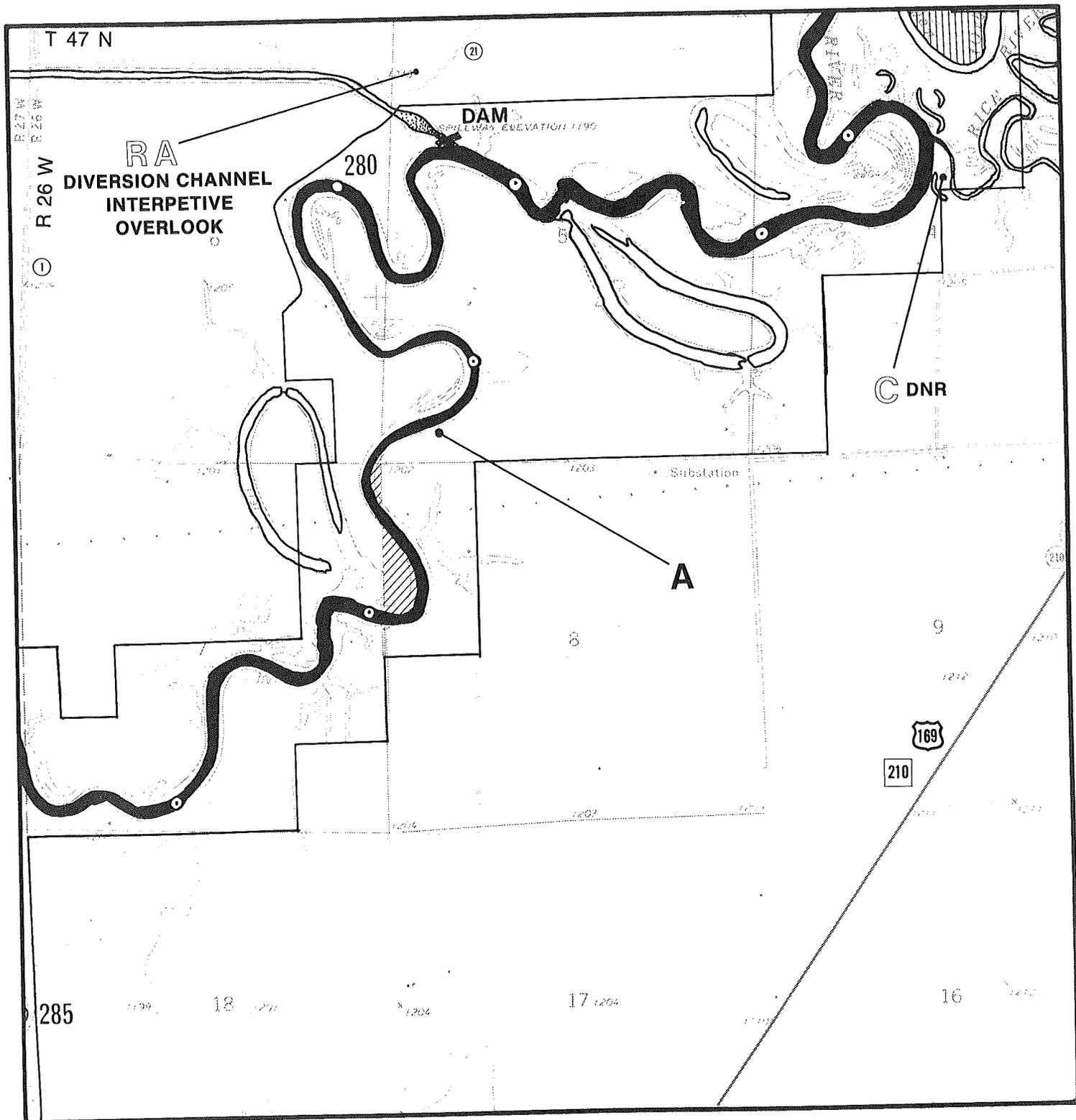
MAP NUMBER 49



Map Legend

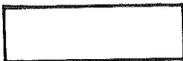
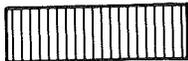
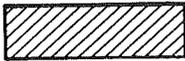
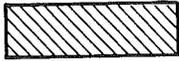
Zoning District Boundary	
River Mile	
Rapids	
RR Crossing	

	Existing	Proposed
Access	A	A
Rest Area	R	R
Historic Site	★	★
Portage	P	P
Campsite	C	C



Map Legend

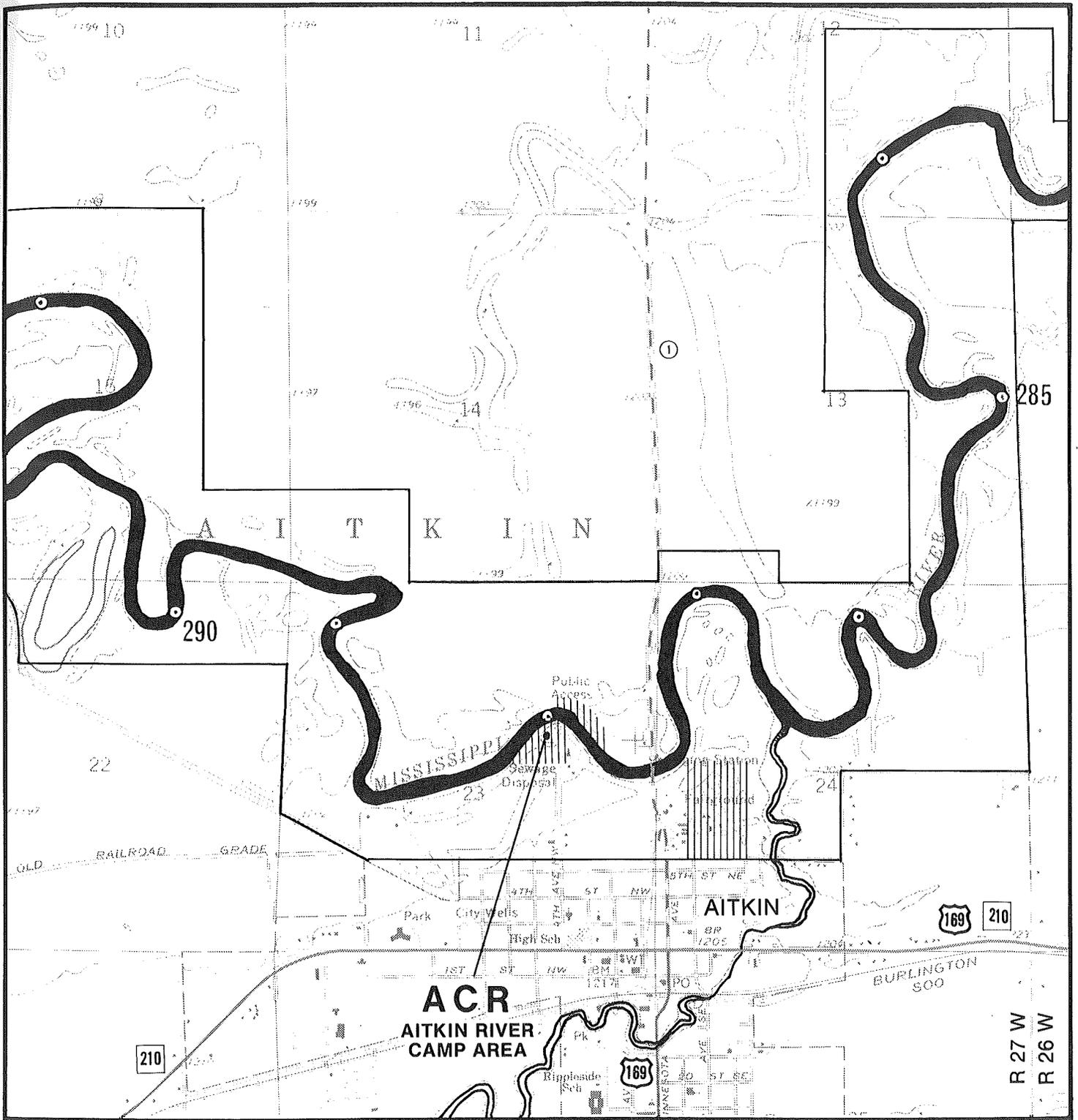
Surrounding Land Ownership

- | | | | |
|--|---|---|--|
| Private
 | County
 | State
 | Federal
 |
|--|---|---|--|



Scale: 1" = 2,000'

MAP NUMBER 51



Map Legend

Zoning District Boundary



River Mile



Rapids



RR Crossing



Access

A

Rest Area

R

Historic Site



Portage

P

Campsite

C

Existing

Proposed

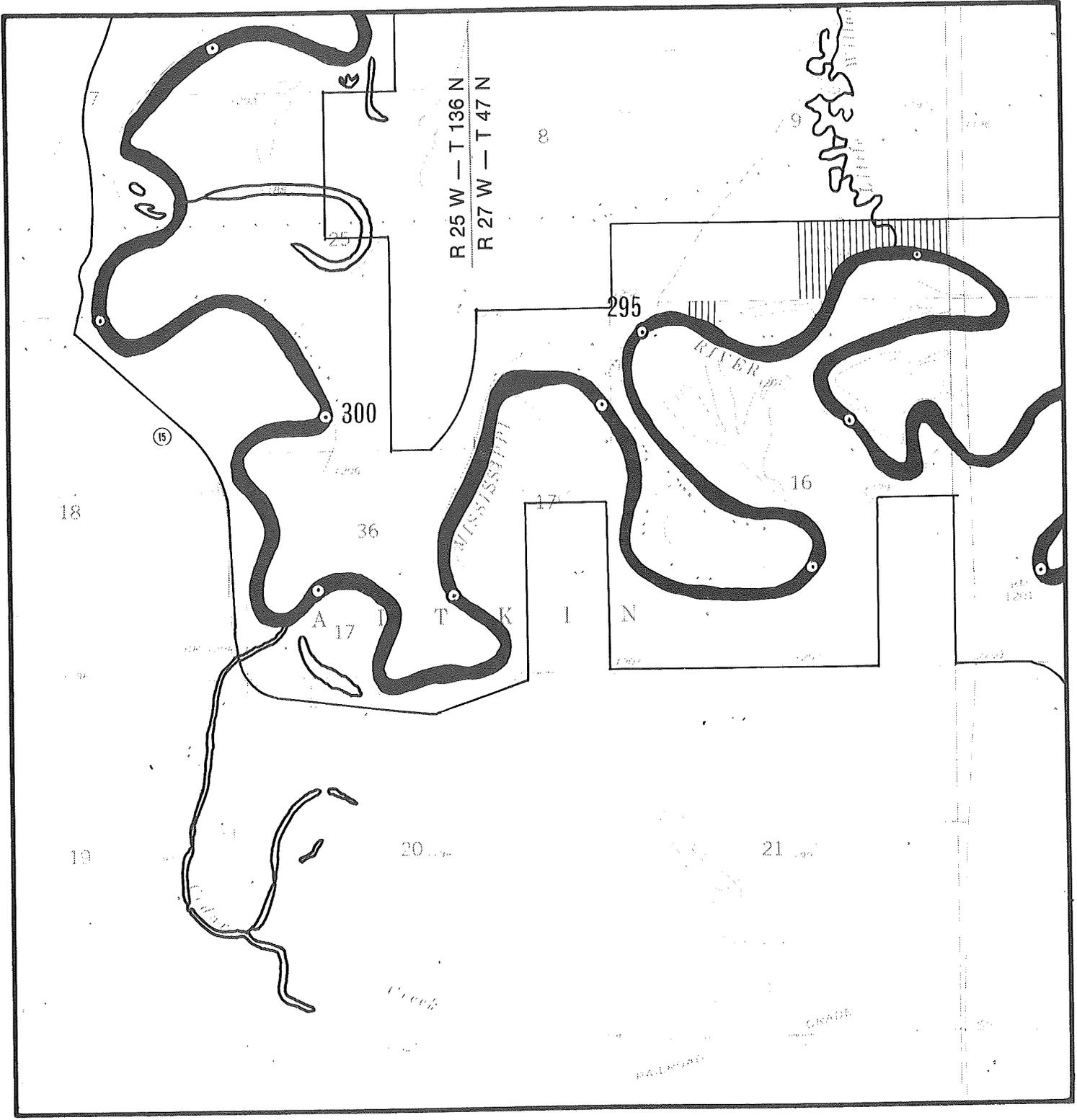
A

R



P

C



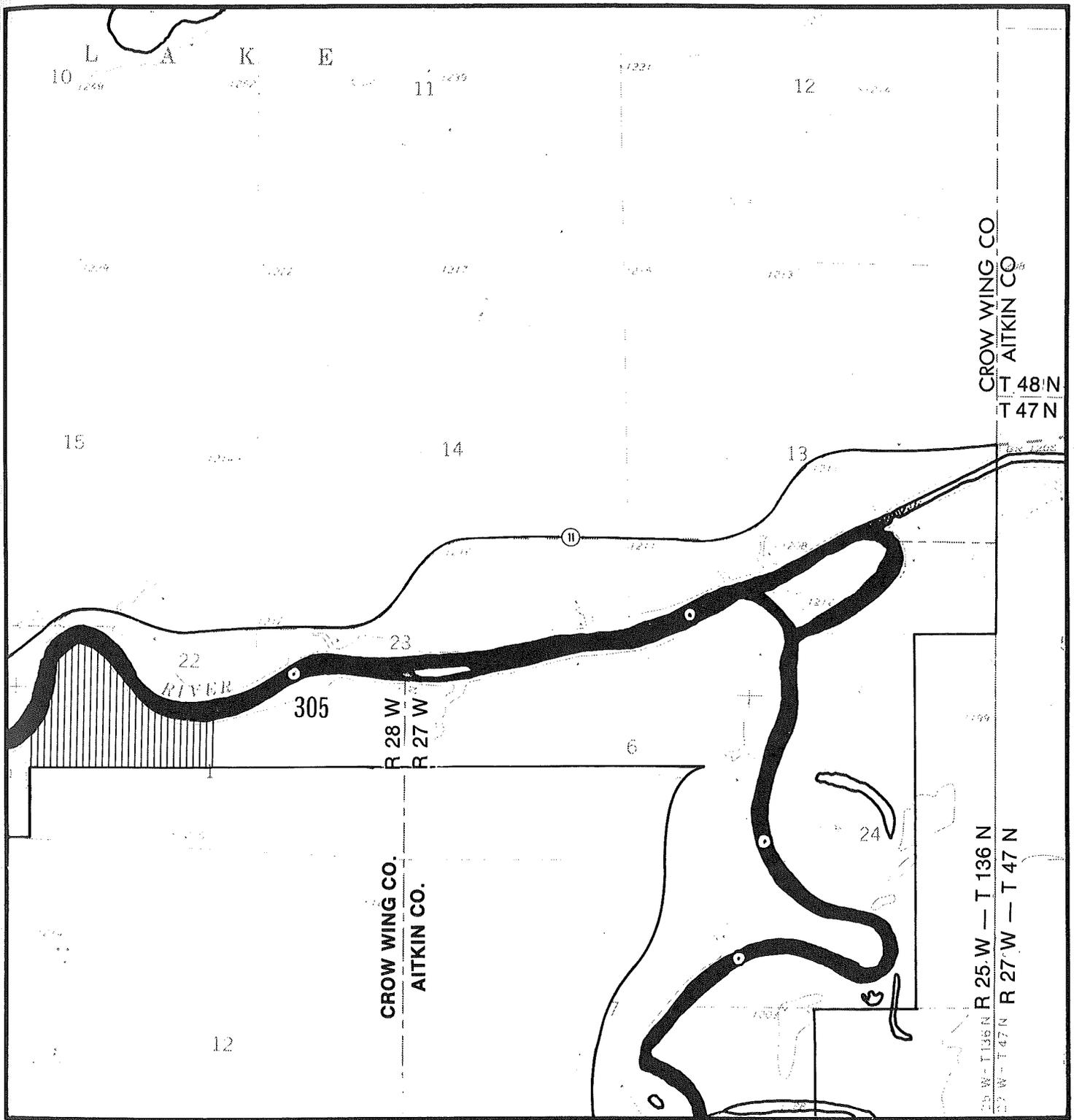
Map Legend

Surrounding Land Ownership



Scale: 1" = 2,000'

MAP NUMBER 53



Map Legend

Zoning District Boundary



River Mile



Rapids



RR Crossing



Access

A

A

Rest Area

R

R

Historic Site

★

★

Portage

P

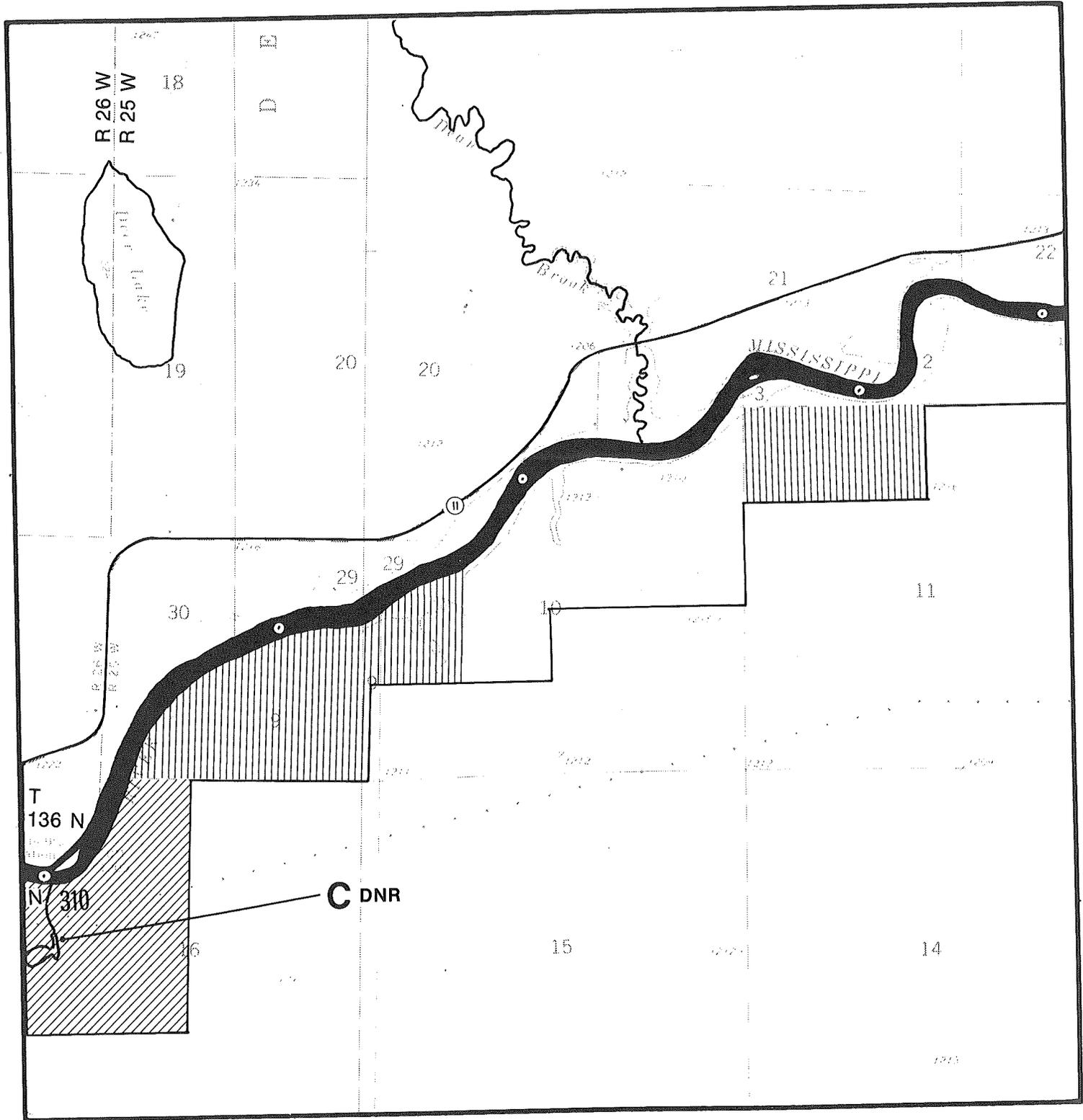
P

Campsite

C

C

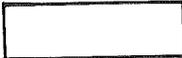
MAP NUMBER 54

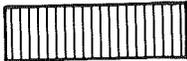


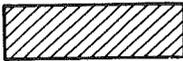
Map Legend

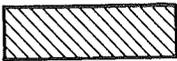
Surrounding Land Ownership

- Private


- County


- State

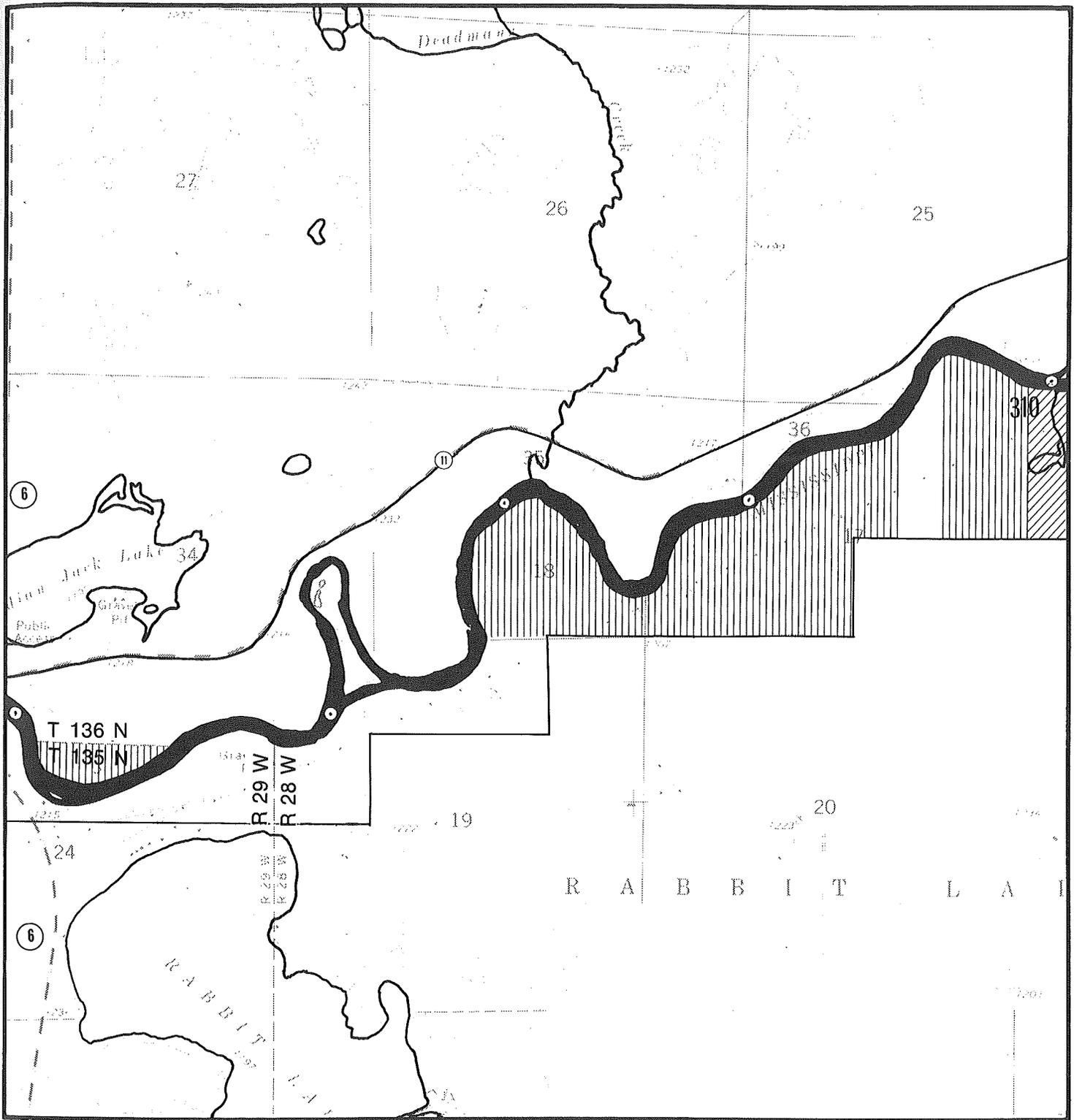

- Federal





Scale: 1" = 2,000'

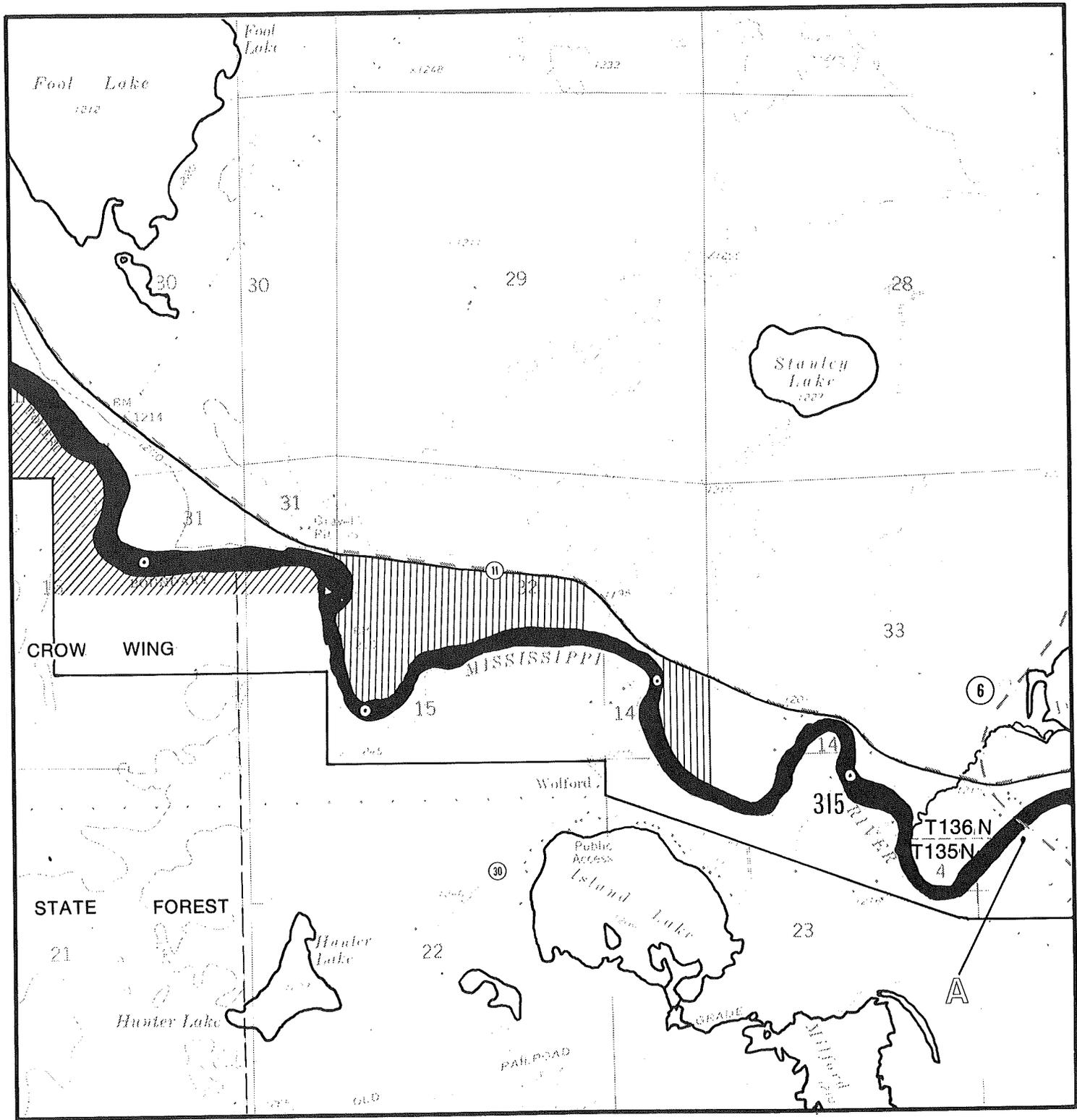
MAP NUMBER 55



Map Legend

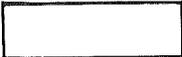
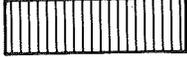
Zoning District Boundary	
River Mile	
Rapids	
RR Crossing	

	Existing	Proposed
Access	A	A
Rest Area	R	R
Historic Site	★	★
Portage	P	P
Campsite	C	C



Map Legend

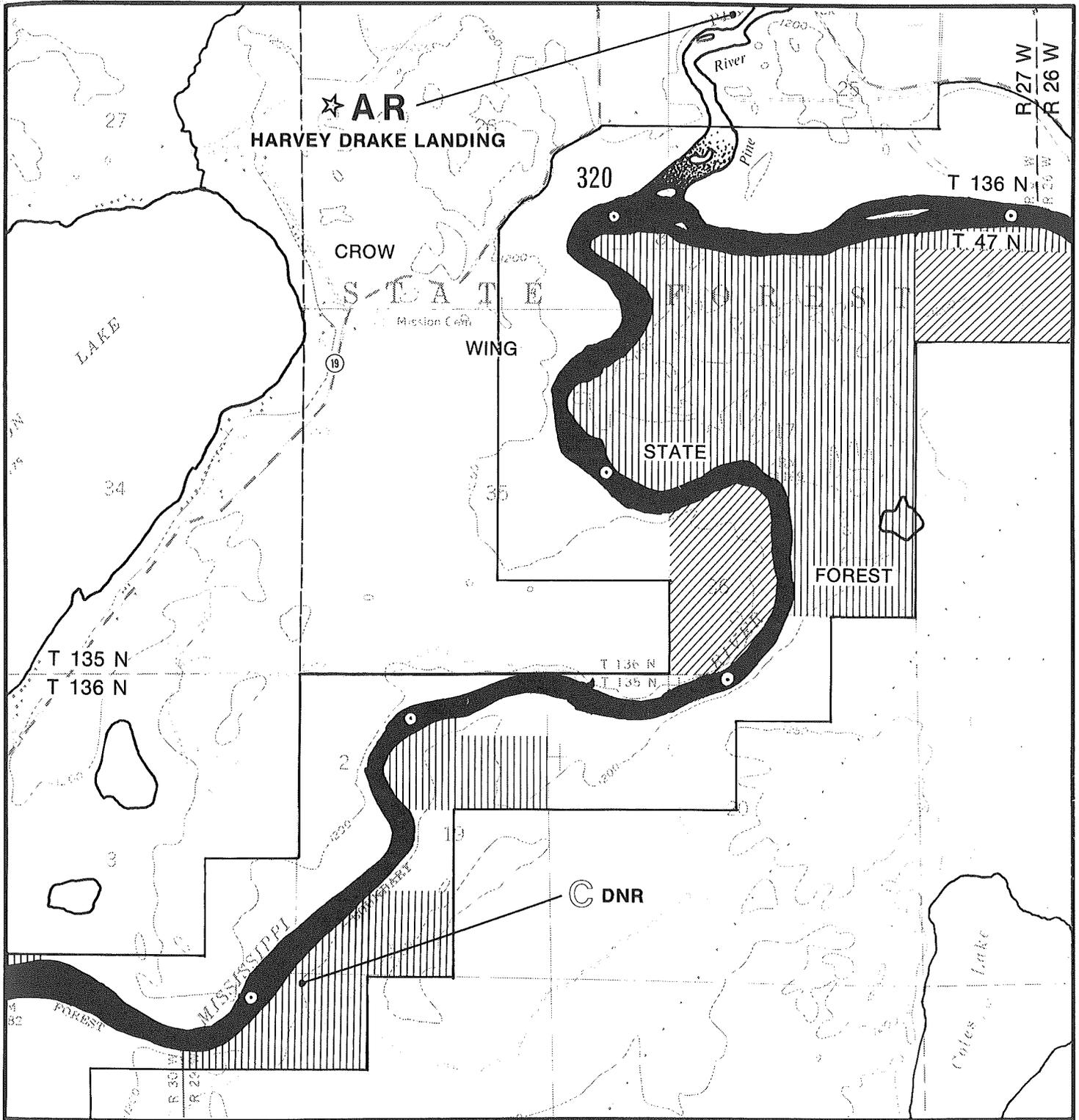
Surrounding Land Ownership

- | | | | |
|---|---|--|---|
| Private | County | State | Federal |
|  |  |  |  |



Scale: 1" = 2,000'

MAP NUMBER 57



Map Legend

Zoning District Boundary



River Mile



Rapids



RR Crossing



Access

A

Rest Area

R

Historic Site

★

Portage

P

Campsite

C

Existing

Proposed

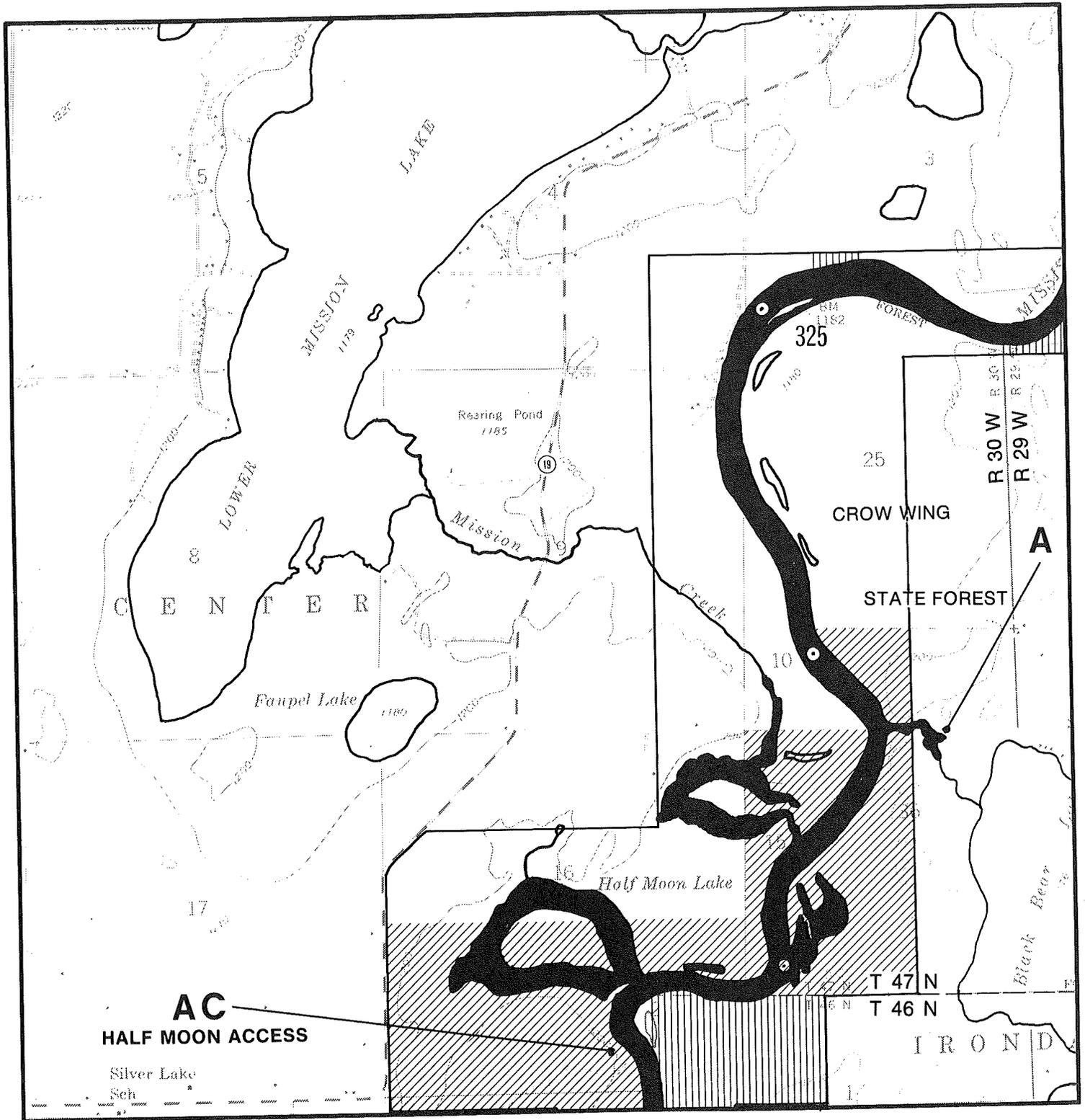
A

R

★

P

C



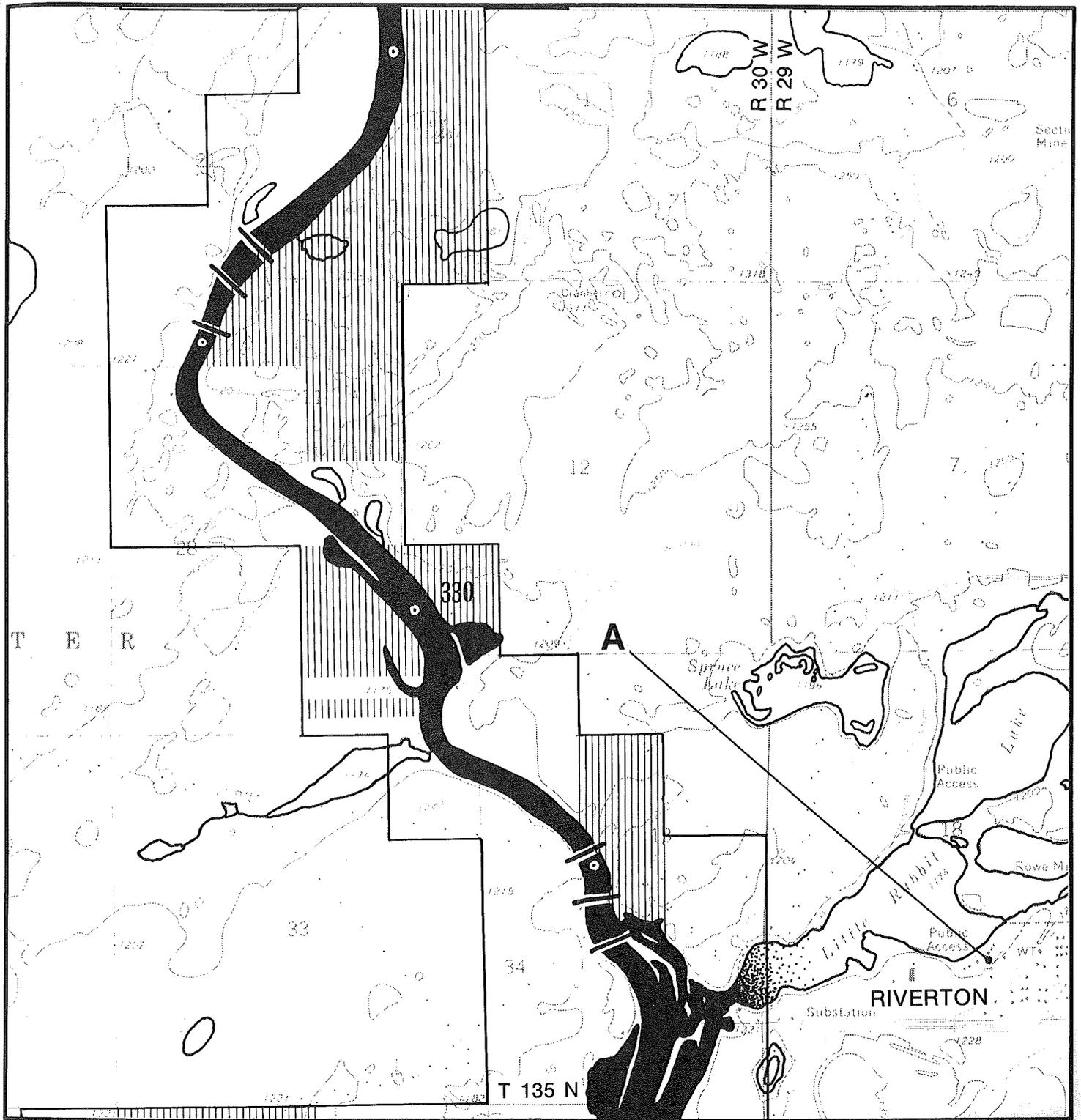
Map Legend

Surrounding Land Ownership



Scale: 1" = 2,000'

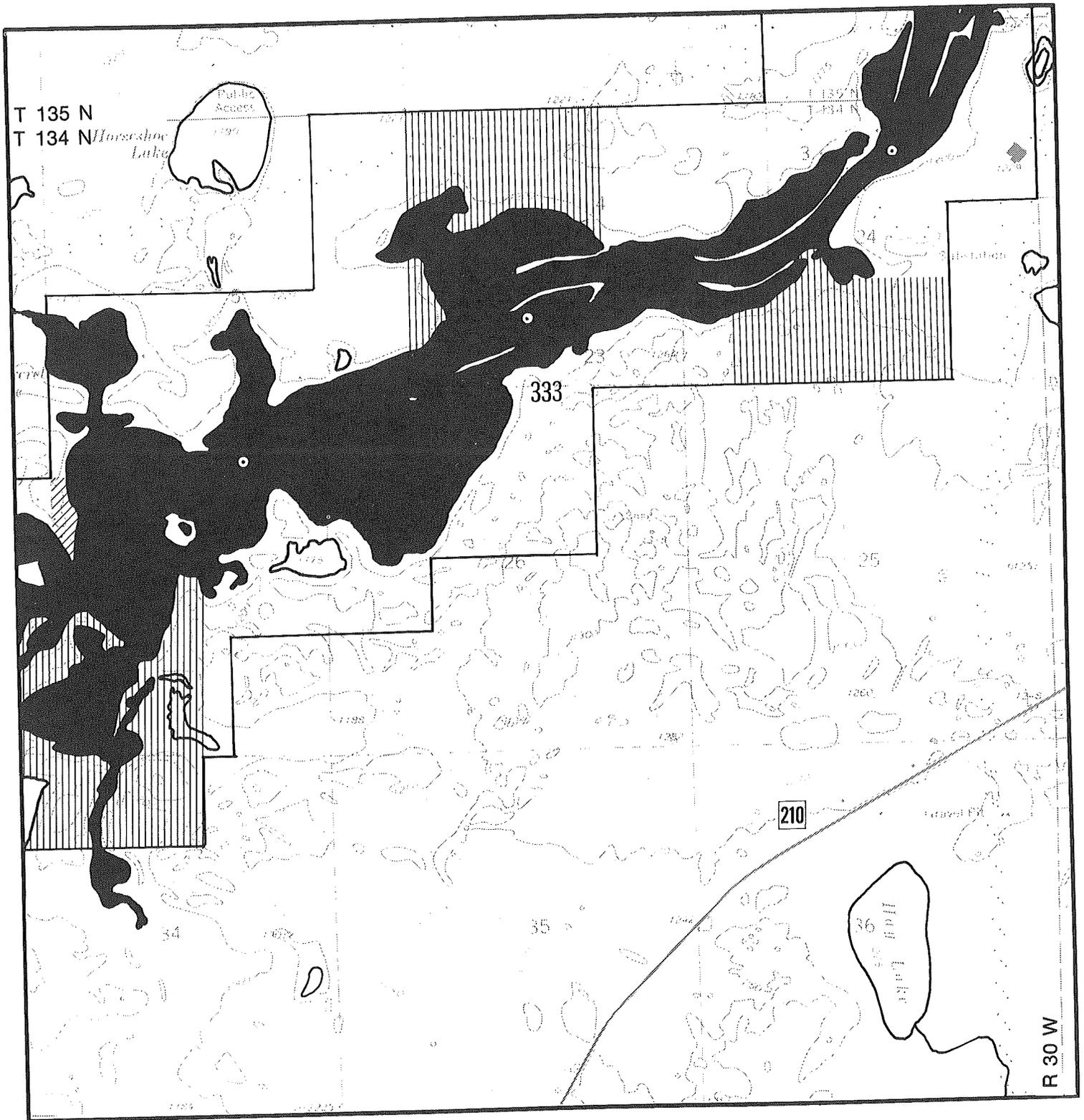
MAP NUMBER 59



Map Legend

Zoning District Boundary	
River Mile	
Rapids	
RR Crossing	

	Existing	Proposed
Access	A	A
Rest Area	R	R
Historic Site	★	★
Portage	P	P
Campsite	C	C



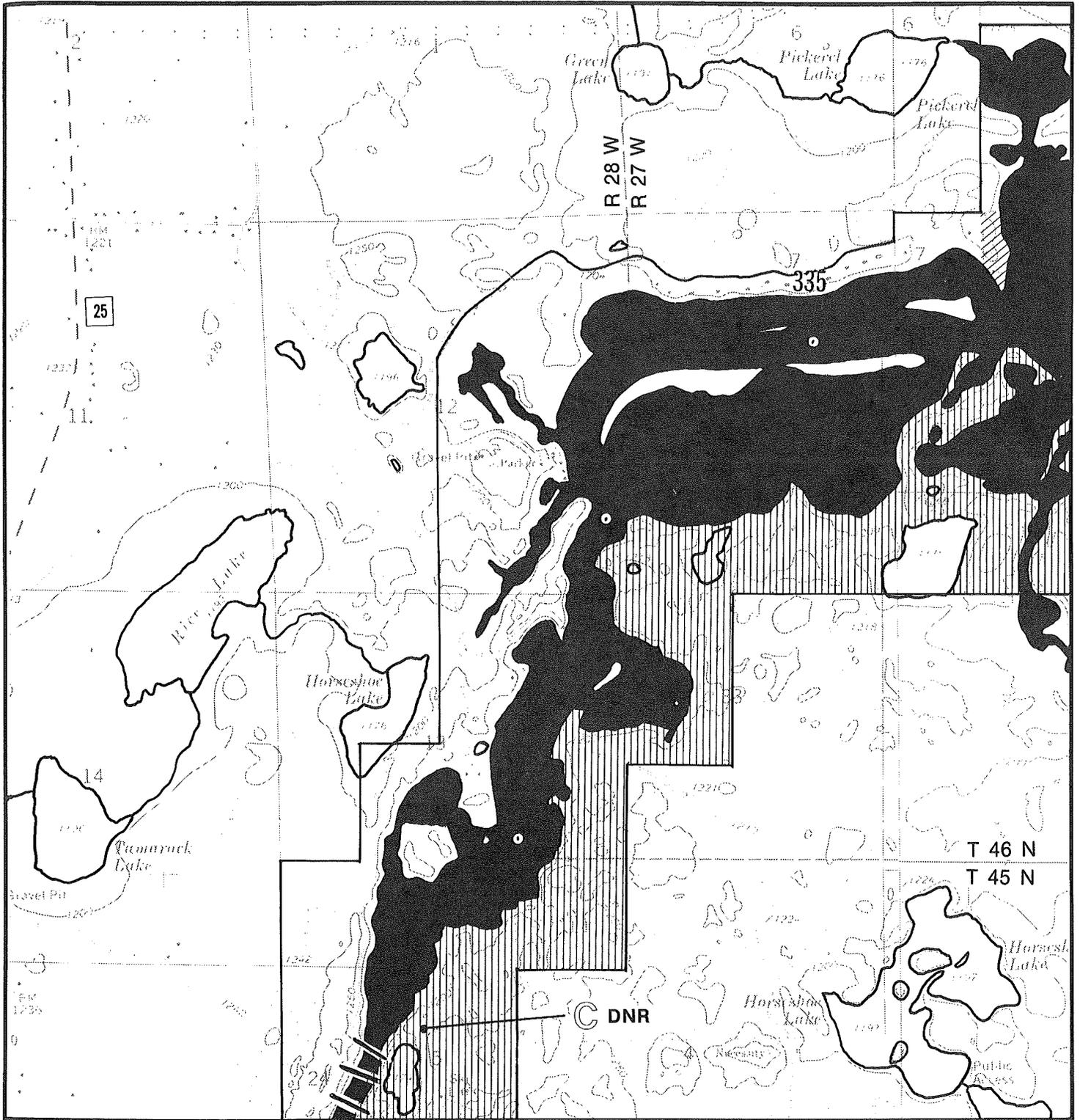
Map Legend

Surrounding Land Ownership



Scale: 1" = 2,000'

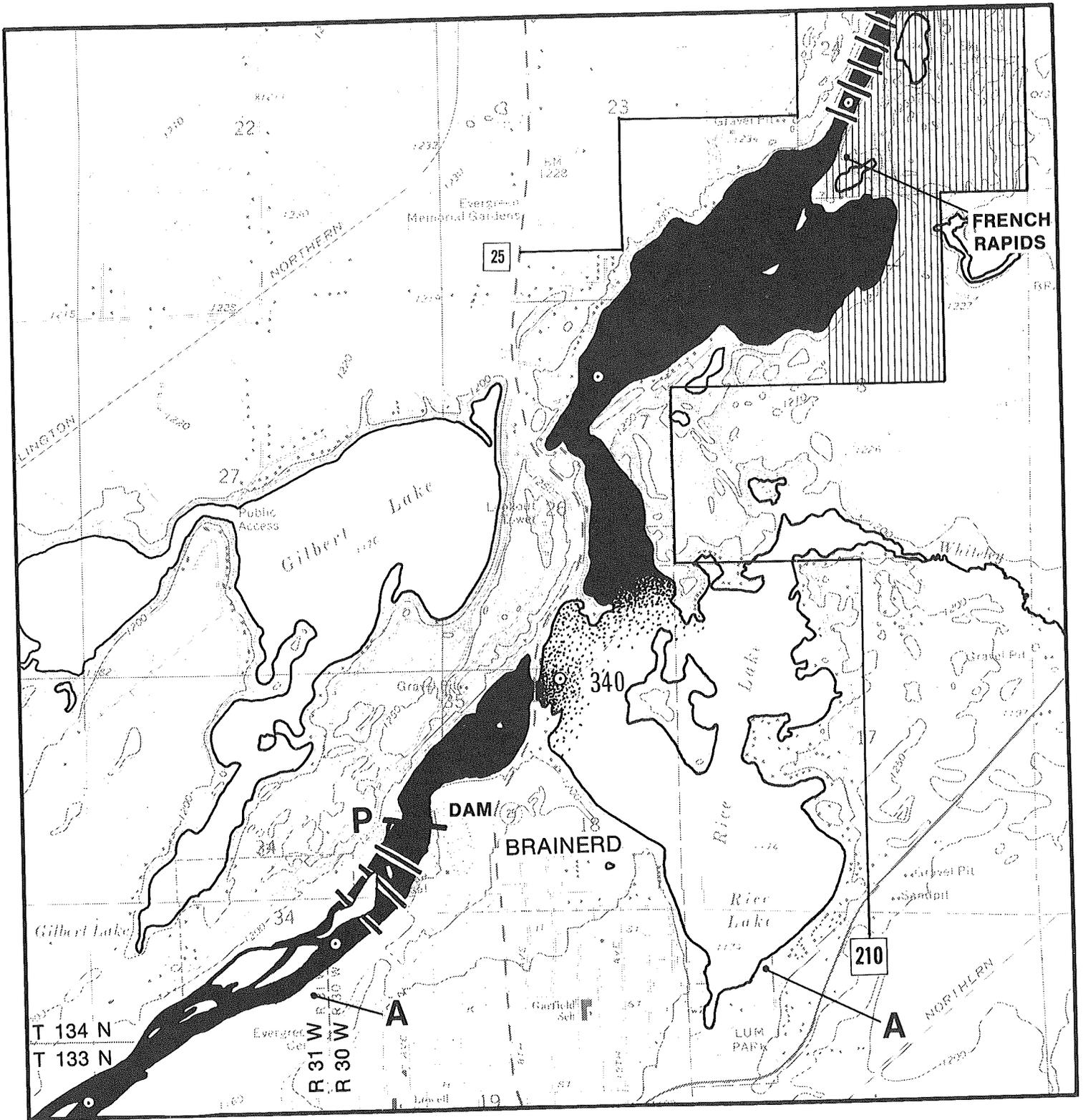
MAP NUMBER 61



Map Legend

Zoning District Boundary	
River Mile	
Rapids	
RR Crossing	

	Existing	Proposed
Access	A	A
Rest Area	R	R
Historic Site	★	★
Portage	P	P
Campsite	C	C



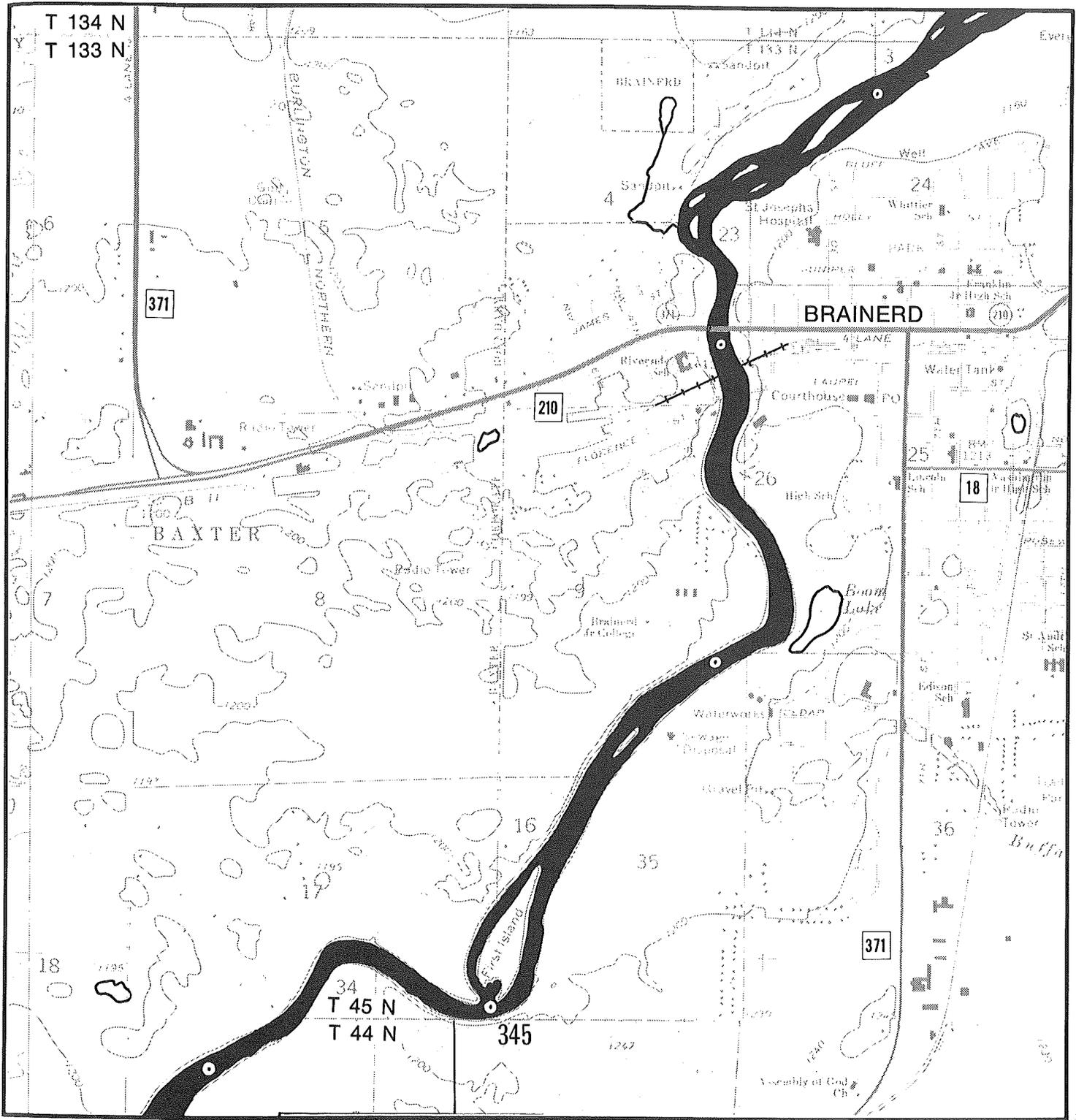
Map Legend

Surrounding Land Ownership



Scale: 1" = 2,000'

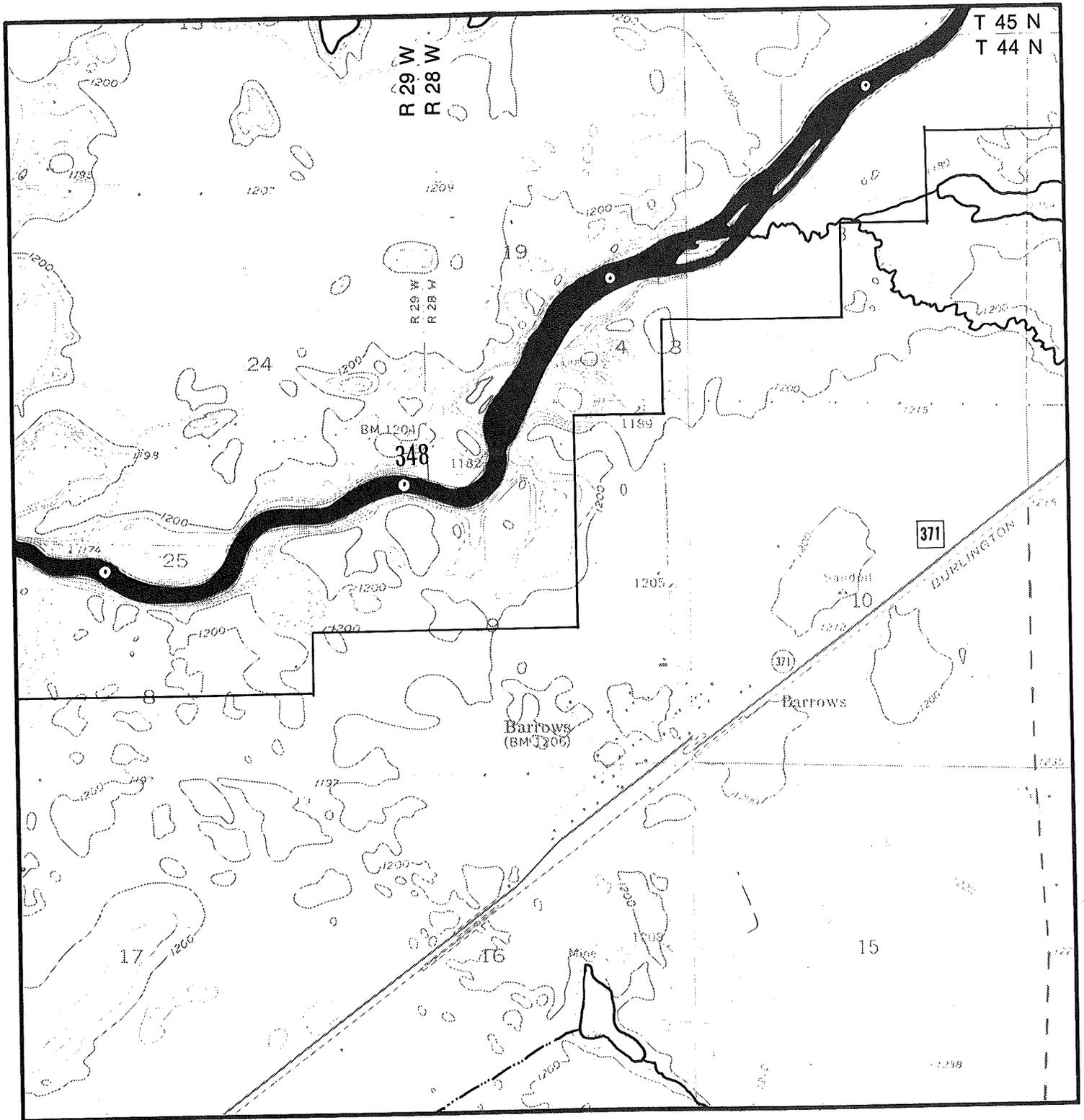
MAP NUMBER 63



Map Legend

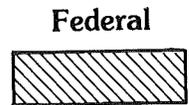
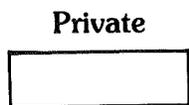
Zoning District Boundary	
River Mile	
Rapids	
RR Crossing	

	Existing	Proposed
Access	A	A
Rest Area	R	R
Historic Site	★	★
Portage	P	P
Campsite	C	C



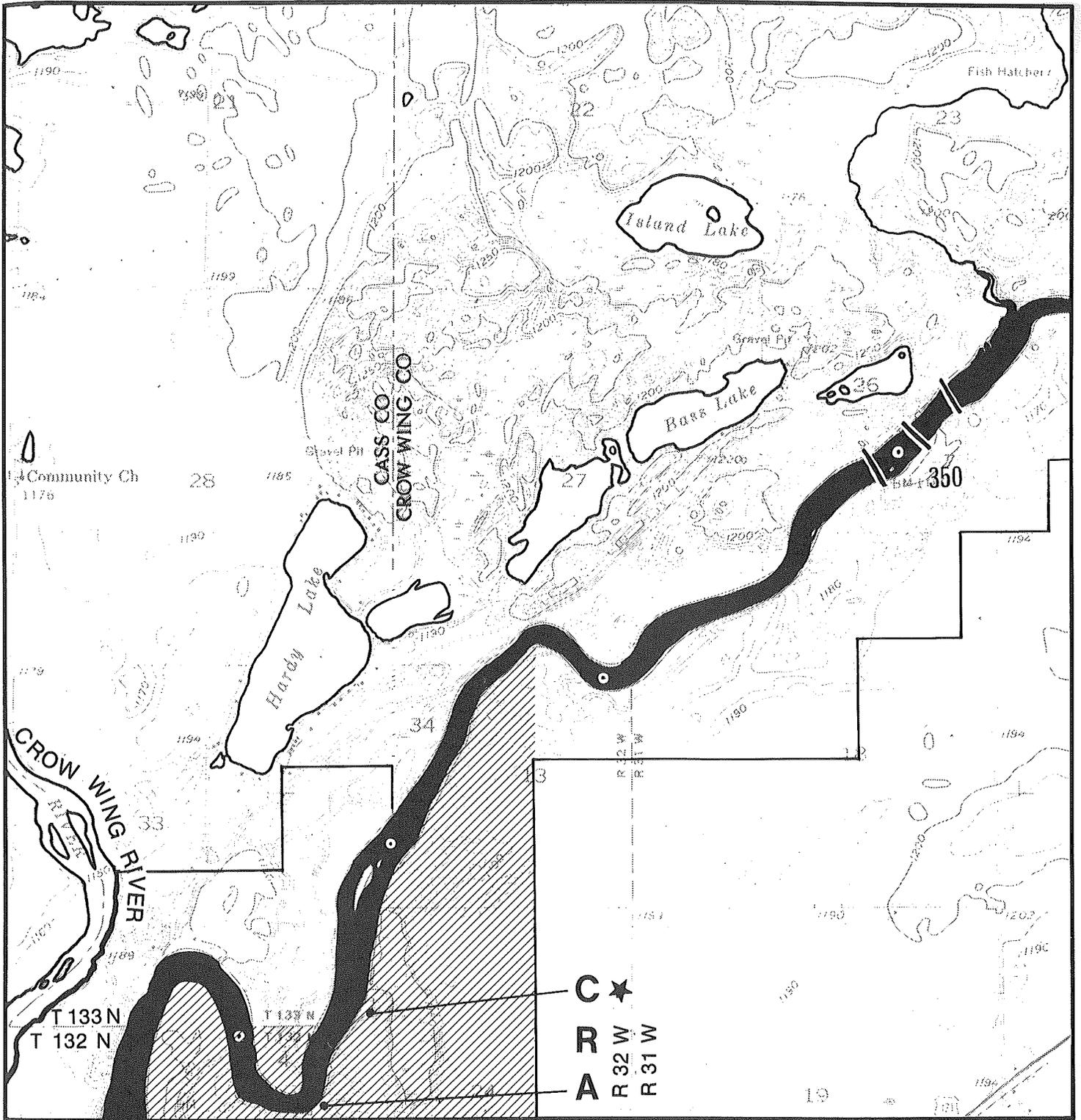
Map Legend

Surrounding Land Ownership



Scale: 1" = 2,000'

MAP NUMBER 65



Map Legend

Zoning District Boundary



River Mile



Rapids



RR Crossing



Access

A

A

Rest Area

R

R

Historic Site

★

★

Portage

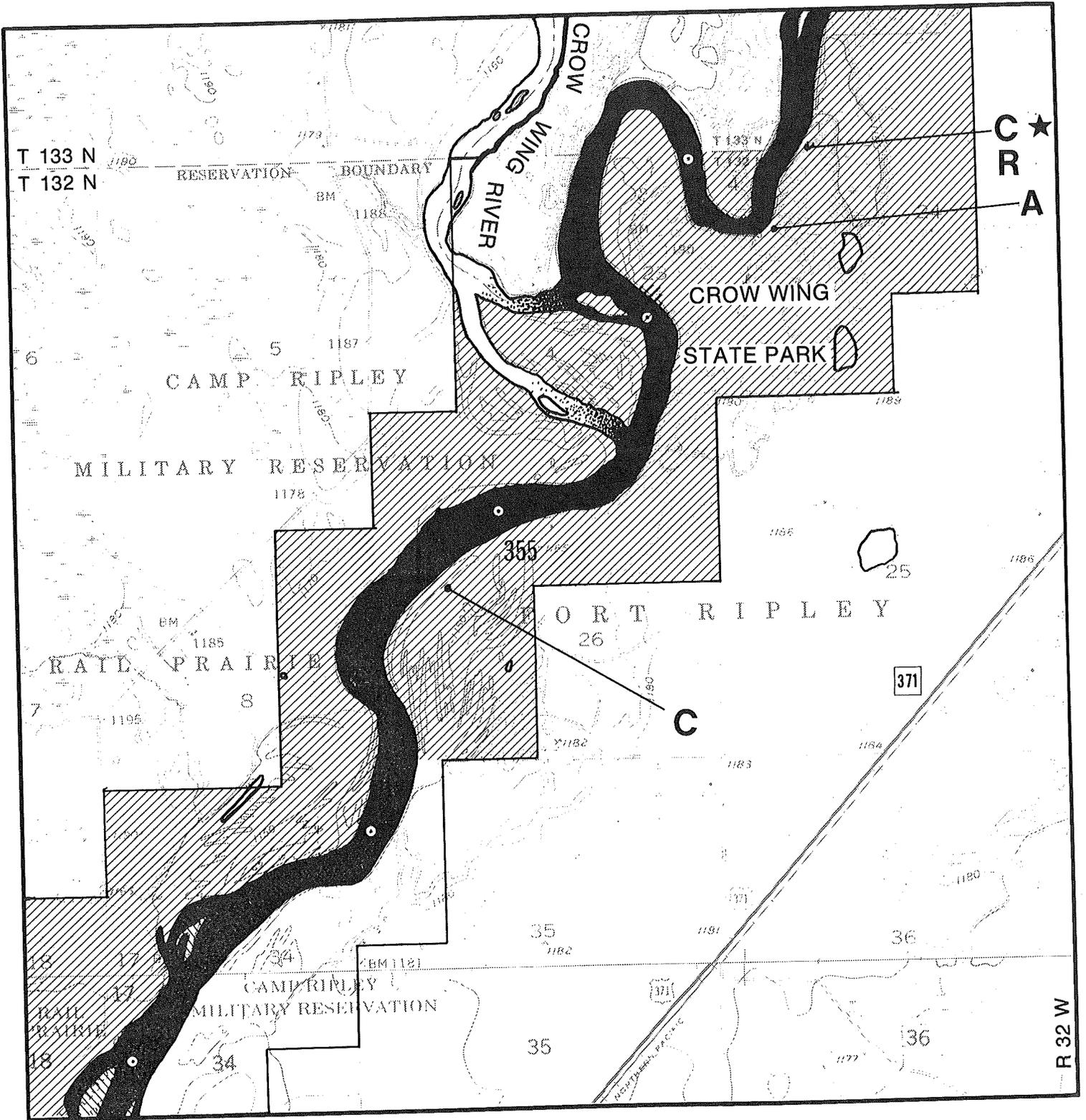
P

P

Campsite

C

C



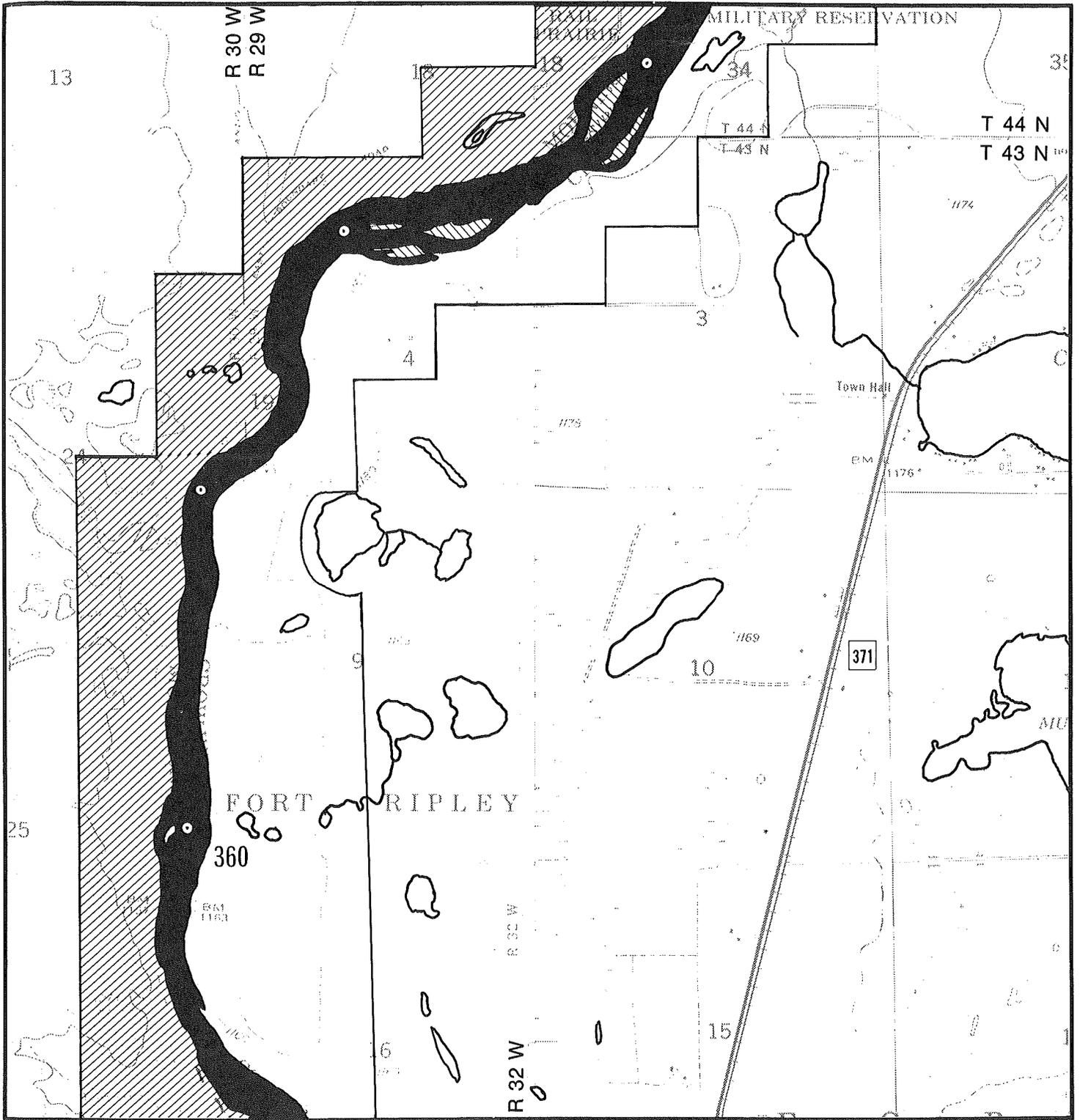
Map Legend

Surrounding Land Ownership



Scale: 1" = 2,000'

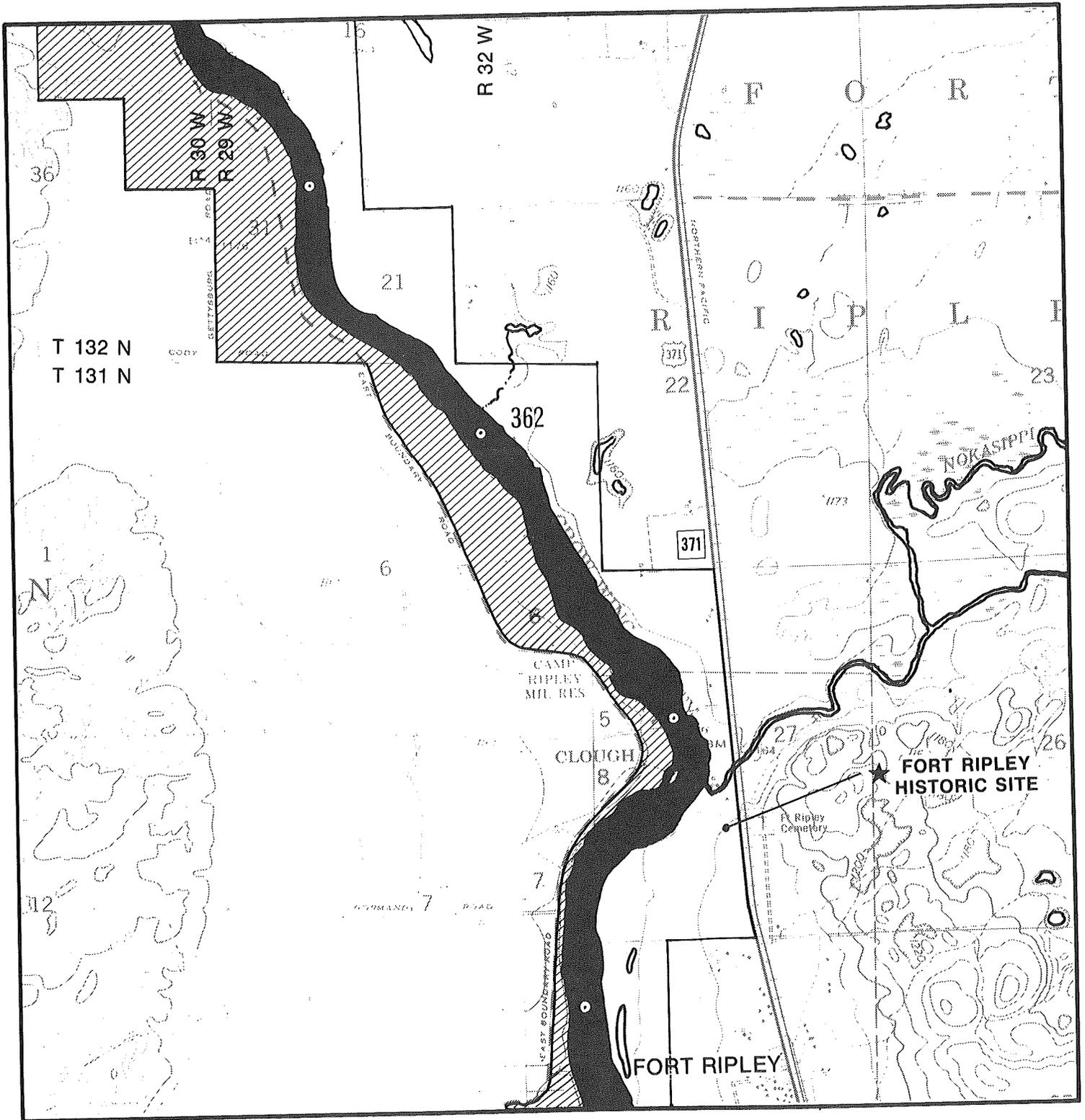
MAP NUMBER 67



Map Legend

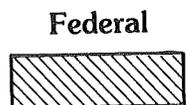
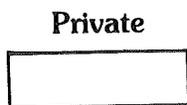
Zoning District Boundary	
River Mile	
Rapids	
RR Crossing	

	Existing	Proposed
Access	A	A
Rest Area	R	R
Historic Site	★	☆
Portage	P	P
Campsite	C	C



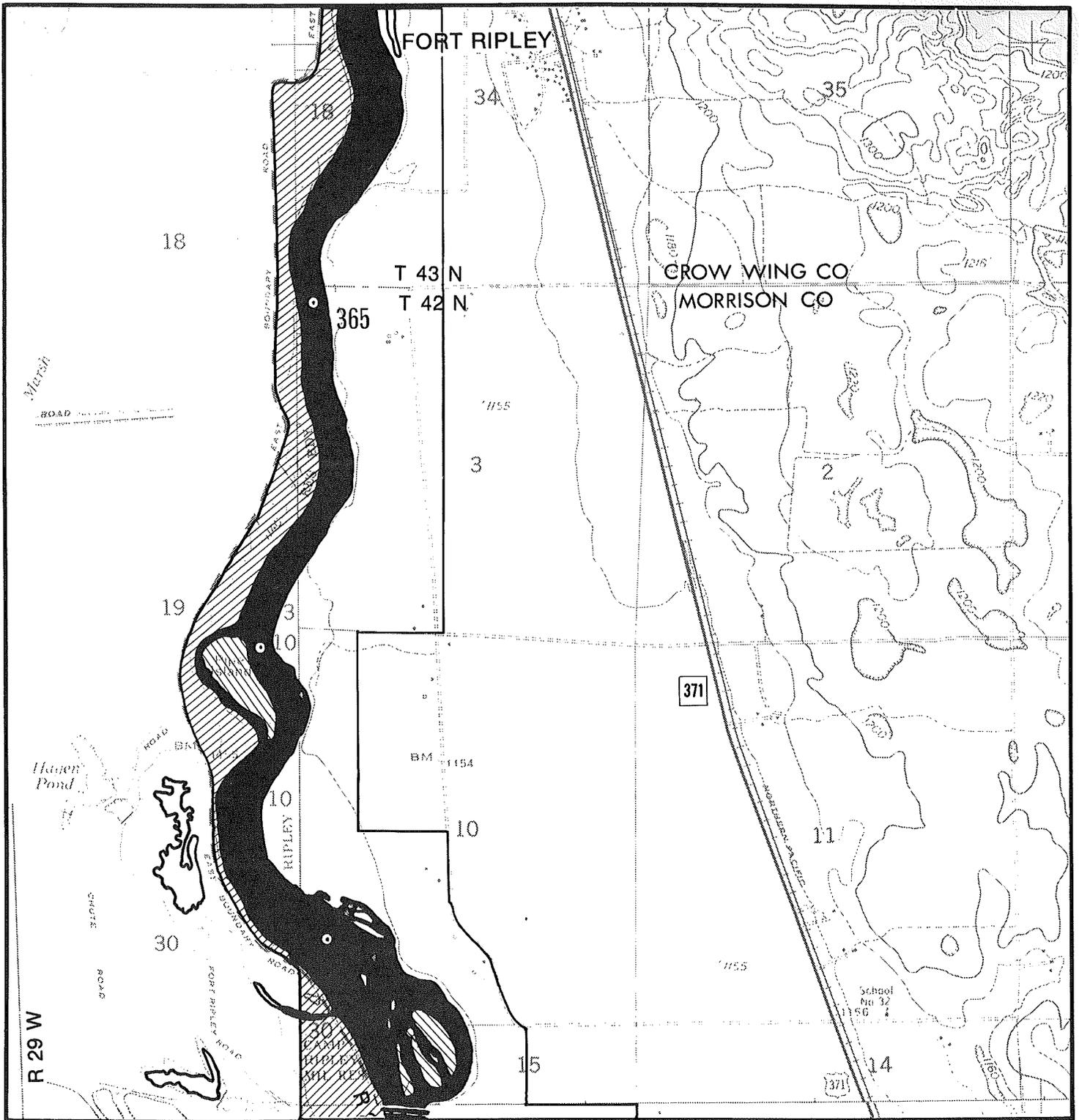
Map Legend

Surrounding Land Ownership



Scale: 1" = 2,000'

MAP NUMBER 69



Map Legend

Zoning District Boundary



River Mile



Rapids



RR Crossing



Access

A

A

Rest Area

R

R

Historic Site

★

★

Portage

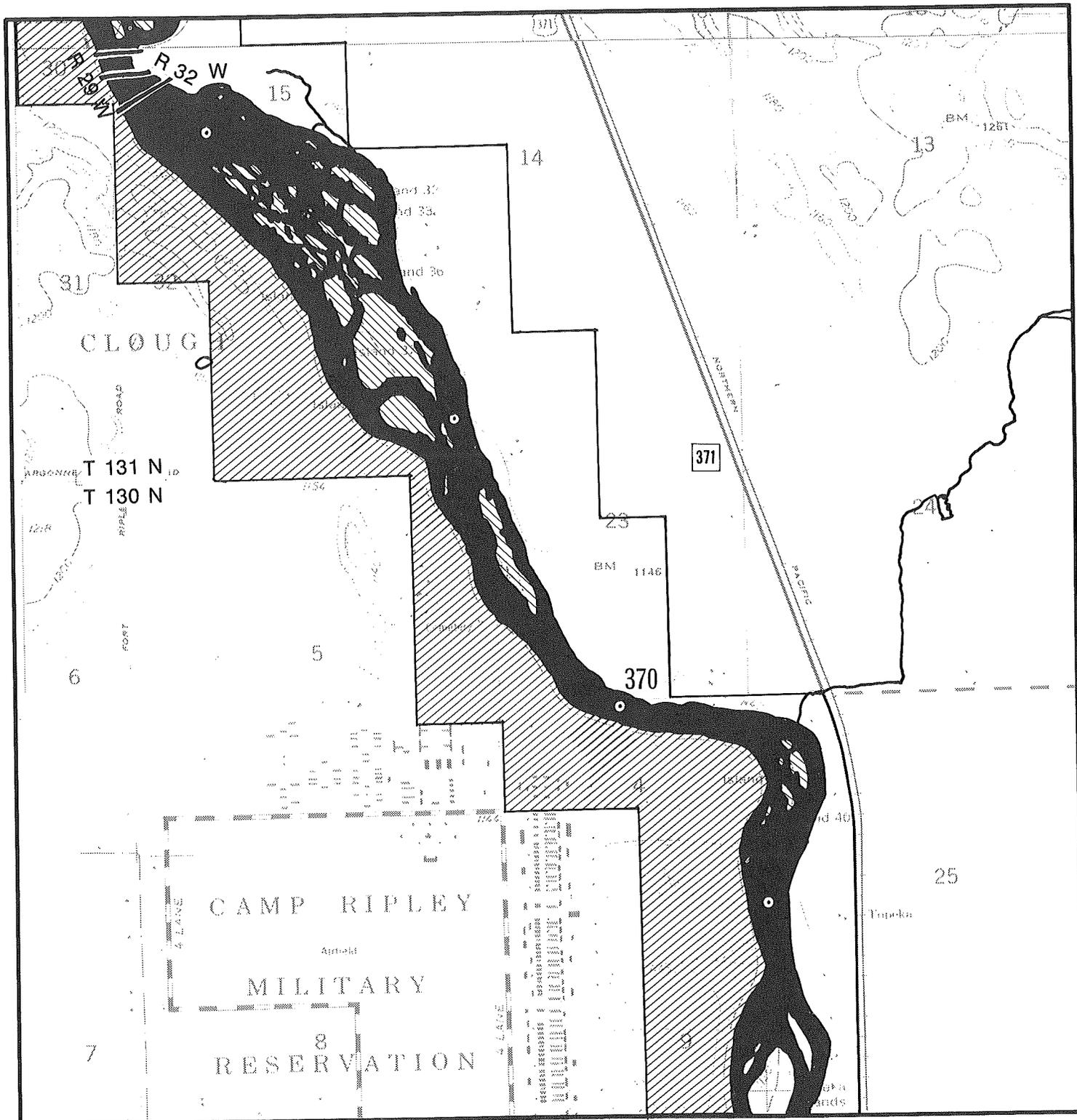
P

P

Campsite

C

C



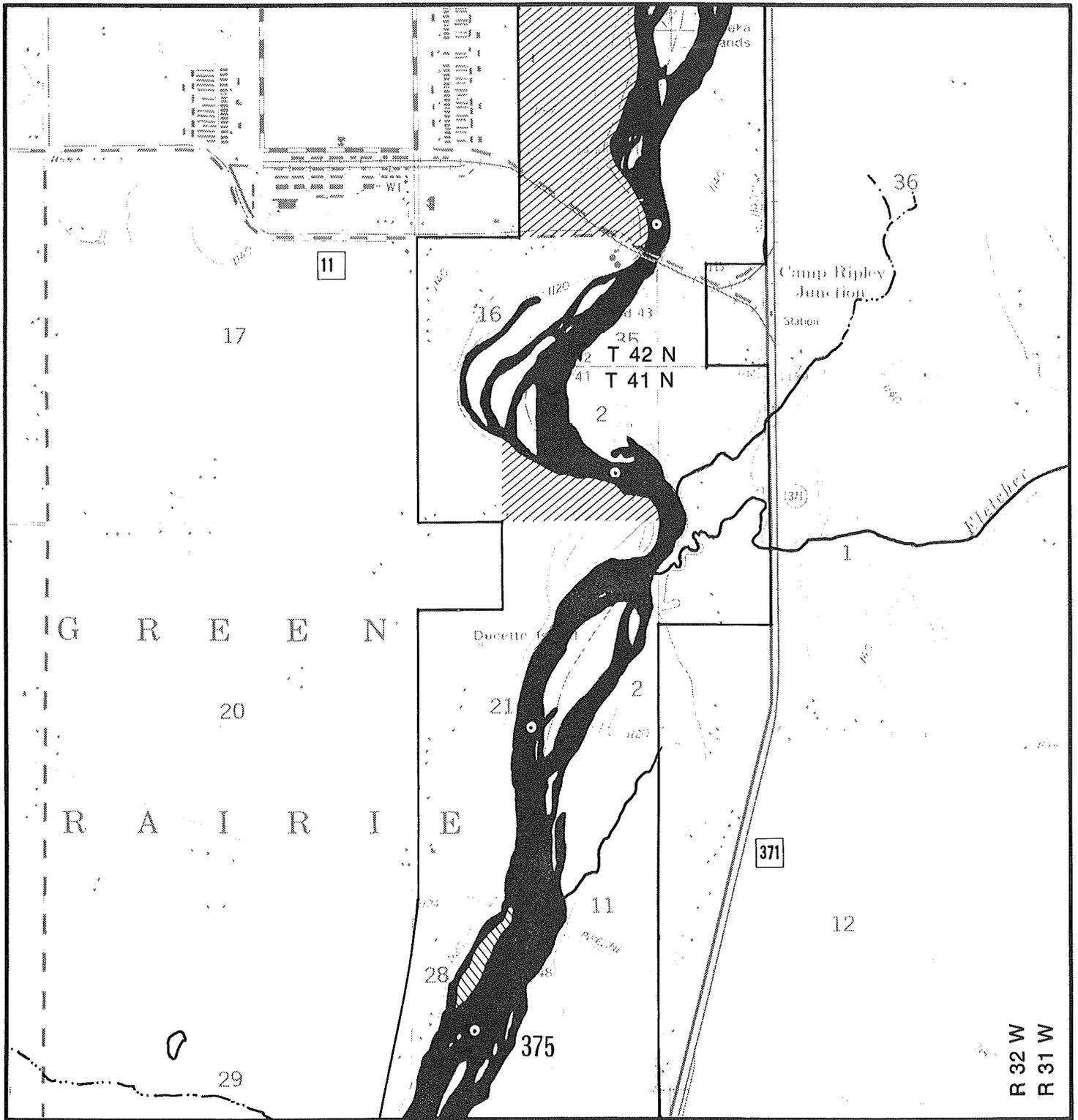
Map Legend

Surrounding Land Ownership



Scale: 1" = 2,000'

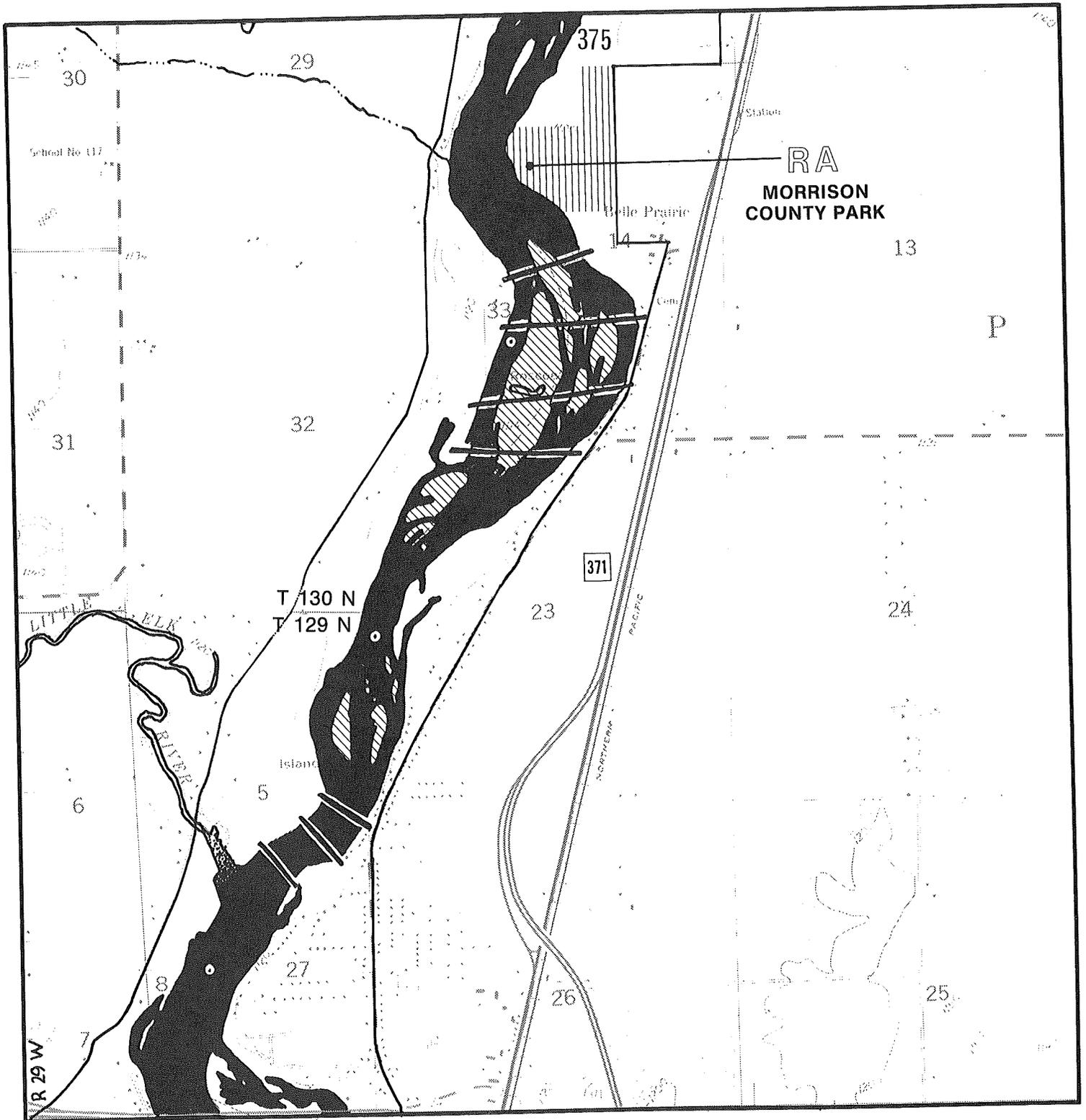
MAP NUMBER 71



Map Legend

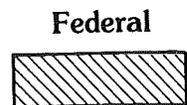
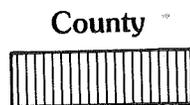
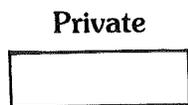
Zoning District Boundary	
River Mile	
Rapids	
RR Crossing	

	Existing	Proposed
Access	A	A
Rest Area	R	R
Historic Site	★	☆
Portage	P	P
Campsite	C	C



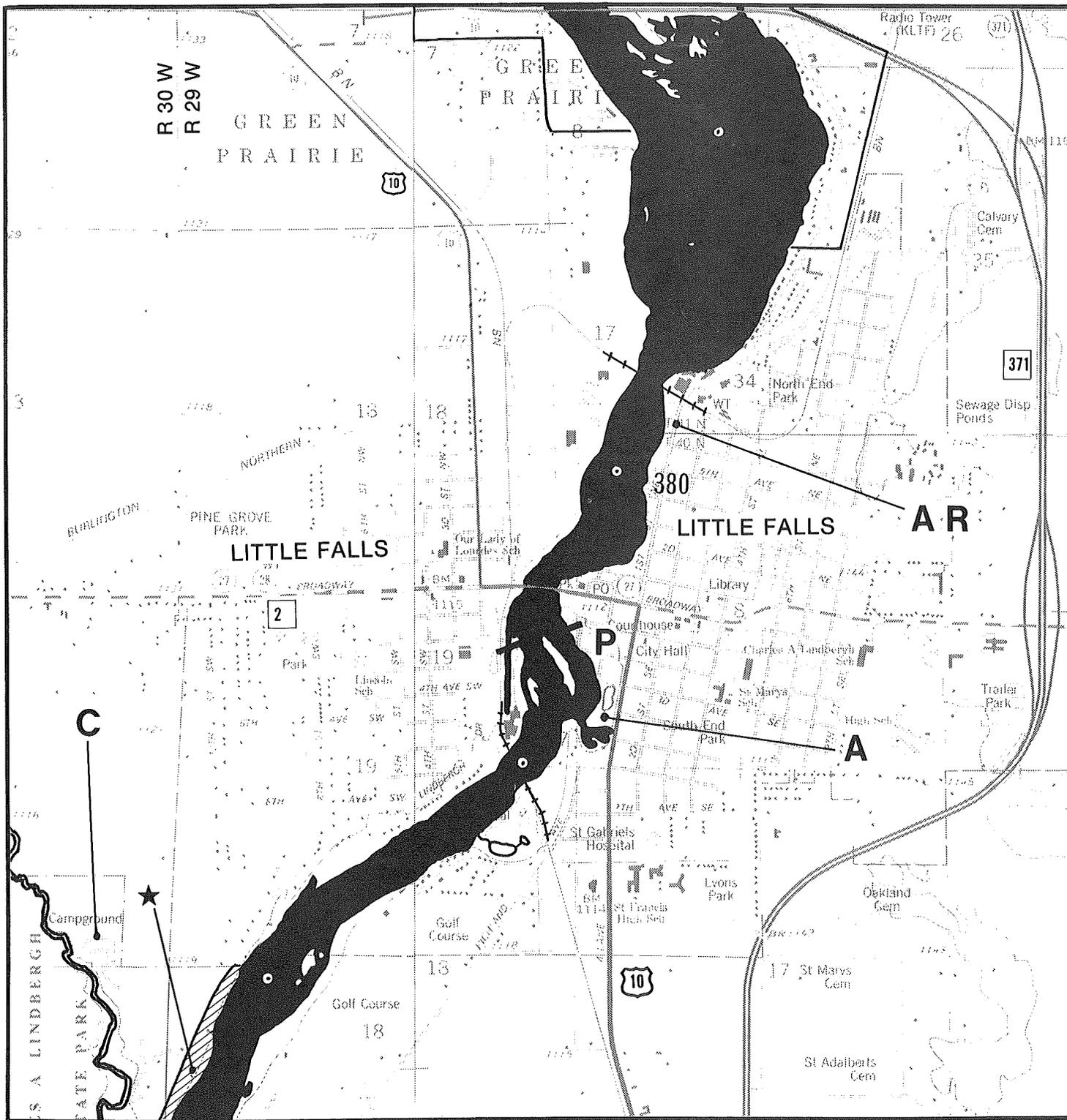
Map Legend

Surrounding Land Ownership



Scale: 1" = 2,000'

MAP NUMBER 73



Map Legend

Zoning District Boundary



River Mile



Rapids



RR Crossing



Access

A

Rest Area

R

Historic Site



Portage

P

Campsite

C

Existing

Proposed

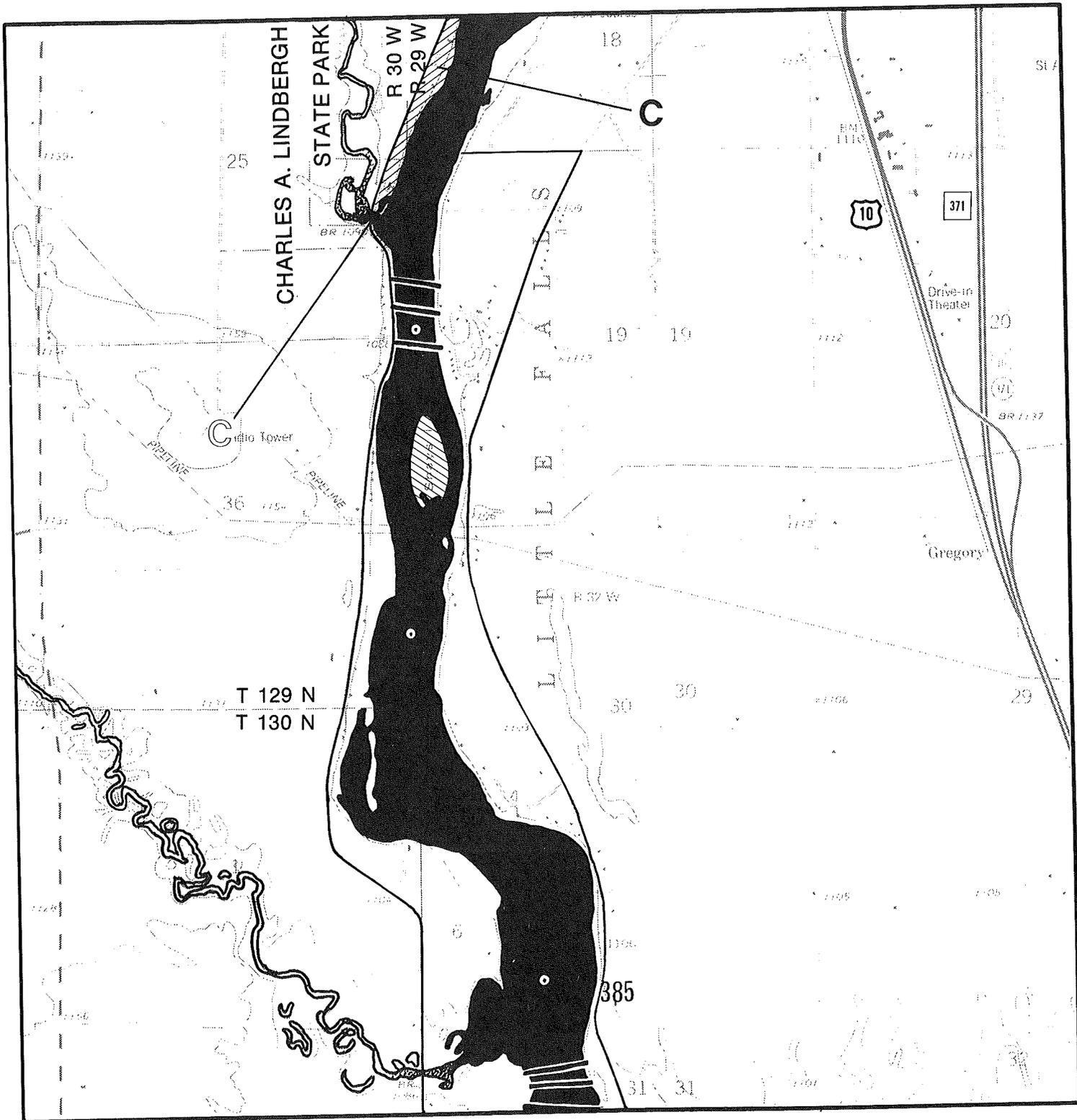
A

R



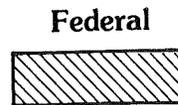
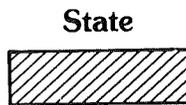
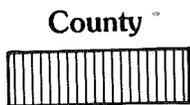
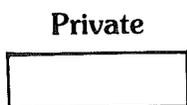
P

C



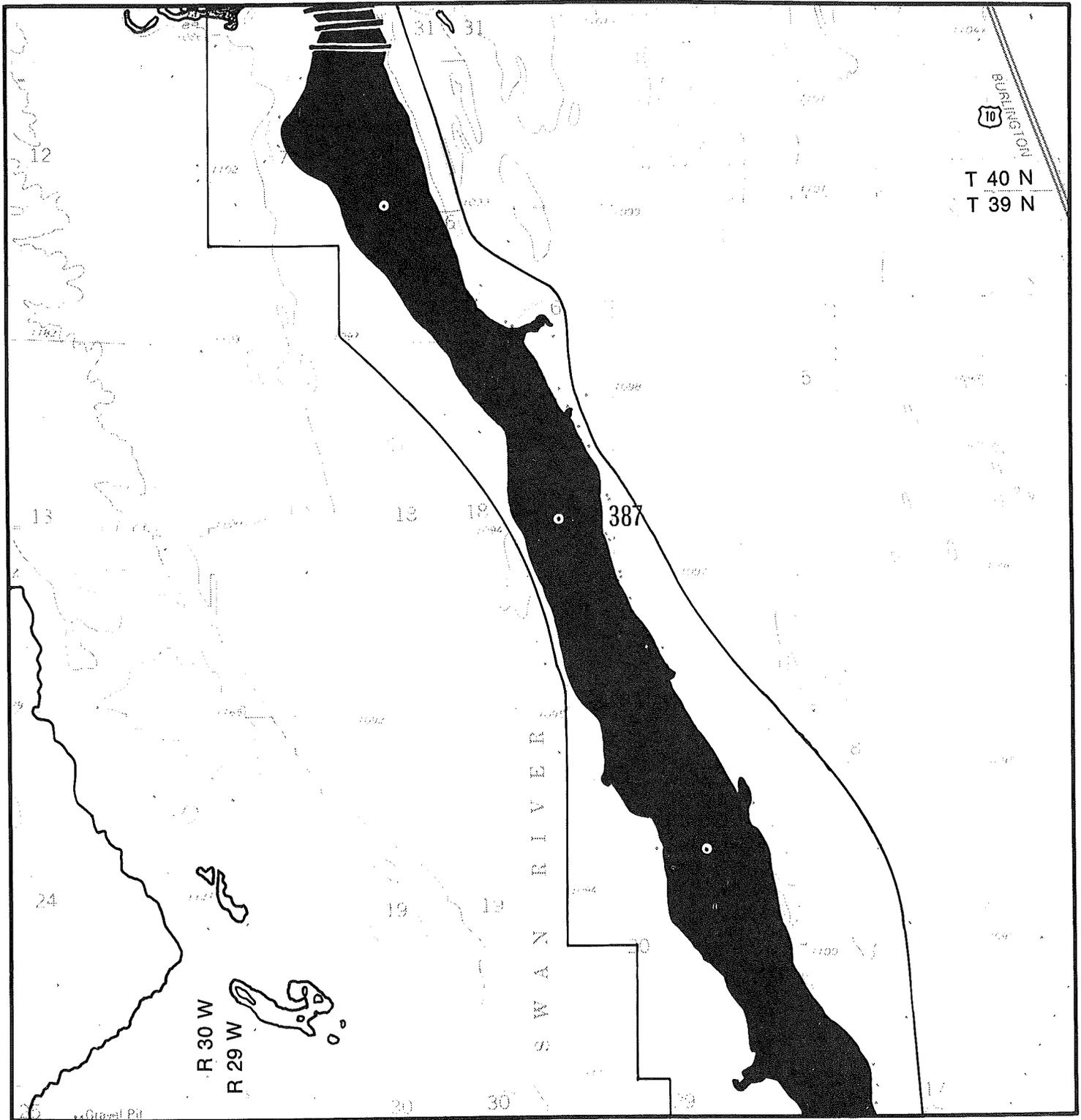
Map Legend

Surrounding Land Ownership



Scale: 1" = 2,000'

MAP NUMBER 75



Map Legend

Zoning District Boundary



River Mile



Rapids



RR Crossing



Access

A

A

Rest Area

R

R

Historic Site

★

★

Portage

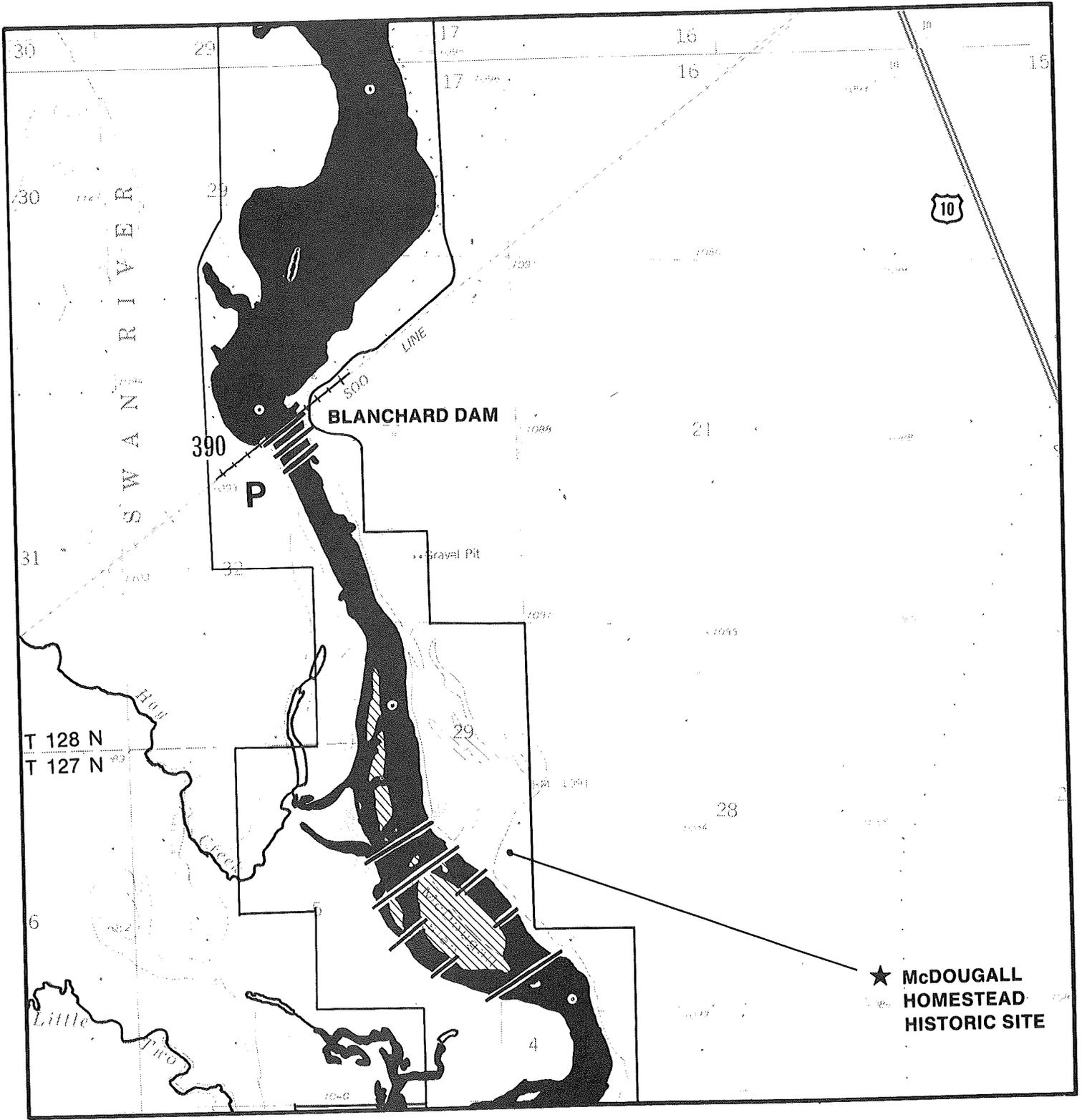
P

P

Campsite

C

C



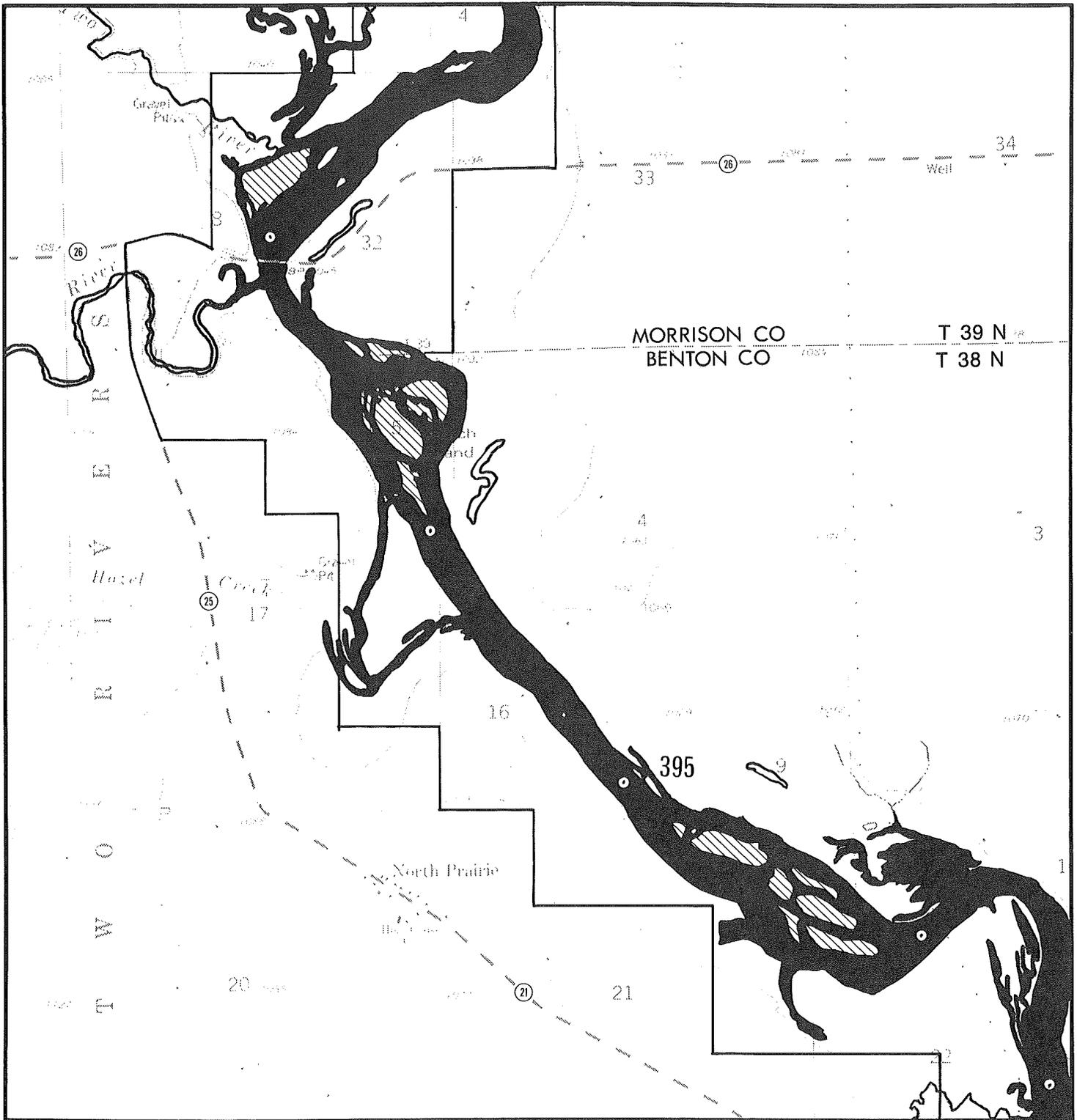
Map Legend

Surrounding Land Ownership



Scale: 1" = 2,000'

MAP NUMBER 77



Map Legend

Zoning District Boundary



River Mile



Rapids



RR Crossing



Access

A

Rest Area

R

Historic Site

★

Portage

P

Campsite

C

Existing

Proposed

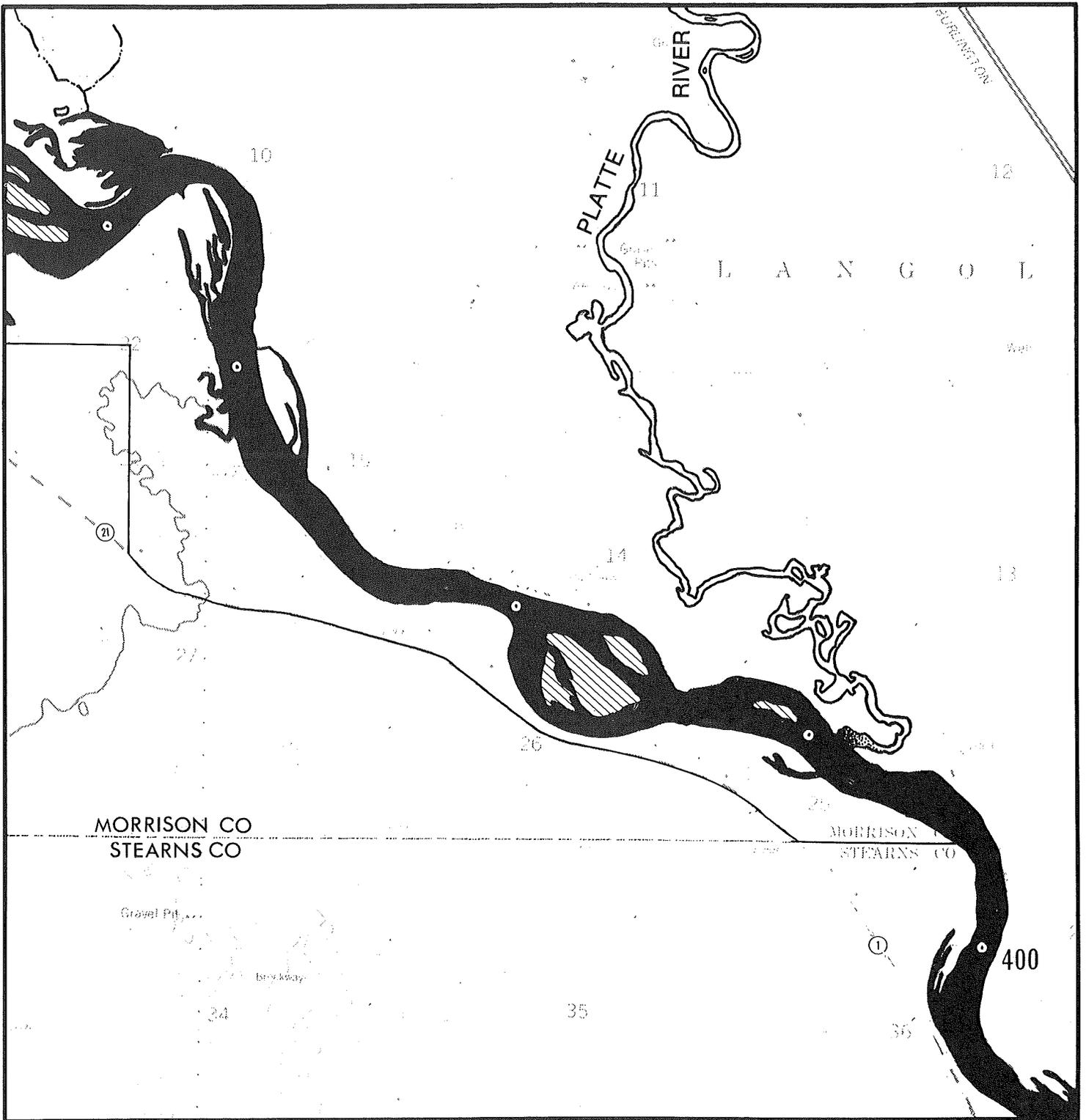
A

R

★

P

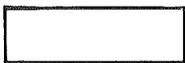
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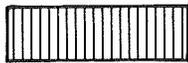
Map Legend

Surrounding Land Ownership

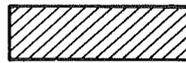
Private



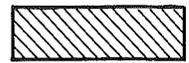
County



State



Federal



Scale: 1" = 2,000'

MAP NUMBER 79

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Photos courtesy of the photo libraries of the Minnesota Historical Society and the Minnesota Department of Natural Resources.

Much additional information and data was furnished from the publications, records and files of Aitkin, Beltrami, Cass, Clearwater, Crow Wing, Hubbard, Itasca, and Morrison counties.

