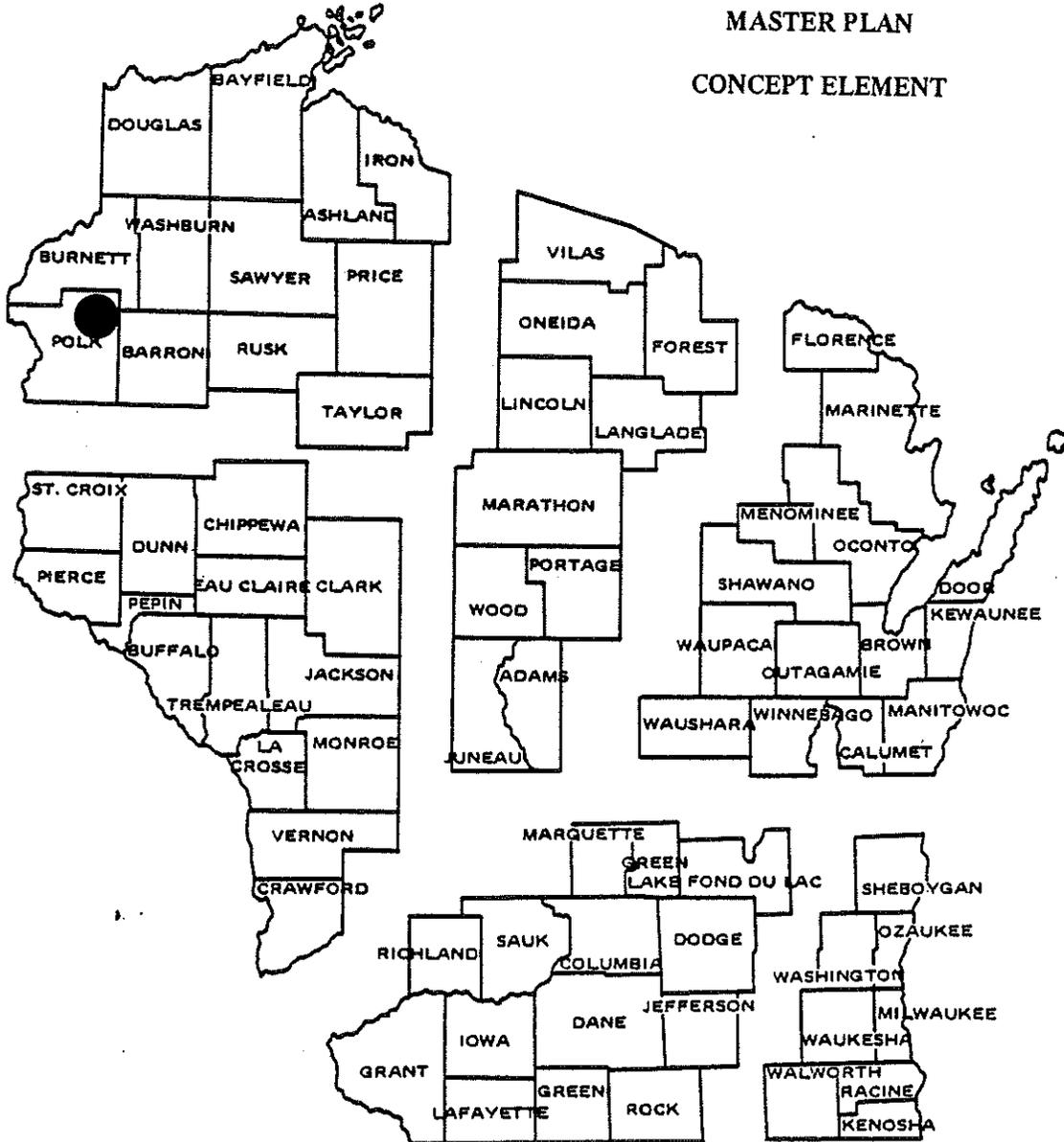


MCKENZIE CREEK WILDLIFE AREA

MASTER PLAN

CONCEPT ELEMENT



Property Task Force

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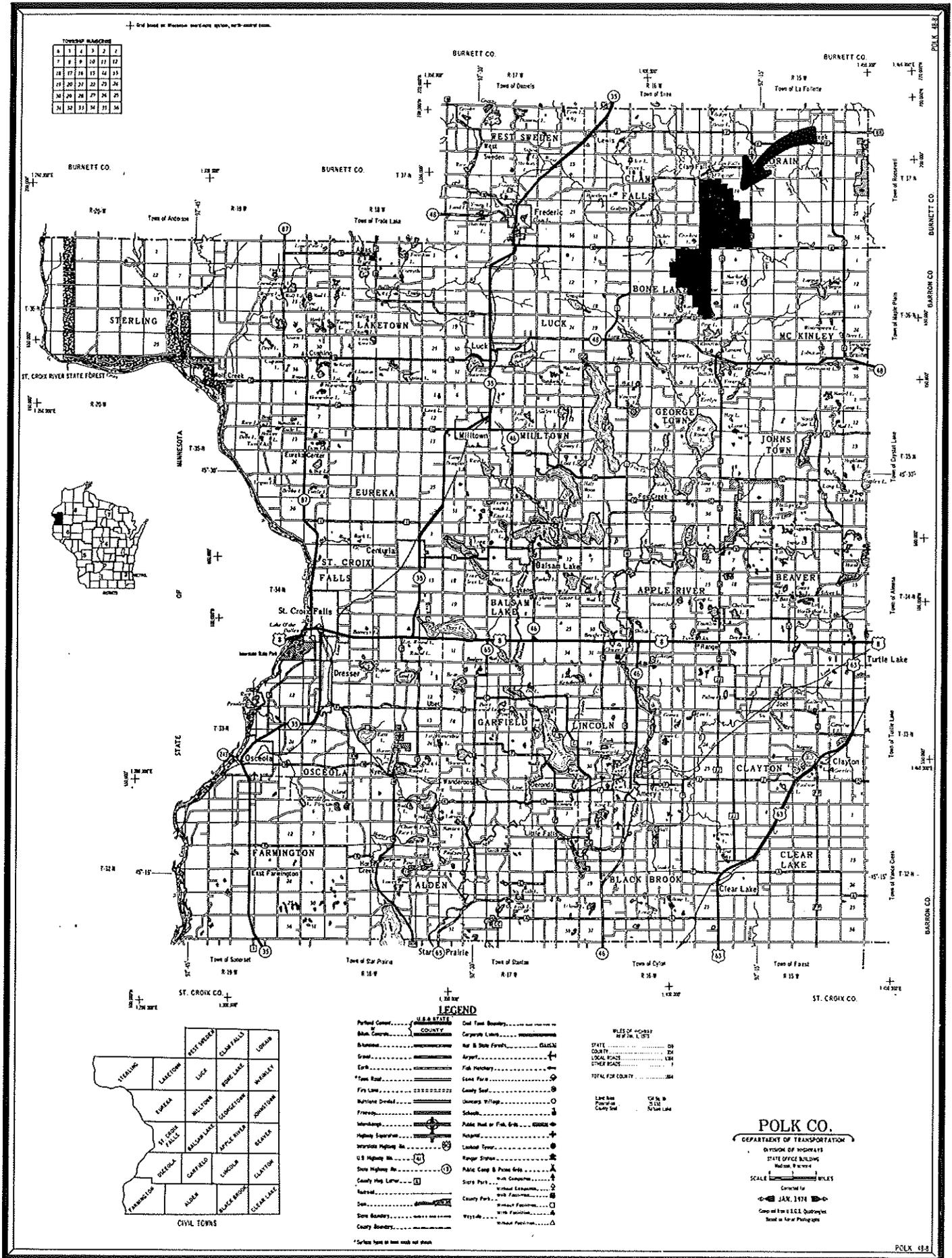


FIGURE 1 LOCATOR

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SECTION I - ACTIONS
GOALS, OBJECTIVES AND ADDITIONAL BENEFITS

Goal

To manage a state-owned wildlife area for the production of forest wildlife and the enhancement of the cold water fishery resources, to preserve and protect the scenic quality of the property including four natural lakes and one flowage, and to provide for compatible outdoor recreation and education.

ANNUAL OBJECTIVES

1. Provide 6,000 participant days of hunting opportunity as follows:
 - a. Deer - 3,500
 - b. Ruffed grouse and woodcock - 1,500
 - c. Other small game - 1,000
2. Provide 3,000 angler days of trout fishing opportunity averaging .7 trout per fishing hour^s and provide 2,700 angler days of other fishing opportunity.
3. Maintain a winter deer herd of 400-500 deer.
4. Protect three lakes for aesthetic, scientific and educational purposes.
5. Maintain a minimum of one bald eagle and one osprey nesting territory.

ANNUAL ADDITIONAL BENEFITS

1. Provide an average harvest of 200 muskrats and 15 beaver as well as hunting and trapping opportunities for other furbearers.
2. Accommodate 5,000 participant days of non-hunting and fishing recreation.
3. Contribute toward the habitat of other wildlife including migratory and indigenous endangered and threatened species.
4. Provide a harvest of 750 cords of merchantable timber.

RECOMMENDED MANAGEMENT AND DEVELOPMENT PROGRAM

McKenzie Creek Wildlife Area is a highly productive and unique area in Polk County (Figure 1). It serves as habitat for many forms of wildlife and has special distinction as habitat for the largest wintering deer herd in Polk County. It also contains 13.8 miles of Class I and II trout streams and three lakes which qualify for Wild Lake or Scientific Area designation. In addition, the property's large size and mostly walk-in access provides the user a high quality outdoor experience.

Acquisition (Figure 2)

The acreage goal is presently 5,680.5 acres of which 5,317.16 acres (93.6%) are currently state-owned at a cost of \$296,629.66. The remaining acreage (363.34) will be acquired as landowners are willing to sell. No change in boundary or acreage goal is recommended.

Land Use Designations (Figure 3)

Most of McKenzie Creek is designated a Fish and Wildlife Management Area (RD₂). This land use designation will permit habitat management for wildlife and fishery resources found on the area. It will also provide for utilizing the commercial value of wood products resulting from habitat management actions.

Margaret and Dinger Lakes are designated as Wild Lakes (A₂). Tula Lake, because it is an excellent example of a northern bog lake, is recommended for Scientific Area designation. McKenzie Lake and the Clam Falls Flowage have developed public accesses. The DNR owned shorelines of these two lakes are in a natural state and future management will preserve this aspect of the two lakes.

Planned Management

Wildlife

Nearly all management will be directed at enhancing forest wildlife habitat and productivity. Very little opportunity exists for waterfowl or farm wildlife management. However, it should be noted that some natural population of wood ducks and mallards occur on the property.

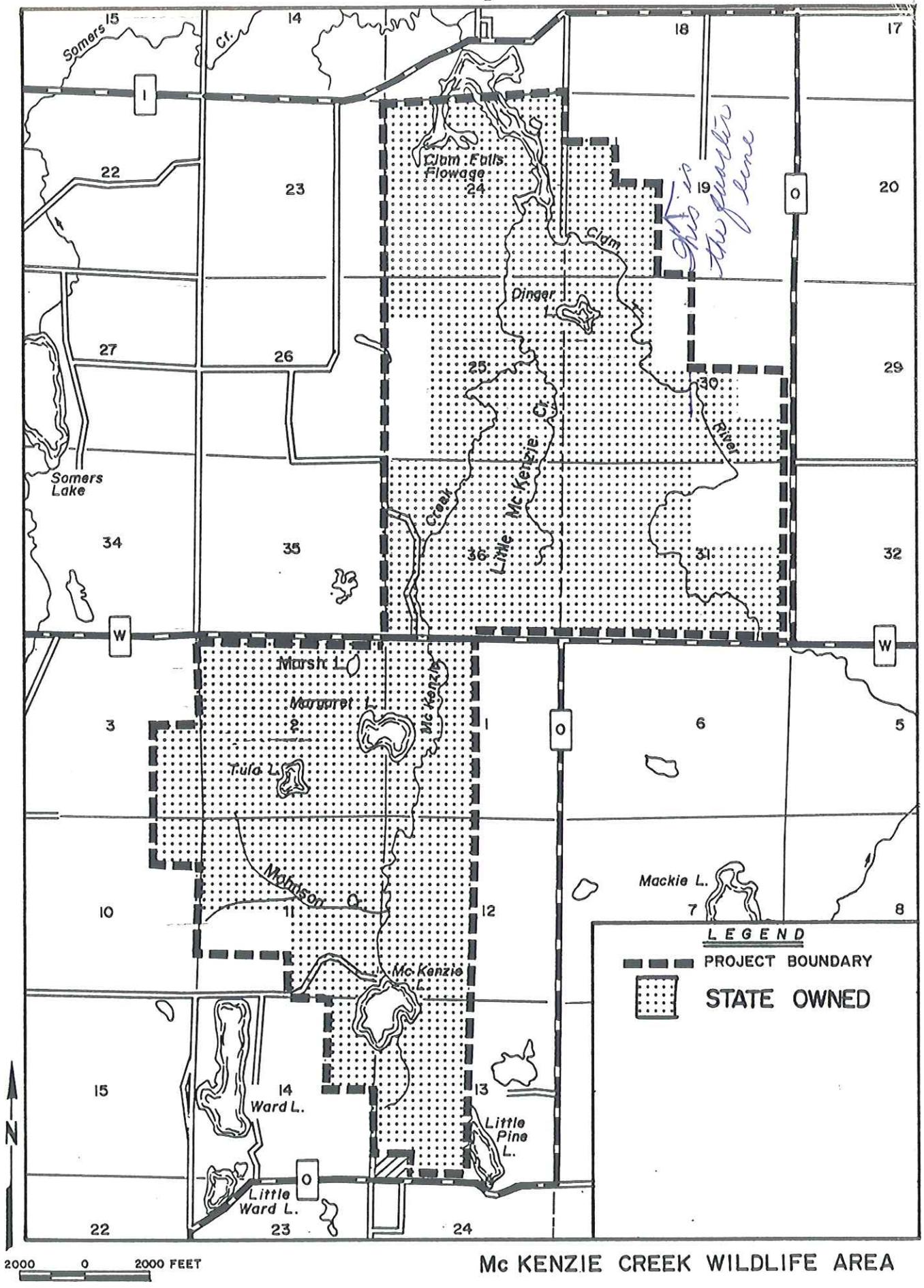


FIGURE 2 BOUNDARY AND OWNERSHIP

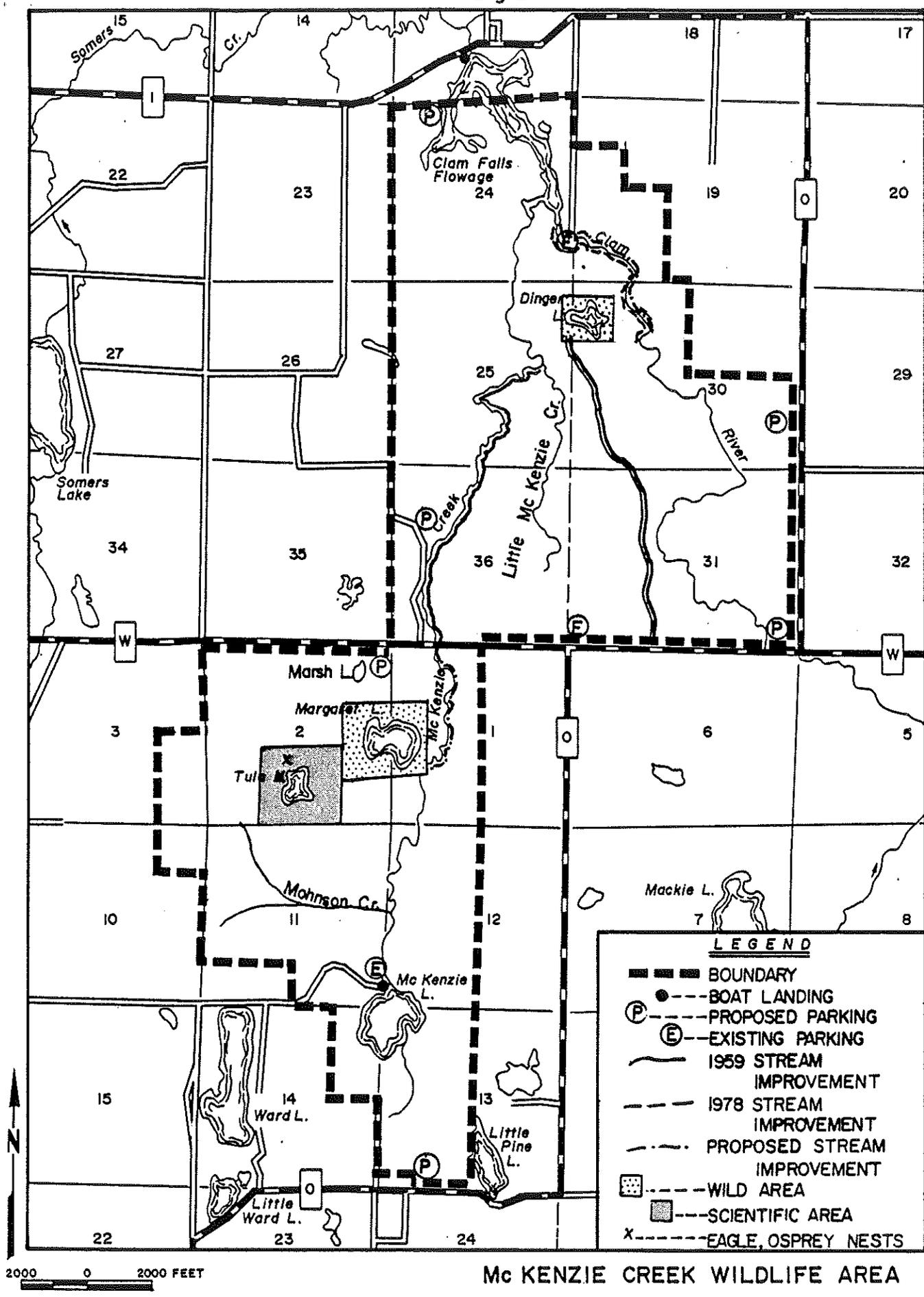


FIGURE 3 EXISTING AND PROPOSED DEVELOPMENT

Forest wildlife management will consist primarily of vegetation manipulation using commercial timber sales and non-commercial cutting. A high interspersion of forest stands of different ages and types will be the major goal. About 60 acres of aspen per year can be harvested for pulpwood and 20 acres of hardwood for logs and pulpwood. Cut areas will be kept small (10-15 acres). This will offer optimum winter deer and ruffed grouse habitat and also provide for the needs of a variety of non-game species. Trails created from logging will be located to minimize erosion potential and will be seeded to legumes following their use. The trails will be occasionally mowed so they may be used again in future timber sales and other project activities.

Oak and aspen will be maintained on existing sites. Northern hardwoods will be maintained on the best sites and poorer sites will be clearcut to encourage aspen and oak. Coniferous cover important to wintering deer, will be maintained where it now exists and an additional 100 acres will be planted to white spruce to provide future winter cover. Forest management adjoining the Wild Lakes and Scientific Area will follow established DNR guidelines.

Non-commercial timber management will be used to selectively manage small areas for winter food and cover for deer to encourage important wildlife food shrubs and trees, and to perform timberstand improvement in selected northern hardwoods, pine and oak stands. This work will probably not exceed a maximum of 15-20 acres per year.

Little opportunity exists for encouraging old growth timber stands but some relatively large white pine will be left uncut for wildlife use and aesthetics. In addition, some northern hardwood stands will be managed to provide a small component of old-aged forest.

Additional management aimed primarily at non-game species includes snag management and maintaining the small openings which naturally occur and which also result from timber sales. The planned high interspersion of age classes and forest types will also be very beneficial to non-game wildlife species by producing a habitat structure which will be more diverse than that which would occur naturally.

Management in and around the osprey and bald eagle nests will follow established DNR guidelines. The planned timber sale activity will not adversely affect red-shouldered and Cooper's hawks which are found on the property.

Provided funding can be obtained, a complete survey will be conducted to determine the status of endangered or threatened species as well as to identify further management needs. In the interim, all areas of development will be examined for the presence or absence of endangered or threatened species and appropriate protective measures will be taken to protect significant sites. If any sites are found during development, construction will be suspended until the Office of Endangered and Nongame Species (DNR) is consulted.

All areas of future development will also be investigated for the presence or absence of historical or archaeological sites and appropriate protective measures taken to protect significant sites. The State Historical Preservation Office will be consulted prior to the initiation of ground disturbance activities.

Fisheries

Margaret, Dinger and McKenzie Lakes, as well as the Clam Falls Flowage will be managed for warm water fisheries. Management will consist of watershed protection and fish stocking and/or removal when necessary. Marsh and Tula Lakes will not be managed for sport fisheries because of repeated winterkill.

Access to all lakes will be "walk-in" with the exception of McKenzie Lake which has a developed boat landing and the Clam Falls Flowage which has a boat landing outside the boundaries of the wildlife area. Outboard motors will not be allowed on any of the lakes except the Clam Falls Flowage and motors used in DNR management and enforcement activities. These lakes are small and do not lend themselves to recreational boating. A quiet, primitive aspect is essential to the rearing of wildlife young - especially waterfowl and shore birds. Most local users support the "no-motor" rule.

Portions of 13.8 miles of trout streams will require instream habitat management to maintain and enhance their productivity of trout. Beaver are a major problem and efforts are needed to keep beaver populations at a minimum on these streams. Degradation of trout habitat by beaver is a continuing threat and will require constant management. Normal trapping pressure has not been sufficient to control beaver on these streams and special extended beaver seasons have been used since 1977. If beaver populations cannot be adequately controlled by trappers, new approaches such as contract trapping and negative aspen management will be explored.

Currently, there is no manpower available to remove inactive beaver dams and other obstructions such as fallen trees which impede water flow. LTE funds or volunteer aid are needed to periodically remove these obstructions.

Instream improvement work will be conducted on a 2,200 foot stretch of the Clam River. This work will include installation of wing dams, boom covers and riprap as needed. The cost will range from \$20,000 to \$40,000 utilizing trout stamp funds. Removal of beaver dams and some clearing of logs and debris from the stream channel will also take place.

Instream improvement work will take place on McKenzie Creek south of County Highway "W". Streambank brushing, brush bundles, wing dams, boom covers, and riprap will be placed on a 4,000 foot stretch of stream as needed. The cost will range from \$20,000 to \$50,000, depending on the number of instream devices necessary. Again, trout stamp monies will be used. The open marsh just north of County Highway "W" will eventually be overtaken by woody vegetation and mechanical streambank brushing will be necessary.

Mohanson Creek needs streambank brushing in selected areas, but this is not critical due to the small size of the stream.

Little McKenzie Creek will need a fishery survey to determine future management needs.

Trails will have to be constructed where necessary during stream improvement projects to get materials to worksites. Trails that can also serve as access to future timber sales and forest habitat projects will be gated, seeded and maintained as forest openings. The remaining trails will be allowed to revert back to a natural state once habitat work is completed.

Public Use

Walk-in access will be encouraged on McKenzie Creek. By limiting all access to the interior of the property to foot travel, it is expected that the relatively "wild" condition and aspect of solitude can be maintained on McKenzie Creek. No vehicles will be permitted in the interior of the property. All parking areas will be located on the periphery of the property. Because of the large number of deer using the property in winter, snowmobiling will not be permitted. However, access across the eastern boundary may be provided in conjunction with county trail needs.

Cross-country skiing will be permitted but it will not be encouraged by marking trails. If skiing becomes a significant activity in the future and if it conflicts with wintering deer, it may be restricted to a marked trail away from the major deer concentrations.

A small amount of primitive camping will be permitted during the hunting season only. Campers will be required to obtain a permit in advance from the property manager and will be confined to the parking lots.

General

Timber sales along the lakes and streams will be conducted following instructions found in the DNR guidelines. Generally, this requires a 2-chain aesthetic zone to help prevent erosion on the steep banks near the water. In addition, not regenerating aspen within 100 yards of the trout streams will assist in controlling beaver on the streams by decreasing the amount of easily available food. This does not preclude the cutting of brush and/or trees along the lakes or streams for the purpose of fisheries management.

Additional parking areas will be developed as shown in Figure 3. Long term maintenance will include upkeep of the parking areas, fence line maintenance and boundary posting, stream devices, trail gates and property posting.

SECTION II - SUPPORT DATA BACKGROUND INFORMATION

The McKenzie Creek Wildlife Area is located in the northeastern part of Polk County in portions of the Townships of Bone Lake, Clam Falls and Loraine. The wildlife area is located 8 miles east of the Village of Frederic and directly south of Clam Falls.

The wildlife area was established in 1945 by the Wisconsin Conservation Commission. The purposes for establishing this property was because it is the largest winter deer yarding area in Polk County, for watershed protection and for public access for four trout streams. The area had been a popular hunting and fishing area for many years.

Between 1945 and 1950, 2,370 acres were acquired by the state north of County Trunk "W". In 1958, the Wisconsin Conservation Commission initiated a (Pittman-Robertson) federal aid project (W-110-L). Approval of federal aid for acquiring and developing the wildlife area was received in 1960.

Between 1962 and 1964, an additional 1,150 acres of land south of County W was purchased for wildlife and fish management purposes using Dingell-Johnson funds (F-75-L). These lands were, subsequently, incorporated into one DNR property for ease and continuity of management.

The wildlife area is unique because it is a large undeveloped tract of forest land within a fairly populated county (30,594 in 1979). The wildlife area is six miles long and has a maximum width of two miles. Access to the interior is primarily by foot, providing a more wilderness type experience. The many miles of good quality trout water and the good fishing lakes are an important feature of the property. Four lakes on the property are almost in a totally natural condition. McKenzie Lake has a public boat landing and two other lakes have walk-in trails. There are no lakeshore dwellings present except on the Clam Falls Flowage.

Current public use of the area centers around hunting, fishing, trapping, cross-country skiing. Sightseeing is increasing annually. The Polk County outdoor recreation plan estimates that most of the visitations on large tracts of public land in Polk County come from hunters and fishermen. Approximately 50% are out-of-state residents.

A primary consideration has been to maintain the area in a semi-wild, mostly undeveloped state. Camping and picnic areas, interior roads and other such developments have been avoided as much as possible.

Management efforts have primarily focused on improving available browse for wintering deer. Timber areas, generally aspen, have been clearcut to develop a young stand of trees for deer summer range and browse production. Two commercial timber sales have been conducted in recent years and more are planned. In order to improve winter yard cover for deer, 4,000 red pine and 26,000 white spruce have been planted. During severe winters when starvation conditions exist, emergency browse cutting is utilized; area sportsmen clubs have assisted in this effort.

Two trout stream improvement projects have taken place. An intensive, instream development project on a three mile segment of McKenzie Creek was undertaken in 1959. Stream bank brushing and half-log installation was conducted on a half mile of the Clam River in 1978.

In addition to regulations standard to all fish and wildlife areas, there are two additional restrictions which apply to portions of the wildlife area. The first restriction is the prohibition of the use of outboard motors on McKenzie Lake. This originated with the Polk County Conservation Congress in the 1960's and has been part of the Administrative Code for many years. The second restriction is a deed restriction on the property purchased from Carl and Mamie Larsen location in section 1, 2 and 3 in Township 36 North, Range 16 West, containing 1,013 acres. The restrictions are as follows:

1. These lands shall be known as the "Carl M. Larsen and Mamie A. Larsen Wilderness Unit".
2. These lands shall never be used for commercial or residential development.
3. These lands shall be kept in a natural condition and managed only to the extent necessary to protect the resources under approved forestry, fishery, and wildlife techniques.
4. Campfires will be permitted in designated areas only.
5. Snowmobiles will be permitted on designated trails only.
6. Access will be limited on Margaret Lake. Only walk-in access will be allowed and no motors permitted.

The violation of any of the restrictions aforesaid shall effect a reversion of title to the grantor if she be living or a transfer to title to the National Audubon Society, if grantor shall not be living, and such reversion, or transfer shall be self executing and immediate and shall require no action on the part of either of said parties.

RESOURCE CAPABILITIES INVENTORY

Soil Geology and Hydrology

The area can best be described as a rolling, hilly glacial moraine characterized by deep revines along the streams. Bedrock geology consists of massive mafic volcanic rocks of Middle Proterozoic (Precambrian) age. Although trace amounts of chalcopyrite are known from bedrock outcrops within the boundary of the wildlife area, the bedrock is not believed to contain any major metallic mineral occurrences for a variety of geologic reasons, including massiveness of the rocks, metamorphic grade and presumed stratigraphic position. Northern Polk County was covered by three separate advances of the continental glaciers. The Wisconsin (Cary) ice sheet produced a rough recessional moraine with till generally less than 50 feet thick that characterizes the McKenzie Creek area. Soils were further influenced by a loess blanket that was deposited shortly after the glacier receded.

In the wildlife area, the influence of the silt (loess) cap was relatively minor, being only a few inches thick. Soils of the area range from muck, peat and associated wet loams (calde series) in depression areas to well to imperfectly drained loams (Amery, Santiago, Freer, and Onamia series) on the uplands. The hillside soils of the moraine are sandy loam up to 20 inches thick over compact sandy subsoils. Surface runoff is generally slow and these soils have moderate permeability. The available water capacity is low, and wind and water erosion are a severe hazard when the lands are cultivated. Agricultural usages, therefore, are not recommended by the Soil Conservation Service. Upland soils are loams with some silt loams interspersed and underlain by sandy and gravelly glacial drift.

The McKenzie Creek area normally receives just under 30 inches of precipitation; approximately 18-20 inches is lost through evapo-transpiration which is average for a forested area. The remainder is lost to runoff, ground water recharge, soil moisture storage and evaporation. The sandy soils do not produce appreciable runoff events. Only during spring snowmelt does surface runoff result in a significant increase in stream flows. Ground water is the greatest contributor to the lake levels and stream flows, and levels usually remain constant during normal years.

Fish And Wildlife

A large number of birds common to northern Wisconsin inhabit the wildlife area both on a seasonal and permanent basis. Management of game birds is specifically directed at ruffed grouse. Secondary effects (i.e. by maintaining a diverse managed forest) will benefit songbirds and other non-game birds.

The wildlife area currently contains all mammal species common to the aspen and northern hardwood forest type. The major game species are the white-tailed deer, ruffed grouse, woodcock, snowshoe hare, and gray squirrel. Bear, beaver, otter, muskrat, mink, coyote, and fox are also present and offer trapping and hunting opportunities.

White-tailed deer have established a long tradition of wintering on the area. During periods of deep snow, it is not uncommon to find up to 500 deer using the forested areas.

Reptiles and amphibians common to this region may be found throughout the wildlife area. To date, no complete survey of these species has been completed.

Cold water fish habitat is provided by four trout streams. Management of these streams is directed at brown trout and brook trout. A list of the fifteen fish species believed present in these streams is as follows:

Brook trout	Blacknose dace
Brown trout	Longnose dace
Northern pike	Johnny darter
Largemouth bass	White sucker
Bluegill	Common shiner
Brown bullhead	Creek chub
Mottled sculpin	Hornyhead chub
Central mudminnow	

Four warmwater lakes are managed for northern pike, largemouth bass, and panfish. A list of the eight species present in these lakes are as follows:

Northern pike	Pumpkinseed
Largemouth bass	Brown bullhead
Yellow perch	White sucker
Bluegill	Black crappie

Bald eagles and osprey are the only endangered species known to use the property. One pair of each species has nested on the wildlife area in past years. Threatened species known to use McKenzie Creek are the red-shouldered hawk and Cooper's hawk. Red-shouldered hawks are known to nest and Cooper's hawks are believed to nest.

Other species occurring that are unique or have received recent attention due to their unknown or changing status are the common loon, great blue heron, harrier (marsh hawk), otter, and bobcat. A fisher sighting was reported in 1979 from northern Polk County and their establishment on the property is a distinct probability.

Vegetative Cover (Figure 4)

Forest reconnaissance was completed for the McKenzie Creek Wildlife Area in March, 1972.

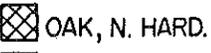
The majority of the area is covered by two primary types; aspen and oak/northern hardwoods (Table 1). Combined acreages of these two types totals nearly 3,200 acres. Other major vegetative types found on the project include; white pine, swamp hardwood and other miscellaneous species. Because of funding limitations, an inventory of the remaining vegetation community has not been completed. As a result, verification of the presence or absence of endangered or threatened species cannot be obtained.

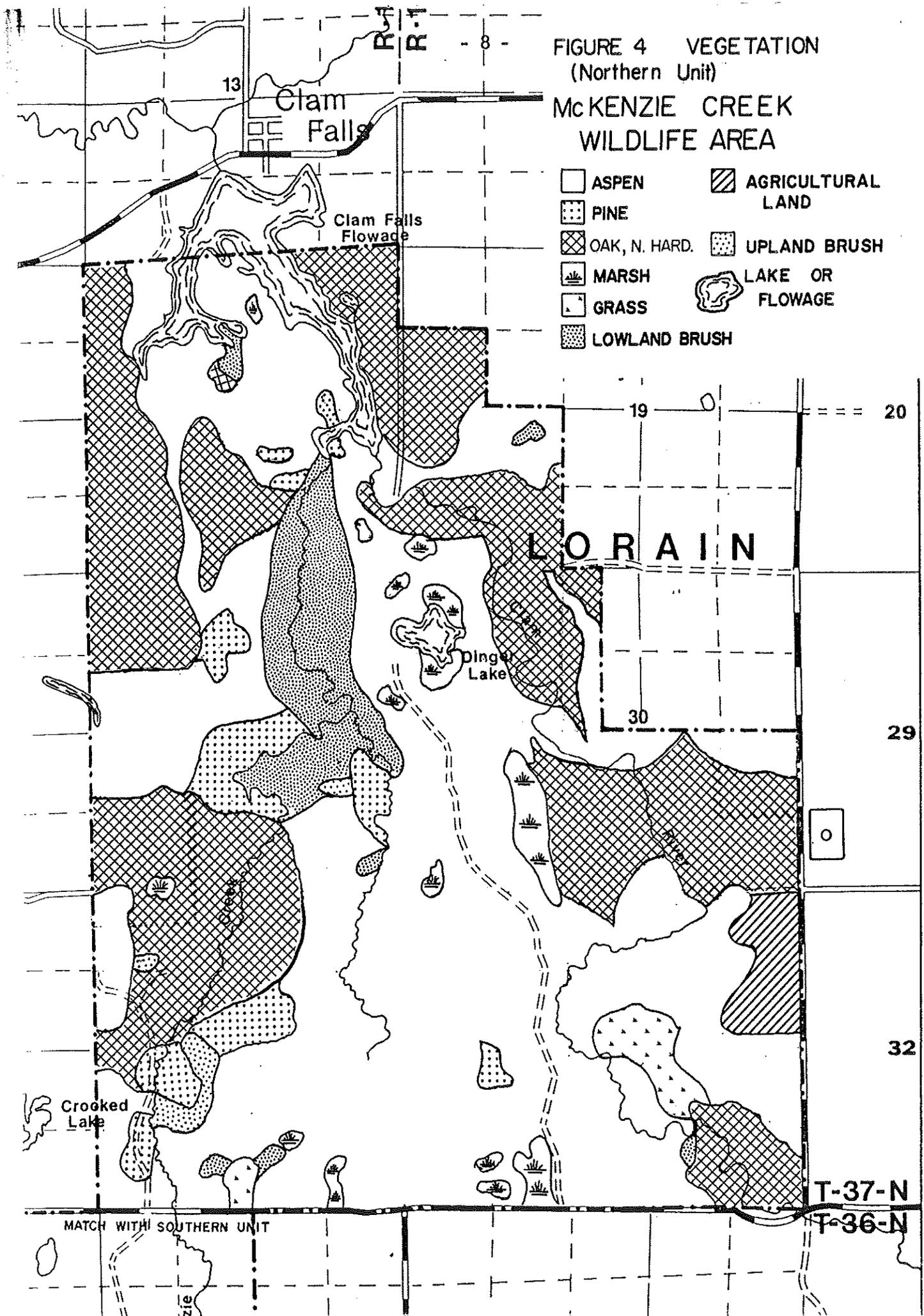
Table 1 - Vegetative Cover

<u>Cover Type</u>	<u>Acres</u>
Aspen	2,772
Northern Hardwoods	474
White Pine	141
Red Pine	21
Swamp Hardwoods	384
Swamp Conifer	47
Oak	938
Muskeg	37
Tamarack	117
Grass & Field	186
Upland Brush	46
Water	234
White Spruce	7
White Birch	22
	5,426 (Total area of reconnaissance)

FIGURE 4 VEGETATION
(Northern Unit)

McKENZIE CREEK
WILDLIFE AREA

- | | | | |
|--|---------------|---|-------------------|
|  | ASPEN |  | AGRICULTURAL LAND |
|  | PINE |  | UPLAND BRUSH |
|  | OAK, N. HARD. |  | LAKE OR FLOWAGE |
|  | MARSH |  | GRASS |
|  | GRASS |  | LOWLAND BRUSH |
|  | LOWLAND BRUSH | | |



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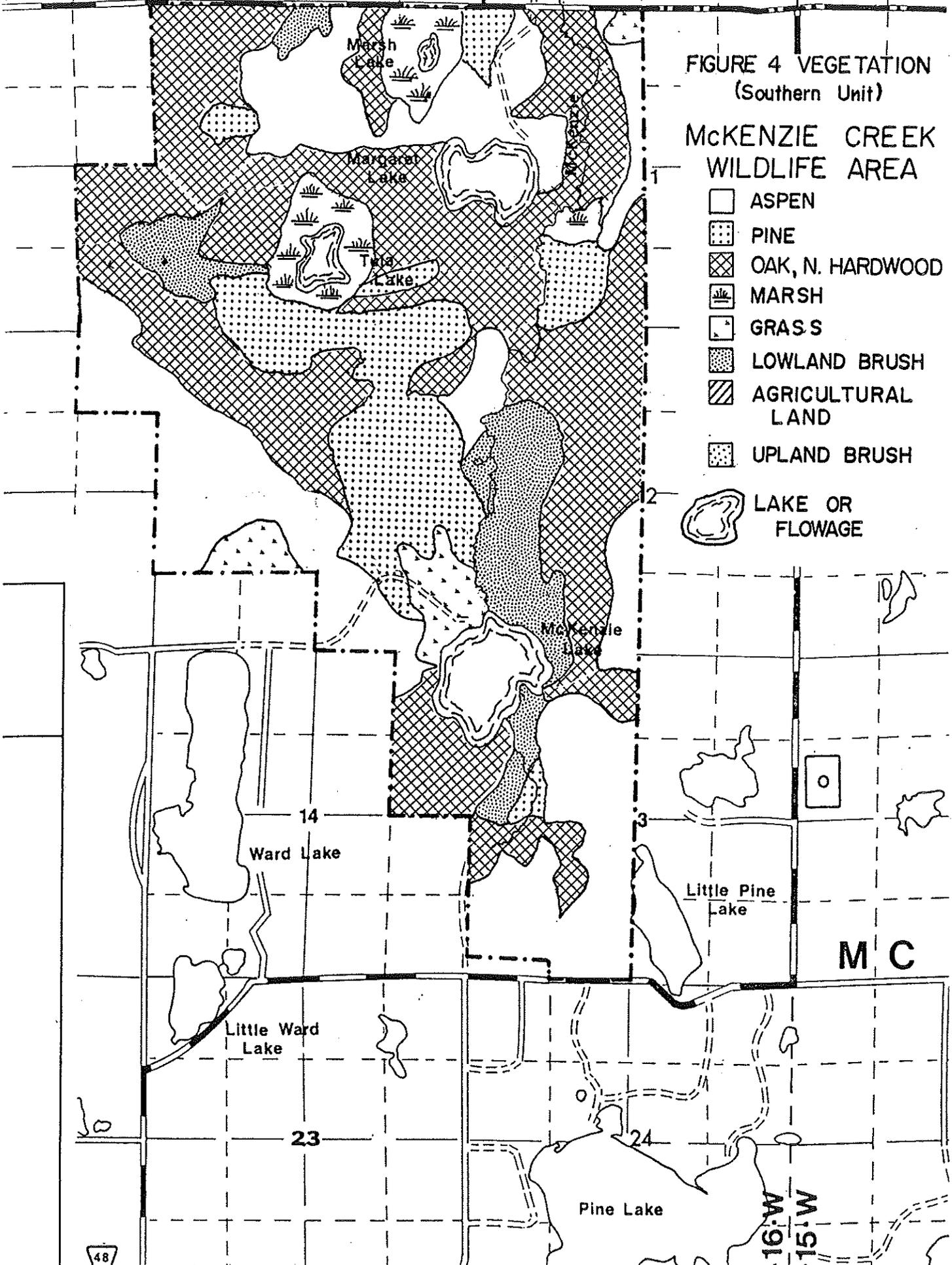
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MATCH WITH NORTHERN UNIT

FIGURE 4 VEGETATION
(Southern Unit)

McKENZIE CREEK
WILDLIFE AREA

- ASPEN
- ▤ PINE
- ▨ OAK, N. HARDWOOD
- ▧ MARSH
- GRASS
- ▩ LOWLAND BRUSH
- AGRICULTURAL LAND
- UPLAND BRUSH



Water Resources

Four trout streams lie entirely or partly within the wildlife area. Six lakes lie within the boundaries of the wildlife area. The water resources range from Class I trout streams and lakes with public access to wilderness type lakes with walk in access only.

Table 2 - Water Resources

<u>Name</u> (Rivers & Creeks)	<u>Length or Acreage</u>	<u>Fishery</u>
Clam River	4.4 miles	Class I Trout
Little McKenzie Creek	1.4 miles	Class I Trout
Margaret Lake Outlet	0.6 miles	Forage Minnows
McKenzie Creek	4.6 miles	Class I Trout
McKenzie Creek	2.0 miles	Class II Trout
McKenzie Creek	1.0 miles	Forage Minnows
Mohnson Creek	1.4 miles	Class II Trout
 (Flowages & Lakes)		
Clam Falls Flowage	127 acres	N. Pike, LM Bass, Panfish
Dinger Lake	15 acres	N. Pike, LM Bass, Panfish
Margaret Lake	43 acres	N. Pike, LM Bass, Panfish
Marsh Lake	4 acres	None
McKenzie Lake	57 acres	N. Pike, LM Bass, Panfish
Tula Lake	15 acres	None

Clam River

The Clam River flows northward through the wildlife area into the Clam Falls Flowage, then continues to its confluence with the North Fork Clam River. The entire stream in the wildlife area (4.4 miles) is Class I Trout water. Brook trout are abundant and brown trout are present. Natural reproduction is excellent. Size of most trout run small. Only five percent of the brook trout captured in a 1979 survey were greater than 7.5 inches, and the largest was 10.4 inches. Food and cover are factors limiting the size and growth of trout.

The Clam River has a moderate gradient and a flow of about 15 cfs. The stream flows through forested terrain, and dense tag alder stands occur on the streambanks. The water is stained a very light brown and has an alkalinity of 22 ppm. Aquatic vegetation is scarce. Primary bottom types are gravel, sand and rubble. In 1978, streambank brushing was carried out on 2,200 feet of stream thread, and one hundred half-logs were also placed in this area.

Little McKenzie Creek

The entire 1.4 miles of Little McKenzie Creek lie within the wildlife area. The entire stream is Class I Trout water. Brown and brook trout are present, but a population survey has never been conducted. Little McKenzie Creek flows through hardwood forest and enters McKenzie Creek. The stream has a flow of about 4 cfs, the water color is clear and has an alkalinity of 68 ppm.

Margaret Lake Outlet

This is an intermittent stream which flows for 0.6 miles from Margaret Lake into McKenzie Creek. It is a warmwater stream suitable only for forage minnows.

McKenzie Creek

This stream originates about .5 miles south of McKenzie Lake and flows northward through McKenzie Lake and eventually into the Clam Falls Flowage. The entire stream lies within the wildlife area. The lower 6.6 miles of stream are trout water, of which the 2.0 miles upstream from Highway "W" are Class II and the 4.6 miles downstream from Highway "W" are Class I. Brown trout are abundant and brook trout are present to common. Brook trout are found in greatest numbers upstream from Highway "W". The size distribution of trout is good, with many fish of desirable size present.

The lower 4.0 miles of stream flows through a narrow, forested valley. The stream has a moderate to high gradient and an excellent pool-riffle ratio. This area has very high scenic value. The upper 3.6 miles of stream flow through swamp hardwoods and open marsh. The gradient is somewhat lower and beaver have caused some damage to this portion of stream.

McKenzie Creek has an average flow of 19 cfs. The water color is clear, and has an alkalinity of 99 ppm. Intensive instream habitat development was accomplished in 1959 on about three miles of stream. This work included wing dams, bank covers, rock revetment, low dams and brush covers. Most of these structures have washed out or silted in and are no longer functional.

Mohrson Creek

This small creek (2 cfs) flows for 1.8 miles through the wildlife area and enters McKenzie Creek. It is considered Class II Trout water and contains brook trout. Tag alders border the stream, which flows through swamp hardwoods. The water is stained light brown and has an alkalinity of 72 ppm.

Clam Falls Flowage

The Clam Falls Flowage is a 127 acre impoundment on the Clam River. About two-thirds of the shoreline is within the wildlife area. The unincorporated Village of Clam Falls lies adjacent to the flowage. A twenty-eight foot head power dam maintains the lake level. McKenzie Creek and Maple Valley Creek also enter the flowage. A boat landing is located on the north shore off Highway "I".

The flowage has a maximum depth of 14 feet, but much of the flowage is only two to four feet in depth. Weeds and stumps are use problems in shallow areas. Much of the littoral bottom is muck. The water is normally clear and has an alkalinity of 76 ppm. Fish species present include northern pike, largemouth bass, bluegill, black crappie, brown bullhead, pumpkinseed, yellow perch and white sucker.

Dinger Lake

Dinger Lake is a 15 acre landlocked lake with a maximum depth of 12 feet. The lake is subject to occasional, partial winterkill. No survey has been conducted on Dinger Lake, but it is reported to contain largemouth bass, northern pike, and panfish. The water is clear and has an alkalinity of 8 ppm. The shoreline is entirely forested. Littoral bottom types are sand and muck. An unimproved logging trail runs near the lake, but no boat launching facilities are available.

Margaret Lake

Margaret Lake is a 43 acre lake with an intermittent outlet to McKenzie Creek. The lake has a maximum depth of 17 feet and winterkill has not been documented. The lake has not been surveyed but is reported to contain northern pike, largemouth bass and panfish. The water is clear and has an alkalinity of 88 ppm. Sand and muck are the main littoral bottom types. The shoreline is entirely wooded. There is no improved access.

Marsh Lake

Marsh Lake is a four acre landlocked lake. It has a maximum depth of only four feet and does not contain a fishery. There is no improved access.

McKenzie Lake

McKenzie Lake is a 60 acre lake located on the upper end of McKenzie Creek.

The outlet flow is approximately 12 cfs. The lake has a maximum depth of 25 feet, and winterkill is not a problem. This lake has not been surveyed, but is reported to contain largemouth bass, northern pike and panfish. The lake is surrounded by forested land. Littoral bottom types are mainly gravel and muck. The water is clear and has an alkalinity of 118 ppm. A boat landing is located at a town road ending on the north shore of the lake.

Tula Lake

Tula Lake is a 15 acre lake with a maximum depth of five feet. The lake is subject to annual winterkill and does not contain a fishery. There is no improved access. The boggy shorelines contain such interesting plants as sundew and the pitcher plant.

Historical and Archaeological

The State Historical Society of Wisconsin was contacted in the spring of 1980 and responded that they knew of no historical or archaeological sites on the property, but the area has never been systematically examined for such sites. The Historical Society requested that until the area has been adequately examined, all management and development plans should be reviewed for their potential impact on archaeological or historical sites whose existence is presently unreported. Thus, the State Historical Preservation Officer will be consulted prior to the initiation of ground disturbance activities.

Land Use Potential

The McKenzie Creek Wildlife Area meets the criteria for a minimum of two potential land use classifications. The majority of the area should be classified as a fish and wildlife management area (RD₂). A Fish and Wildlife Management Area is defined as those lands and waters containing less than ideal natural conditions for the perpetuation and production of fish and wildlife, but can be developed for high production through management. This includes fish and game habitat as well as areas to protect animals, plants or whole communities that are endangered or of changing status.

The wildlife area is of sufficient size to qualify for wild area status and contains lakes that qualify for Wild Lake designation. The wildlife area in its entirety is not recommended for wild area status because of constraints placed upon management options. However, two lakes (Margaret and Dinger) are deserving of Wild Lakes designation (A₂) because of their undeveloped shoreline and aesthetic beauty. A no-cut aesthetic zone around the wild lakes shall be maintained and no development shall occur within the boundaries shown in Figure 3. In addition, interest in Tula Lake as a Scientific Area(s) has been expressed by the Scientific Preservation Council because it is an excellent example of a bog lake; about 90 acres has been designated for this purpose.

RESOURCE MANAGEMENT PROBLEMS

The McKenzie Creek Wildlife Area possesses some areas of excellent natural habitat for fish and game, but the overall area is characterized by a few major limiting factors.

One of the main problems in the past has been the severe over-browsing of the deer yard by wintering deer, resulting in a starvation problem during most severe winters. The potential for forest production on the area is fairly good. Much of the area is presently covered by commercial stands, but markets have been poor in the past, precluding regular timber sales. Conifer winter cover is also lacking on the area but most attempts in the past to establish small stands of spruce and pine have failed because of over-browsing by wintering deer. Future efforts to establish such cover will need careful site planning before implementation.

The destruction of trout habitat by beaver on the four trout streams in the wildlife area is a serious management problem. Keeping beaver populations and beaver dams to a minimum on these streams is of utmost importance.

Food and cover for trout are limiting factors on portions of these streams, and habitat work is necessary in these areas. Lack of improved access to many areas will make getting material to habitat improvement sites difficult. Except for removal of beaver, intensive management is not planned along McKenzie Creek downstream from C.T.H. "W". Any other trails programmed for needed stream improvement will be of a temporary nature and will be gated and seeded.

Little McKenzie Creek and McKenzie Lake have not had fish surveys which are necessary to provide proper management. Fish surveys will be difficult to conduct on Margaret and Dinger Lake due to the lack of an improved access.

The northern pike populations of Clam Falls Flowage, McKenzie and Margaret Lakes have access to the trout stream systems in the wildlife area and, therefore, predation of trout by northern pike is a problem. There is no practical method of eliminating this problem.

Dinger Lake suffers occasional partial winterkill, and periodic restocking may be necessary. Marsh Lake and Tula Lake suffer complete winterkill and do not support fish populations.

Misuse of the McKenzie Creek area is generally associated with non-fishing and non-hunting activities. The area has a high level of illegal snowmobile activity which is undesirable due to the wintering deer population. Illegal camping has been a problem in the past but patrol has lessened this problem. Littering and project sign and gate destruction by the public is a fairly common problem.

RECREATION NEEDS AND JUSTIFICATION

The 1977 preliminary population estimates for Polk County were 30,211 residents, a 13.3% increase over the 1970 total. Population projections indicate a rise to 38,167 people by 1990. The West Central Regional Planning Commission has indicated that Polk County will experience a 10% annual population increase or more.

The population increases in the area around the wildlife area may not exert as much pressure on the resource as some outside areas. The Minneapolis-St. Paul Metropolitan complex contains over 1.74 million people. The Eau Claire area currently has a population in excess of 100,000 people. The heavy use of the public lands in and around Polk County has been documented in other reports. It is this potential pressure that dictates an intensive management program for many public areas. Without such management, the increased use would cause deterioration of the resource. By 1990, some recreational opportunities may be limited and/or the quality diminished.

Fishing

The property currently experiences moderate to moderately heavy fishing pressure throughout the open fishing season on waters where access can be gained with little effort. Fishing pressure is light on waters where access can be gained only by a considerable hike, but with increased interest in recreational experiences in undeveloped areas, use of these waters will probably increase.

Both resident and non-resident fishing license sales have risen steadily in Polk County for the past six years. They totalled 11,526 licenses in 1976, are expected to increase to 12,864 in 1980 and to 18,000 plus by 1990. Fishing pressure and the need for additional public areas will also increase. Fishing areas, i.e. water, will remain the same, but use will double.

Hunting

Polk County presently has approximately 44,500 acres of public land (township, county and state) open to public hunting. However, almost half of this acreage is located in the northwestern part of the county. Hunting opportunities on private lands have declined during the past several years, and this has caused an increase in hunting pressure on public lands. Hunting license sales have increased similarly to the increase of fishing license sales in the past 10 years.

Activities other than the traditional hunting and fishing use of McKenzie Creek Wildlife Area are increasing. Backpacking, hiking, nature observation and cross-country skiing are but a few of the uses adding additional public use to the wildlife area. Because the area is a large undeveloped area with tremendous scenic beauty, cross-country skiing is becoming very popular on the wildlife area. The high visibility of wintering deer most likely is the main attraction.

ANALYSIS OF ALTERNATIVES

No Management

If all management practices were suspended, deterioration of fish and wildlife habitat would occur. The ability of the wildlife area to support a wintering deer herd would be diminished as the forest matures. Timber products which would be harvested as a by-product of wildlife habitat management would not be utilized. Beaver activity on the trout streams would continue to degrade trout habitat, possibly to the point where these streams could become marginal trout waters. Public use of the area would continue and vandalism, littering and property destruction could be expected without patrol and supervision.

Change in Management Direction

Alternative management practices that could be implemented on the project could emphasize a forest management program and increased non-wildlife recreation. Under both of these alternatives, wildlife habitat for wintering deer and ruffed grouse would deteriorate. With increased emphasis on forest management, timber stands would be allowed to become more mature and conversion of aspen acreage to northern hardwood would increase. Improvements for other forms of recreation like camping, picnic areas, etc. would not only be detrimental to fish and wildlife habitat but would degrade the present scenic, undeveloped area.

The above described type of management would also conflict with the original intent of the property, which was fish and wildlife management and watershed protection.

Enlarge or Reduce Property Size

The agricultural nature of surrounding lands coupled with rural homesite development limits the opportunity to expand the property boundary. The most feasible area for expansion is alongside the northwest border because of its habitat diversity consisting of upland and lowland timber, cropland, grassland, and brush. However, because this type of habitat is so abundant on county forest lands located in the vicinity, additional purchase does not appear warranted.

Reduction in property size would save acquisition, development, and maintenance expenses but fragment state ownership patterns. This fragmentation would reduce the wildlife area's ability to achieve significant hunting and fishing objectives and produce opportunities for private development inconsistent with Department goals.

Intensive Habitat Management

Intensive management is necessary to maintain or increase the fish and wildlife carrying capacity of the wildlife area. Intensive forest vegetation manipulation to set back natural forest succession increases browse and edge for all wildlife, especially for over-wintering deer and must be an on-going project. Post sale treatment or shearing will stimulate new woody growth and is a desirable management tool. A rotation schedule for commercial timber harvest to ensure an interspersed forest stands is part of the management plan. The benefits achieved by this management regime more than off-sets its negative effects.

Stream improvement practices will be implemented to improve the carrying capacity of the trout streams. Beaver dam removal and other debris (fallen trees, etc.) that are presently clogging the streams will be removed along with streambank brushing. Instream devices to provide and improve the stream will be installed.

APPENDIX

Master Plan Comments

By: Henry W. Kolka
Representing: Wild Resources Advisory Council
Date: May 18, 1981

The Task Force of John Porter, Richard Cornelius, John Dunn, and Glen Chaffee of the McKenzie Creek Wildlife Area have provided a very credible Master Plan Concept Element for the property. The Wild Resources Advisory Council wishes to commend the Task Force in putting together the diverse natural elements of the McKenzie Creek Wildlife Area into a proposed management program cognizant of the mutual welfare of this diversity.

General Review

The Wild Resources Advisory Council wishes to congratulate the Property Task Force for setting up a sophisticated and environmentally balanced management program. Even though the species inventories of plants and animals are sketchy and incomplete, the concerns for all categories and their welfare are generally provided for in management proposals for the area. A much greater concern for diversity of habitats for existing wildlife species is recognized in this concept element than in most wildlife area concept elements up to this point. The WRAC extends special commendations to the Property Task Force for their realism and wisdom in this respect.

Comments and Recommendations

1. Page 1--Goal.

Since education is given high priority recognition in the Concept Element, the WRAC recommends that the goal sentence ends with and education following the word recreation.

DNR RESPONSE: Concur; text modified.

2. Page 1, Item 5--of Annual Objectives.

The statement as expressed isn't too bad. However, WRAC suggests that it be rewritten to express equal concern for red-shouldered hawks and Cooper's hawk.

DNR RESPONSE: While an objective was warranted for eagle and osprey because nesting sites were known, there are no such sites for other raptors. Care will be used during timber harvesting and if nests are discovered, objectives will be modified.

3. Page 1, Item 3--under Annual Additional Benefits.

WRAC recommends that and indigenous be inserted between the words migratory and endangered.

DNR RESPONSE: Concur; text modified.

4. Page 1, Paragraph 2--under heading Land Designations.

There is some omission following the words Tula Lake. As the sentence stands, it makes no sense at all.

DNR RESPONSE: Text corrected.

5. Page 3, Figure 3.

This chart seems to be the most logical one to identify some of the physical features listed in the text. For instance, there are frequent references to four trout streams in the project area yet only two are labeled. None of the charts show the whereabouts of Little McKenzie or the Mohnson Creeks. Likewise, there is no identification of Marsh Lake on the charts, yet it is recognized in the text.

DNR RESPONSE: Figure 3 corrected.

6. Page 4. Paragraphs 4 and 5--from top of the page.

The WRAC wishes to make special recommendations to the Property Task Force for the management proposals made in these paragraphs. They are most innovative and appropriate for nongame species usually ignored by too many wildlife areas master plans.

7. Page 5--heading General.

The WRAC is happy and commends the Task force for proposing special corridor management of stream threads as well as in-stream improvements. It has been the contention of the Council that quality trout habitat can only be attained if both ecosystems receive special attention. Good thinking and management.

8. Pages 6 and 7--Fish and Wildlife.

In this category the Task Force's presentation falls into the typical pattern, strong on game species and woefully weak on nontarget species. WRAC commends the Task Force in the listing of unknown and changing status species. However, for the benefit of visitors interested in all forms of wildlife, the Council recommends the following inventories for the area; a listing of nongame mammals, nesting songbirds, reptiles, and amphibians.

DNR RESPONSE: Inventories will be conducted pending funding.

9. Page 7--Vegetative Cover.

Excellent vegetative patterns. Very inadequate in the categories of plant species.

DNR RESPONSE: Pending inventory.

10. Pages 10, 11, and 12--Water Resources.

WRAC considers this section very well presented. The Council considers it very essential that surveys be made on all lakes located on the property. This program should be generated before the next review period.

DNR RESPONSE: Survey need noted.

11. Page 12--second paragraph from top of page.

WRAC considers the designations in the paragraph innovative and very appropriate. The Council commends the Task Force for their proposals. The Council recommends that Margaret, Dinger, and Marsh Lakes be designated as Wilderness Lakes since no development occurs on their shores. Tula Lake is a very wise choice for a Scientific Area and WRAC endorses the proposal.

12. Page 13--third paragraph from top of page.

WRAC considers the paragraph an excellent summation of the nonconsumptive future use of the McKenzie Wildlife Area.

13. Page 13--Analysis and Alternatiaves.

The WRAC endorses the alternative, Intensive Habitat Management, and recommends it for Department of Natural Resources approval.

By: Forest Stearns
Representing: Scientific Areas Preservation Council
Date: May 13, 1981

We have reviewed the concept element of the McKenzie Creek Wildlife Area Master Plan and concur with the goals, objectives and land use classifications proposed.

Tula Lake has been of interest to the Scientific Areas Preservation Council for some time. We are pleased to note its inclusion in the plan as a recommended scientific area.

Classification of Dinger Lake and Margaret Lake as wild lakes will benefit sensitive wildlife species and tend to preserve a quality recreational experience for visitors.

By: Thomas J. Evans
Representing: Mineral Resources Section
Geological and Natural History Survey
Date: May 12, 1981

The staff of the Geological and Natural History Survey has reviewed the McKenzie Creek Wildlife Area Master Plan. As a result of this review, we offer substantive comments on the area geology and soils descriptions noted on page 6 of the Concept Element. The geology comments reflect the review of Dr. M. G. Murphy, Jr., and the soils comments reflect the review of Dr. F. Hole. Questions concerning their reviews may be directed to them at this address.

Suggested alternative wording, page 6.

"Soils, Geology and Hydrology

The area can best be described as a rolling, hilly glacial moraine characterized by deep ravines along the streams. Bedrock geology consists of massive mafic volcanic rocks of Middle Proterozoic (Precambrian) age. Although trace amounts of chalcopyrite are known from bedrock outcrops within the wildlife area, the bedrock is not believed to contain any major metallic mineral occurrences for a variety of geologic reasons, including massiveness of the rocks, metamorphic grade, and presumed stratigraphic position. Northern Polk County was covered by three separate advances of the continental glaciers. The Wisconsin (Cary) ice sheet produced a rough recessional moraine with deep till generally less than 50 feet thick that characterizes the McKenzie Creek area. Soils were further influenced by a loess blanket that was deposited shortly after the glacier retreated.

In the wildlife area, the influence of the silt (loess) cap was relatively minor, being only a few inches thick. Soils of the area range from muck and peat and associated wet loams (cable series) in depression areas to well to imperfectly drained loams (Avery, Santiago, Freer, Onamia series) on the uplands. The hillside soils of the moraine are sandy loam up to 20 inches thick over compact sandy subsoils. Surface runoff...Soil Conservation Service. Upland soils are loams with some silt loams interspersed and underlain by sandy and gravelly glacial drift."

Thank you for the opportunity to review and comment.

DNR RESPONSE: Concur; text modified.

By: R. W. Baker
Representing: DOT-Bureau of Environmental Analysis and Review
Date: May 4, 1981

RE: Master Plan Review - McKenzie Creek Wildlife Area

We have reviewed the above-noted document, along with our District 8 - Superior office and the Polk County Highway Commission, and have determined that there are no significant transportation issues related to this proposal.

Thank you for the opportunity to review and comment on this proposal at this early stage of its development.

By: Richard W. Dexter
Representing: Wisconsin Historical Society
Historic Preservation Division
Date: April 10, 1981

I have read the concept element of the McKenzie Creek Wildlife Area Master Plan and offer the following comments for your consideration.

The last two sentences in the paragraph on page 11 concerning historical and archeological site should be deleted. There is a very high probability that the wildlife area contains prehistoric archeological sites and therefore, to insure that valuable sites are not needlessly destroyed, our office should be contacted before (not after) development work is begun.

When sites are discovered during construction often they have been extensively damaged and their value for scientific study has been greatly diminished. Furthermore, suspending construction until the SHPO staff can evaluate the site may result in costly and unnecessary construction delays.

We strongly recommend that the DNR consult with us at the earliest time possible prior to implementing any development plans. Only in this way is it possible to provide adequate protection for the area's archeological resources and at the time keep construction delays to a minimum.

If you have any questions on this matter, please contact me at (608) 262-2732.

DNR RESPONSE: Concur; text modified.