(AD-75)

To. Rhonda Kenyon - Cumberland

Rcvd 9-14-05

CORRESPONDENCE/MEMORANDUM

STATE OF WISCONSIN

Date: March 3, 1986

File Ref: 2300

To: David Jacobson - Spooner

From: James R. Huntoon

Subject: Beaver Brook Wildlife Area

The Conceptual Element of the subject Plan has been approved. I am enclosing extra copies of the final draft for your future use. I suggest a copy be retained on file by the District Master Plan Coordinator.

Please complete the Implementation Element of the Master Plan as outlined in the Master Plan Handbook and submit to this office by June 6, 1986.

Enc.

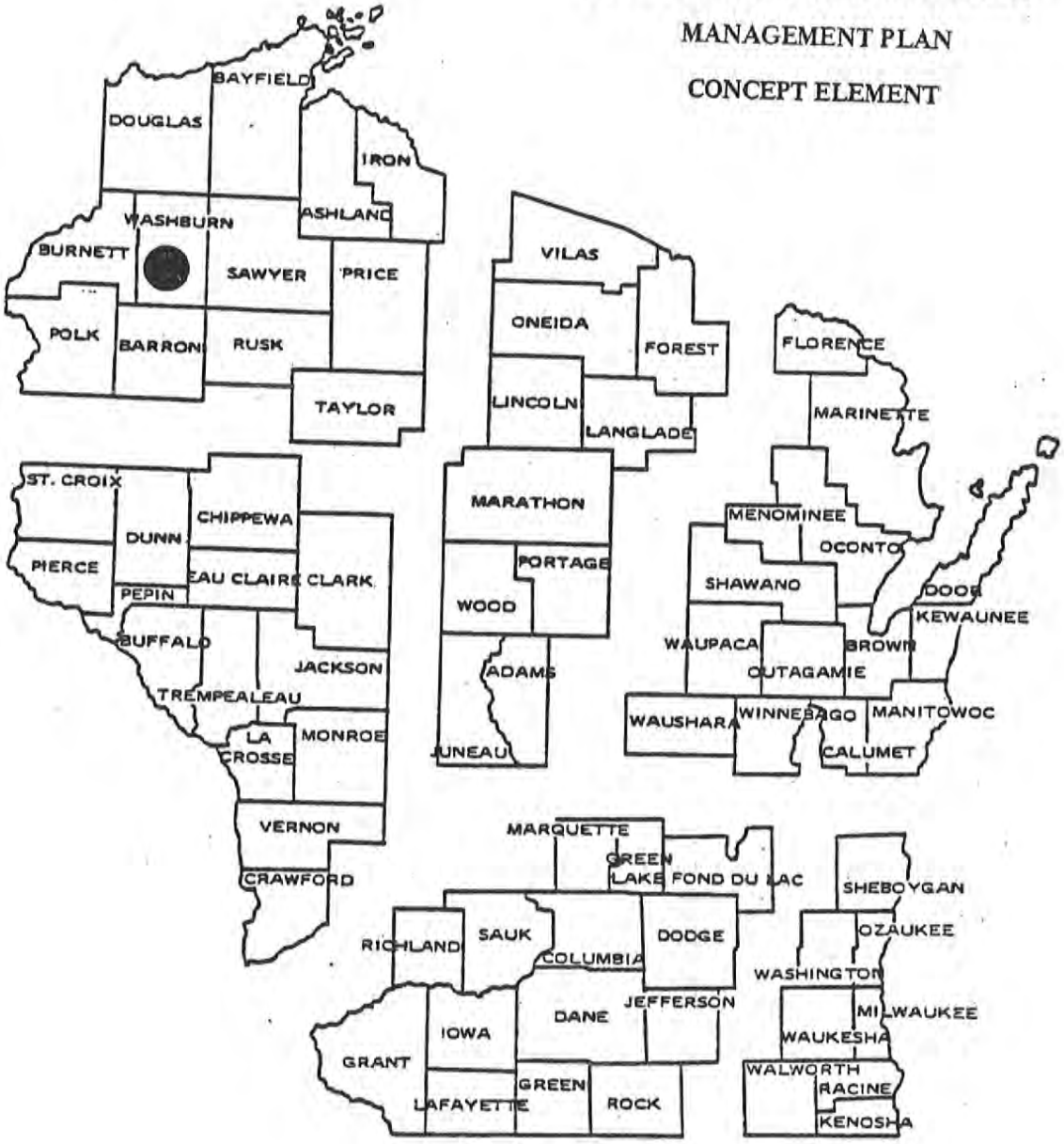
cc: C. Karr - AD/5
S. Miller - WM/4

RECEIVED
MAR 11 1986
Northwest District
Headquarters

BEAVER BROOK WILDLIFE AREA

MANAGEMENT PLAN

CONCEPT ELEMENT



Property Task Force

Leader: Pat Savage - Wildlife Manager
Stan Johannes - Fish Manager
Jim Pearson - Forest Manager
Bart Halverson - Conservation Warden

Approved By: J. R. Hunton

Date: 3/3/86

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
MADISON, WISCONSIN

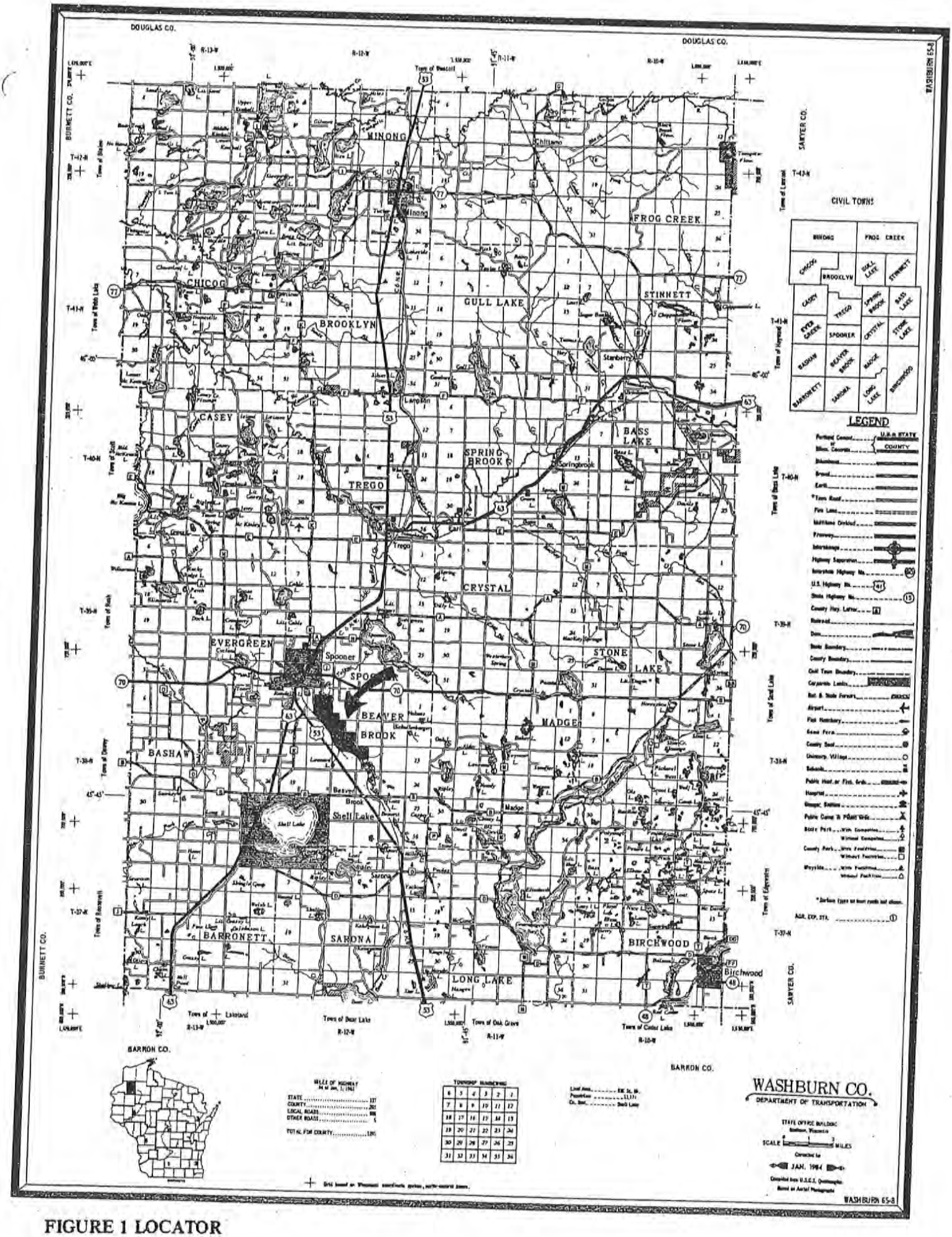


FIGURE 1 LOCATOR

TABLE OF CONTENTS

Section I - Actions

Page

Goals, Objectives, and Benefits 1

Recommended Management. 1

Section II - Support Data

Background 4

Resource Capabilities 6

Wildlife
Fish
Water
Forestry

Management Problems 10

Alternatives 11

Appendix. 13

BEAVER BROOK WILDLIFE AREA

Section I - Actions

GOALS, OBJECTIVES, AND OTHER BENEFITS

Goal

To manage this state-owned wildlife area for public hunting, trapping, and fishing recreation as well as accommodating other outdoor recreational opportunities.

Annual Objectives

1. Provide 1,200 participant-days of hunting and trapping opportunities as follows:

Activity		Participant-days
a.	Deer (gun & bow)	500
b.	Ruffed Grouse/Woodcock	200
c.	Waterfowl	100
d.	Other small game	300
e.	Furbearer Trapping	100

2. Provide 600 angler-days of warm and cold water fishing.

Additional Annual Benefits

1. Accommodate 1,200 participant-days of compatible recreation including hiking, snowmobiling, cross-country skiing, snowshoeing and nature observation.

2. Harvest 500 cords of merchantable timber.

3. Contribute to the habitat of other wildlife including migratory, endangered, and threatened species.

RECOMMENDED MANAGEMENT
(Figure 2)

Beaver Brook Wildlife Area is designated as Resource Development for (RD 2) wildlife and fish habitat.

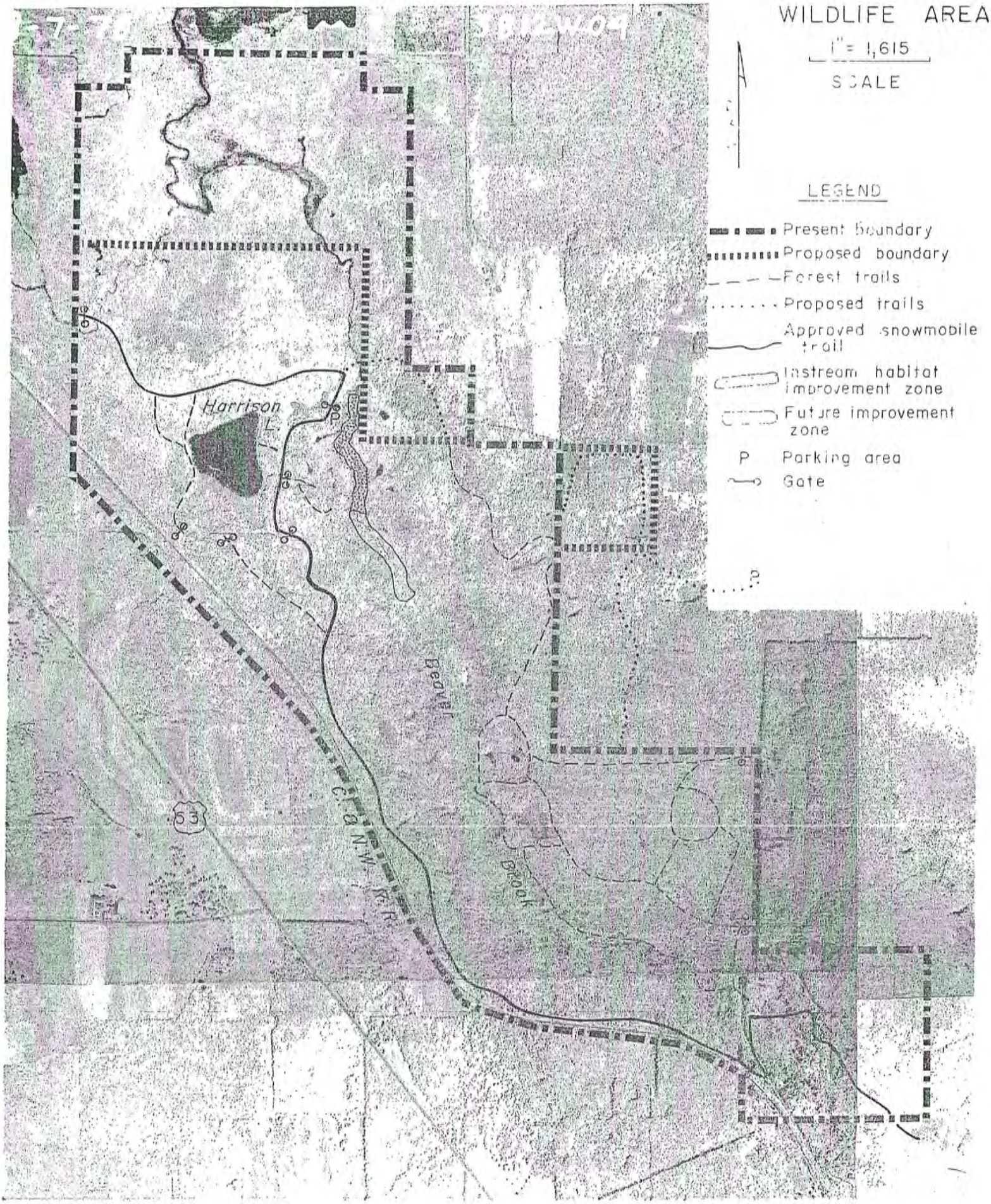
It is a forested property. The management intent is to provide a diversity of native plant communities, but to favor the development and maintenance of communities that provide habitat which is preferred by game species, such as deer, bear, ruffed grouse, woodcock, squirrel, and snowshoe hare. Plant communities that are earlier (grass and shrub openings, aspen and oak) in the ecological succession will be maintained.

Figure 2 Existing & Planned Development

BEAVER BROOK WILDLIFE AREA

1" = 1,615

SCALE



Maintenance of the grass and shrub openings will require mechanical cutting or chemical treatments of invading tree species. The aspen type will be maintained through commercial timber sales. Post sale treatments may be applied to assure regeneration of a fully stocked aspen stand. While most of the uncut aspen is over-mature, the cutting will be spread over a 10-year period. This will benefit wildlife by providing a diversity of age classes of aspen. Production of forest products will also become more regulated. Further, habitat diversity will be promoted by favoring smaller sized timber sales (approximately 20 acres).

Other wildlife management practices include the erection and maintenance of woodduck nest boxes on Harrison Lake, Beaver Brook, and Randall Creek. An osprey nest platform was erected along Randall Creek in 1978; it has not been used. A floating artificial loon nesting platform has been placed in the past on Harrison Lake; presently there are no loons using the lake.

A variety of practices will be employed in management of the oak type. Commercial thinning through use of firewood sales will be the primary technique. Noncommercial thinning will be done when necessary. The objective of thinning is to maintain tree growth and vigor while providing forest products. Large, older oaks will be left uncut to function as den trees and mast producers.

Nongame bird management will result from girdling of competing tree species. These will develop into dead, standing snags. In regenerating oak stands it may be necessary to kill competing shrubs and saplings by scarification with heavy equipment (rake, disc, dozer blade, etc.), prescribed burning or use of herbicides. An experimental planting of acorns was done in the fall of 1984.

Other cultural forestry work will likely include noncommercial thinning in northern hardwood, girdling for white pine release, pine planting, and pruning.

Designated forest trails will be maintained for recreational uses. Access points will be controlled by gates.

Maintenance of in-stream trout habitat improvement devices (rock revetments, wing dams, and boom covers) was done on a 1/2 mile length of Beaver Brook beginning in 1984. An additional 1/2 mile stretch of trout habitat improvement may be done in the future.

Since Beaver Brook is a Class I trout stream, no stocking of trout is carried out. Harrison Lake will be managed as a largemouth bass fishery. It is subject to occasional winterkill. Should a winterkill occur, restocking of minnows (fatheads) and largemouth bass will be carried out to restore the fishery.

Planned surveys include periodic electro-shocking of both Beaver Brook and Harrison Lake to monitor fish populations.

Snowmobiling is an authorized activity on the property. Under a 1972 general land use agreement (of indefinite duration) with Washburn County, a 3.5-mile length of trail is designated as part of the county network. Use of snowmobiles is restricted to this approved trail only.

Cross-country skiing on the property has greatly increased in the past 10 years. Approximately 3 miles of hunter walking trails (exclusive of the approved snowmobile trail) are used by cross-country skiers in the winter months. A local ski club has expressed interest in establishing a cross-country ski trail and grooming it. It is feasible to enter into a special use agreement whereby a club would maintain and sign trails, and provide any needed insurance. Any such agreement would not conflict with the stated management goal and objectives.

The acreage goal is established at 1,315 acres. The Department owns 1,323 acres, including 40 acres considered surplus to management needs (Figure 3). The total acreage within the acquisition boundary is approximately 1,588 acres. The remaining 273 acres within the boundary is primarily wetlands within the Yellow River - Beaver Brook - Randall Creek Flowage and adjacent uplands.

Management opportunities in these wetlands are very limited and they are sufficiently protected from adverse development by existing zoning and wetland protection laws. For these reasons, it is recommended that the acquisition boundary be changed to reflect the present ownership, deleting the wetlands, but including the 40 acres listed as excess. The excess 40 acres contains cover types (wildlife openings, upland brush and oak) which are valuable and complimentary to management of the remaining wildlife area. The new acreage goal would be 1,323 acres and acquisition considered complete.

Section II- Support Data

1810 AC 546.66 10 8 12

BACKGROUND INFORMATION

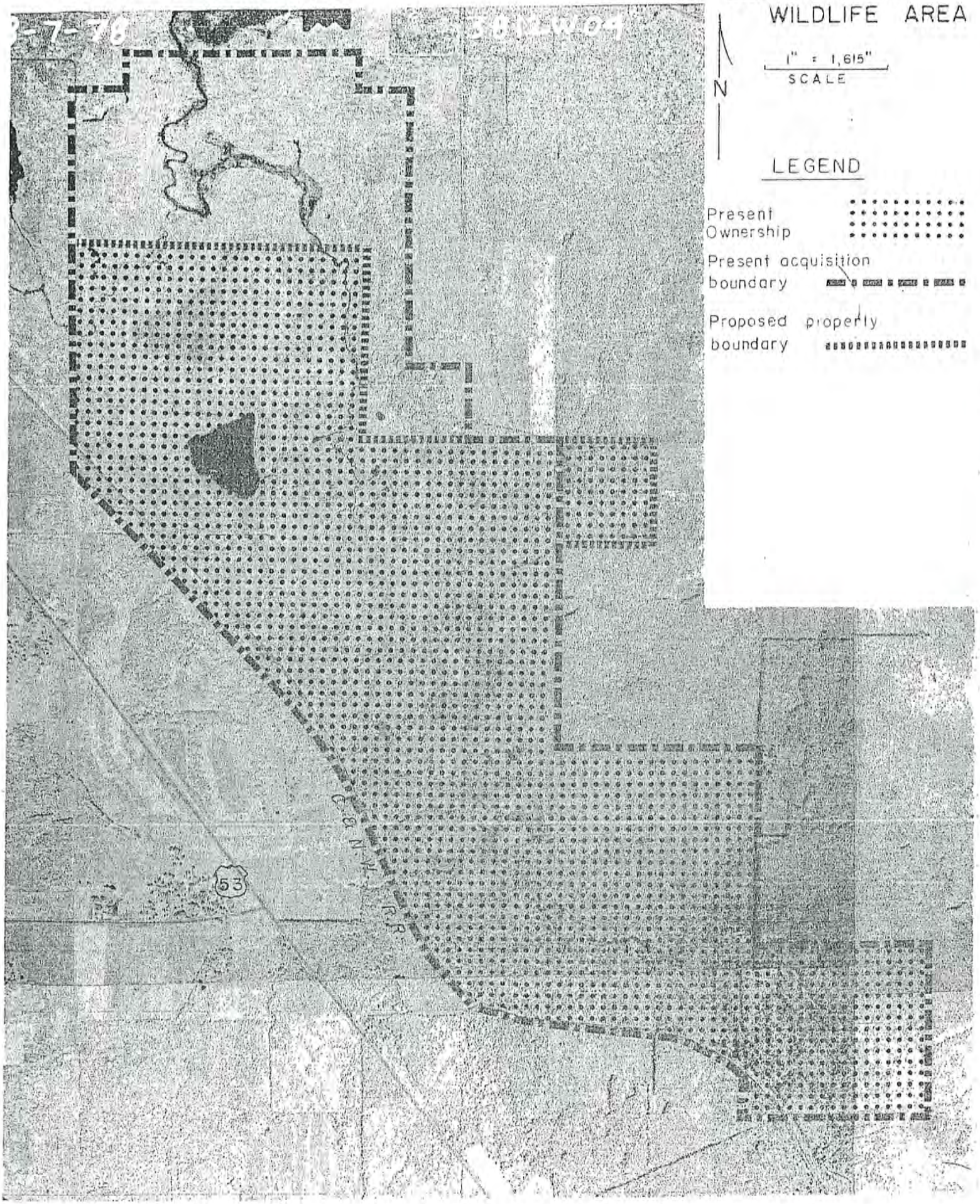
Beaver Brook Wildlife Area is located 1/2 mile Southeast of Spooner in central Washburn County. It is accessed from US Highway 53 on the west and from US Highway 70 and town roads on the north and east. The west property boundary is the Chicago and Northwestern RR grade.

Beaver Brook became a state wildlife area in 1951 with the acquisition of 680 acres from Washburn County. Since that initial land purchase, nine other parcels have been acquired bringing the size of the property to 1,323 acres. To date, the total cost of land purchases have been $28,485.

Each year there are many hundreds of visits made by ruffed grouse, squirrel, deer hunters and trout fishermen. Today, these traditional uses are complemented by cross-country skiing, snowmobiling, hiking, bird watching, and renewed interest in firewood gathering.

Beaver Brook is a clear water, spring-fed, Class I brook-brown trout stream. It starts at the outlet dam of a commercial cranberry marsh in Section 15, T38N, R12W and flows northwesterly into the Yellow River Flowage. Almost the

Figure 3. Land Ownership



entire stream lies within the Beaver Brook Wildlife Area. In 1870, a logging dam was built at the north end of Beaver Brook flooding nearly 1/3 of its length. This dam was removed in 1910, with much of its remains still visible today.

Beaver Brook is touted as one of the region's premiere brook and brown trout fisheries. Beaver Brook is fed along its course by ten small spring ponds and numerous bank seeps. The stream has fairly good in-stream cover for fish, consisting of undercut banks, DNR-installed in-stream habitat improvement devices, tagalder roots, and a few boulders.

Stream habitat development activities accomplished to date include 1/2 mile of stream bank brushing in 1974 and 1975 and intensive in-stream habitat improvement developments from 1976 to 1980 along this same section of stream. Dramatic increases in trout stocks have resulted from this trout habitat improvement work. Harrison Lake was chemically reclaimed in 1980 and restocked with largemouth bass and fathead minnows. Excellent largemouth bass angling has resulted.

In addition to habitat protection and development activities, surveys, fish stocking and maintenance of user facilities are also important fish management activities on the wildlife area. Although Beaver Brook has been intensively stocked with brook trout (1933 to 1969), no trout are stocked in the stream today.

RESOURCE CAPABILITIES

Wildlife Resource

As a wooded property it is well suited to forest wildlife management. The principal big game animal is white-tailed deer. The Beaver Brook Wildlife Area is located within Deer Management Unit 17 which supports fall densities of 18-22 deer per square mile. Though low in density, black bear are frequently seen and hunted on the area.

Habitat is abundant for ruffed grouse and gray squirrel. Alder and willow along the stream bottom provide good habitat for snowshoe hare. Woodcock are a common breeding species and locally abundant in field edges as fall migrants.

Commonly occurring furbearers include coyote, red fox, raccoon, otter, mink, and skunk. Bobcat are an occasional user of the area. Good muskrat habitat is present at the confluence of Randall Creek, Beaver Brook and the Yellow River. Despite the presence of what appears to be suitable habitat, beaver are only occasionally seen on the area. There is no history of beaver problems on the brook.

Waterfowl habitat is limited to the flowage marsh on the north, Harrison Lake, and the stream with its spring ponds. Waterfowl breeding and migrating densities on the area are low; chiefly woodduck, mallard, and blue-winged teal. The list of nongame wildlife is extensive including small mammals, songbirds, woodpeckers, hawks, owls, reptiles, and amphibians. Harrison Lake

has a history of loon use. A loon pair nested there from 1978 through 1982, but no young were ever observed.

Fish Resource

A total of 13 different species of fish inhabit Beaver Brook and its many natural spring ponds. Brook and brown trout are the primary species sought by anglers. Fishing for these species is considered to be excellent.

The Beaver Brook trout population has been intensively monitored over the years and found to be one of the better trout streams in the area. Trout populations and standing crop estimates were found to be 2,187 trout per acre and 352 lbs per acre of brook and brown trout over 4.0 inches in 1983.

Other warm water fish species found on the area include northern pike, pumpkinseed, burbot, black bullhead, white sucker, golden shiner, common shiner, creek chub, long-nose dace, redsided dace, and mudminnow. No endangered or threatened fish species are known to exist within the fishery area.

Harrison Lake, a small (17.2 acre) landlocked lake within the wildlife area, supports two species of warm water fish. Following chemical eradication of its fish population in 1980, Harrison Lake was restocked with largemouth bass and fathead minnows in 1981. Excellent fishing for largemouth bass has resulted.

Endangered Species

No threatened or endangered species of plants or animals are known to exist on the property. If any should be found in the future, appropriate protective measures will be taken to ensure their survival.

Water Resources (Table 1)

All surface waters within the wildlife area easily meet minimum state water quality standards for recreational use, fish, and aquatic life. Surface water within the wildlife area totals 24.8 acres and consists of one named lake (Harrison Lake), ten unnamed natural spring ponds and one named Class I brook-brown trout stream (Beaver Brook).

Table 1. Surface acreage length, depth, width, miles of shoreline (MSL), alkalinity, and fish species present in lakes and streams within Beaver Brook Wildlife Area, Washburn County.

Name of Water	Area (Acres)	Max. Depth(ft.)	MSL	Methyl Purple Alkalinity(ppm)	Fish Species Present
Harrison Lake	17.2	27	.70	16	Largemouth - fathead minnows
Un-named Lakes					
4 - 11c	0.1	3	.05	115	Brook trout
5 - 8bb	0.5	13	.19	92	Brook trout
5 - 8bc	0.3	3	.08	129	Brook trout
5 - 16a	0.2	2	.08	113	Brook trout
5 - 16b	0.1	3	.05	107	Brook trout
5 - 16d	0.1	3	.05	97	Brook trout
9 - 6	0.2	1	.07	124	Brook trout
9 - 9a	0.3	4	.08	89	Brook trout
9 - 9ba	0.2	1	.11	90	Brook trout
9 - 9bc	0.4	2	.10	111	Brook trout
Total	19.6 acres		1.56 miles		

Stream	Area	Length	Ave. Width	MPA (ppm)	Fish Present
Beaver Brook	5.2	3/3 miles	13 ft.	109	Brook & Brown Trout

For this region of Wisconsin, the waters of Beaver Brook and associated spring ponds are highly productive as indicated by the relatively high methyl purple alkalinity levels of 89 to 129 ppm. This productivity has manifested itself in good densities of aquatic organisms and fish.

Soils Resource

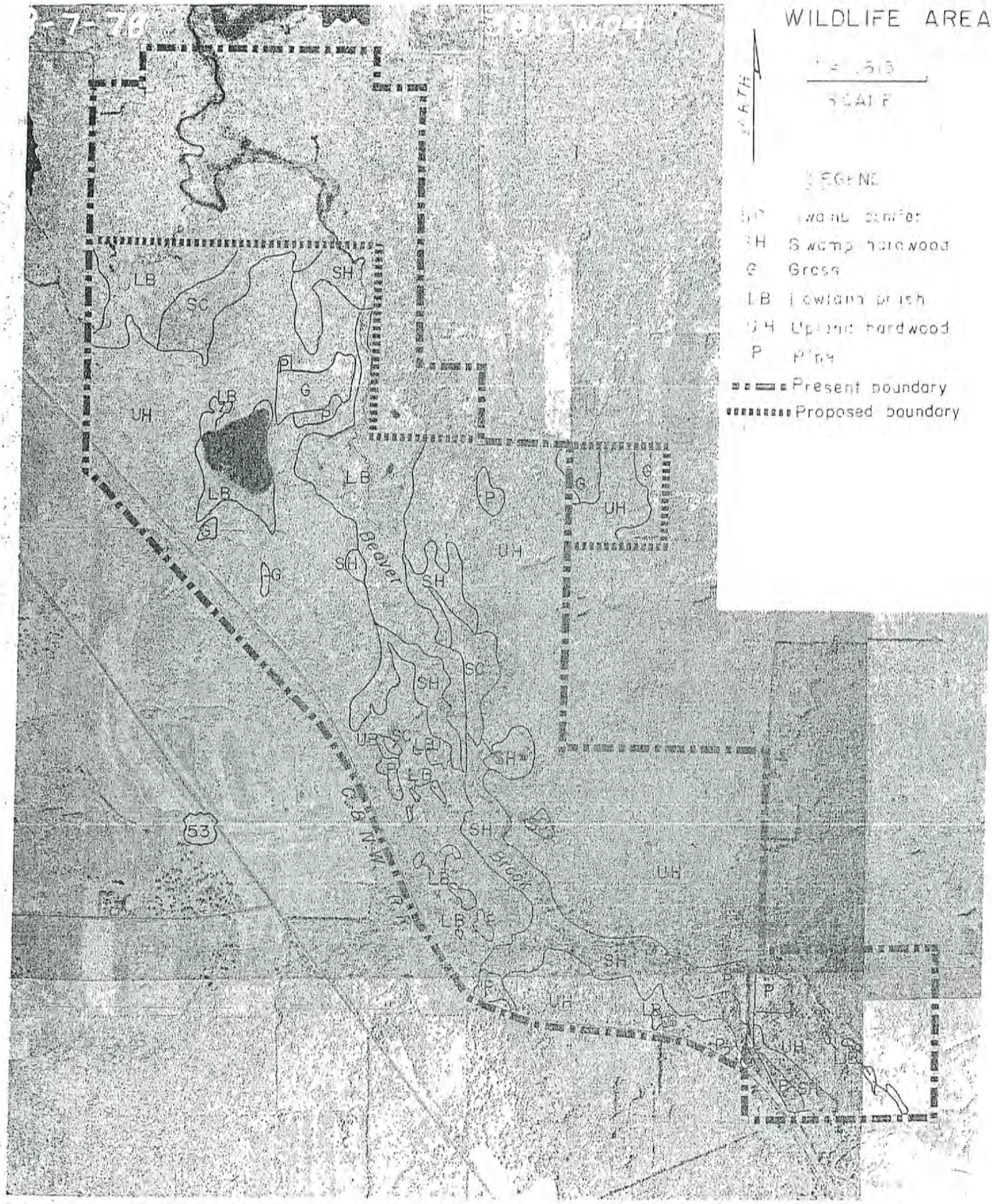
Soils of the Beaver Brook Wildlife Area are described in the Washburn County General Soils publication as Chetek-Pence-Omega Association. Soils are somewhat excessively drained and loamy, underlain by sand and gravel. Others are deep sandy soils on nearly level to moderately steep outwash plains and terraces.

Forest Resource (Figure 4, Table 2)

Beaver Brook Wildlife Area is 84% forested with primarily aspen and red oak timber types (Table 2). Since 1954, 279 acres of aspen have been harvested and regenerated. Still remaining are 250 acres in the 45-65 year age. These stands should be harvested in the next 10 years. Of the red oak, a majority is in the pole-sized class (55 to 60 years). Intermediate thinnings are scheduled for most of these stands with eventual harvest 40 to 50 years from now. A shelterwood system appears to be the most likely technique for regenerating this type.

Figure 4. Vegetation Cover Types

BEAVER BROOK WILDLIFE AREA



Swamp hardwood, swamp conifer, tamarack, northern hardwood, and red pine plantations will be managed according to normal silvicultural practices. The objective in white pine stands is "big tree" or old growth management.

Table 2. Forest Cover Types, Beaver Brook Wildlife Area

Cover Type	Acreage	Percent of Total Cover
Aspen	583	44.0
Oak	280	21.2
Swamp Hardwood	139	10.5
Swamp Conifer	22	1.7
White Pine	25	1.9
Northern Hardwood	23	1.7
Tamarack	21	1.6
Red Pine	7	0.5
Upland Brush	6	0.5
Grass, Field	24	1.8
Lowland Brush	163	12.3
Lake & Stream	30	2.3
Totals:	1,323	100.0

MANAGEMENT PROBLEMS

The area's close proximity to Spooner has resulted in several resource management problems:

1. Dumping of refuse in isolated locations off town roads.

2. Use of the area for parties by youth and the resulting can and bottle litter.

3. Unlawful use of the gated trails by motorcycles and 3-wheelers (motor-tricycles)

4. Theft of timber for use as firewood, i.e., cutting without a permit and cutting standing trees.

5. Vandalizing of gates, signs, and artificial nesting structures.

6. Storing, mooring fishing boats on Harrison Lake; leaving boats unattended is not permitted.

7. Unauthorized camping.

None of these problems presents major difficulties in property management. The solution to these problems is persistent patrol to enforce regulations and educate area users.

ALTERNATIVES

1. Manage according to the prescription shown in Section I. This is the recommended alternative.

   - Wildlife populations and recreational potentials will be maintained.

   - Wildlife program will incur annual maintenance-development costs.

2. Expand purchase area to include the wetlands of the Yellow River Flowage (approximately 200 acres).

   - Spend approximately $50,000 from wildlife acquisition fund.

   - Small increase in wildlife area maintenance costs.

   - Potential increase in recreational opportunities (presently there are trespass restrictions in effect).

   - Reduced opportunity to purchase land elsewhere in the state.

3. Expand purchase area to include adjacent uplands (180 acres, Section 4 and 9).

   - Spend an additional $50,000 from wildlife land acquisition fund.

   - Increase potential in recreational opportunities (these lands are presently posted against trespass).

   - Potential long-term increase in wildlife habitat and timber production (160 acres are presently being clearcut).

   - Increased wildlife program costs for maintenance-development activities.

- Reduced opportunity to purchase land elsewhere in the state.

4. Reduce size of wildlife area (sell)

   - Decrease in public recreation opportunity.
   - Long-term decline in game-wildlife production.
   - Decrease in costs to the wildlife, fisheries, and forestry programs.
   - Allow wildlife to purchase lands elsewhere in the state.

5. Maintain ownership, but do nothing.

   - Long-term decline in wildlife and forestry productivity; and recreational opportunity.
   - Reduced annual operations costs.
   - An increase in public use problems.
   - Stimulates public criticism of land stewardship.

6443K/perm

APPENDIX

Management Plan Comments

By: Stanley A. Nichols
Representing: Wisconsin State Geological and Natural History Survey
Date: July 17, 1985

This report doesn't meet the standards of the previous reports. There is no section giving a good legal description of the area. There is no section providing information about soils or geology. The information provided on the biota is scanty. The fishery and forestry aspects of the project are described much better than are the wildlife.

DNR Response:

The necessary text on soils and geology has been incorporated into the Management Plan. Legal descriptions are of little value to the reader. The Department regrets that the brevity of the plan does not meet up to State Geological and Natural History Survey standards. The Department feels the information on biota is sufficient to meet the needs of the management plan.

By: John L. Brown, County Clerk
Representing: Washburn County
Date: June 21, 1985

No comment.

By: Dick Lindberg
Representing: Wild Resources Advisory Council
Date: June 28, 1985

The plan direction resulting from the selected alternative appears sound and should provide good habitat for deer, grouse, and squirrels. Alternative 1 is the only alternative that addresses habitat management changes. Alternative 5 is a "do nothing" and the remaining alternatives only address land area. There is no reference to threatened and endangered plan and animal species and only scant reference to other nongame species. Because the property is in a region of the state used fairly intensively for recreation, it may be beneficial to add an emphasis for species of plants and animals in these categories. The Council is concerned that the boundary changes proposed may pose a threat to the integrity of the wetlands. Was a consideration given to the designation of natural areas?

DNR Response:

There are no known endangered or threatened animals or plant species on the property. Protective measures will be taken in the event any are found. Additional text has been added to the plan on this matter. Boundary changes will not adversely affect wetland areas because they are protected by zoning and water rights rules. The Council has been contacted with regard to designation of natural areas.

6443K