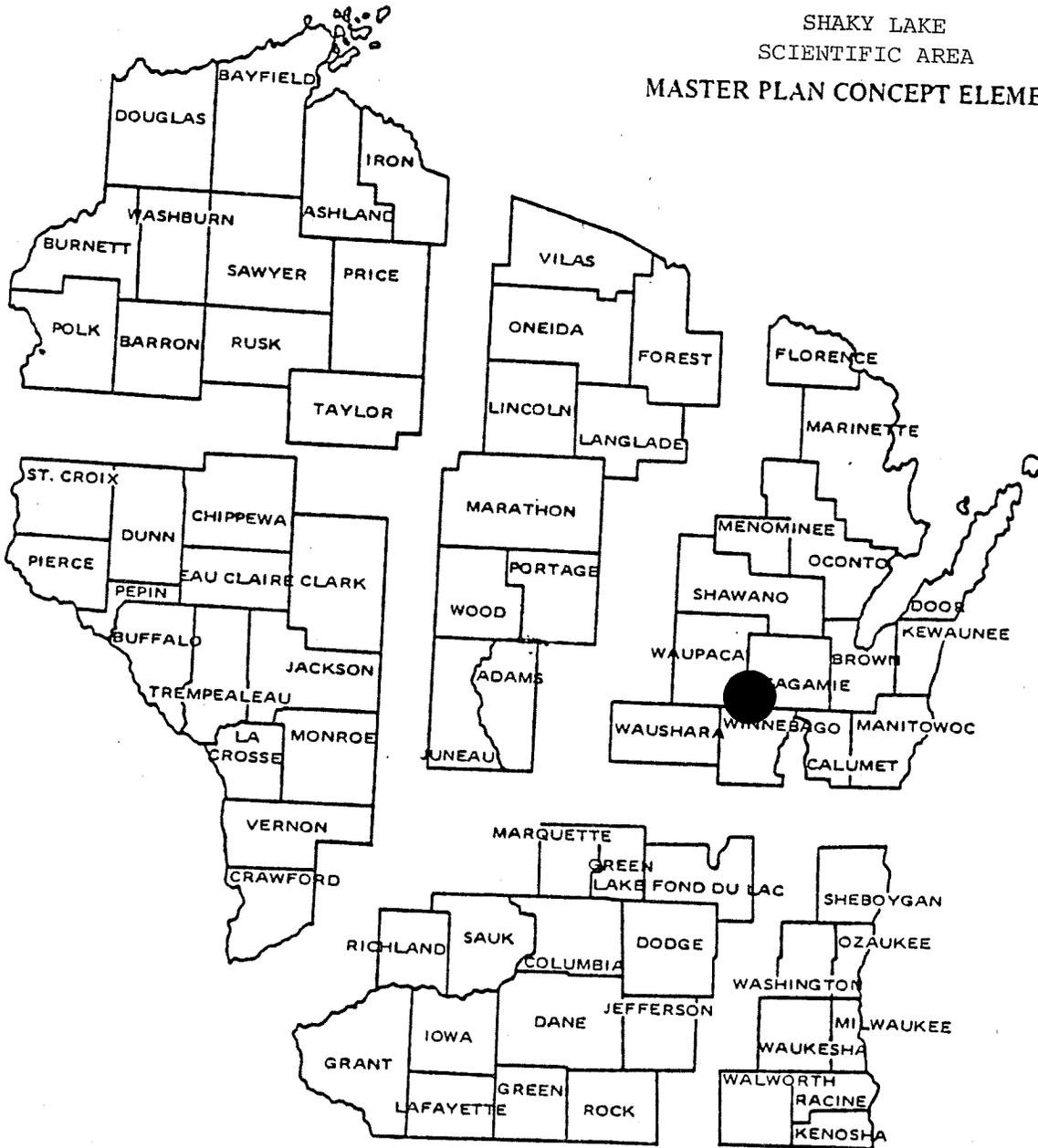


SHAKY LAKE  
SCIENTIFIC AREA  
MASTER PLAN CONCEPT ELEMENT



Approved by Natural Resources Board:

March 23, 1983  
Date

PROPERTY TASK FORCE

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Submitted:

SHAKY LAKE SCIENTIFIC AREA MASTER PLAN -  
CONCEPT ELEMENT

Section I: Actions

A. GOALS, OBJECTIVES AND OTHER BENEFITS

Goal:

Through management planning utilizing the Department's uniform land use classification system, protect the natural and scientific values and facilitate compatible scientific, educational and nonintensive recreational uses.

Objectives:

1. Preserve and maintain native plant and animal communities of Shaky Lake so that natural ecological processes continue to function providing the benchmark area representative of the presettlement condition.
2. Encourage nondestructive research and class teaching in the natural sciences and public nature study; to accommodate several research projects and up to 400 person-area contacts annually.
3. Accommodate public use including nature appreciation, hiking, and hunting. Up to 500-person area contacts annually.
4. Limit Shaky Lake access to walk-in only to protect the resource from abuse and overuse.
5. Contribute toward the statewide system of scientific areas encompassing representative examples of the natural diversity of Wisconsin.

B. RECOMMENDED MANAGEMENT AND DEVELOPMENT

Shaky Lake is recognized as a very high quality feature which should be preserved from development, overuse or misuse. The Department proposes by fee acquisition to acquire the lake, sedge meadow and surrounding wetland forest to include a total of 240 acres as a scientific area. The property would be managed as a scientific area. Compatible research and educational use will be facilitated and encouraged. Limited non-intensive recreational uses will be accommodated, but management to facilitate this use will be limited.

Only development of access and control is needed. There is an access trail to the northeast corner of the project, but it may need development of parking and/or gating. A more direct access on the south side of the property is being sought. Development costs are estimated to be less than \$1,000 and should be implemented through the ORAP small development projects budget. Maintenance costs should be very low immediately but could increase in the future with public use. The scientific and natural areas section budget should provide about \$200 annually for patrol and monitoring uses.

A population of purple loosestrife, an aggressive wetland non-native plant species is present and should be removed before the species becomes a threat to the native vegetation.

C. MAPS

The project is located on Figure 1. Project boundaries and land use classification are shown on Figure 2, and vegetative cover types are shown on Figure 3.

Section II: Support Data

A. BACKGROUND INFORMATION

1. Scientific Areas Program

In 1951 Legislation (ss 23.27) was passed initiating the Scientific Areas Program. These areas containing the best remaining examples terrestrial and aquatic plant and animal communities, geological features and archeological sites, were to be set aside for research, class teaching, nature observation uses as well as for preservation of native diversity. To date, the statewide system of scientific areas has grown to 175 areas encompassing some 25,000 acres throughout Wisconsin.

Total use of scientific areas for 1977 was 250,000 visitor-area contacts, while documented uses for research, class or group use or nature study was 15,000 person-area contacts, up 50% from the 1974 level. The current use is expected to be even higher.

In the early 1970's a modest acquisition budget was established to purchase land as state scientific areas based on recommendations of the scientific areas preservation council.

In 1979, legislation was passed which defines both scientific areas and natural areas and established procedures for acquiring such sites (section 23.092).

## 2. History of Property

Systematic natural area inventories conducted in east central Wisconsin in 1978-79 identified Shaky Lake as the best wetland lake complex in Outagamie County and one of the best in the region. Marsh hay was harvested by hand on the sedge meadow in the past since the mat would not support horses or vehicles. Selective to intensive logging occurred on the surrounding forest and land. The lake is occasionally used for duck hunting. The surrounding land is mostly agricultural.

An option has been obtained to purchase an 80 acre parcel of land. The Department plans to purchase this tract at the earliest opportunity. The remaining 4, 40 acre parcels should be acquired when available from willing sellers.

## B. RESOURCE CAPABILITIES AND INVENTORY

### Soils, Geology, and Hydrology:

Shaky Lake lies within the eastern ridges and lowlands natural division in a basin near the Valders moraine. Soil types are Grandy, Shawano, and Emmet loam sand, sandy loam, and shallow peat. Prairie du Chien dolomite bedrock underlies the area. The lake bed is largely filled with marl. The lake drains intermittently through a tributary to Potter Creek and the Wolf River.

### Fish and Wildlife:

Detailed inventories of fish and wildlife have not been conducted. Total productivity is probably restricted by the high marl content. Waterfowl use of the lake is reportedly low. The lowland forest around the lake supports a concentration of wintering deer. The plant communities present furnish habitat for raccoon, ruffed grouse, and woodcock. Nongame species, noted as summer residents, include green heron, sharp-shinned hawk, broad-wing hawk, northern harrier, yellow-billed cuckoo, red-bellied woodpecker, hairy woodpecker, brown creeper, sedge wren, wood thrush, veery, cedar waxwing, Nashville warbler, scarlet tanager, and several other species of songbirds. Green frogs were also noted.

No endangered or threatened species are known to occur on the property. However, inventories will be conducted following acquisition. Appropriate protection will be provided for any endangered or threatened species located.

Vegetative Cover:

Shaky Lake lies within the tension zone between the northern hardwoods province and the prairie/forest province and thus supports both northern and southern vegetative elements. The marl-bottomed bog lake is surrounded by sedge meadow, alder and willow thickets, and tamarack swamp and lacustrine forest. Grass-leaved pond weed, Chara and yellow pond lily grow as dominant submergents in the shallow open water area. Emergent aquatics include hard and soft stemmed bulrush and arrowhead with only scattered clumps of cattail. The sedge mat is dominated by wire-leaved sedges (Carex lasiocarpa and C. oligosperma) and additionally supports many plant species characteristic of both bog and fen communities. The sedge mat dominates most of the lake basin floating on the water near the center and is supported by marl toward the periphery. A narrow zone of alder and willows forms the transition from the open mat to the surrounding forest of lacustrine hardwoods and tamarack. Approximately 100 species of vascular plants have been located in the project area. The 240 acre project includes 113 acres of tamarack swamp, 16 acres of open water, 21 acres of lowland hardwood, 17 acres of shrub zone, 60 acres of sedge meadow, and 13 acres of upland hardwood.

Water Resources:

Limnological data are not available for Shaky Lake. The lake is a shallow marl bottomed intermittently drained bog lake with an open water area approximately 16 acres. Public access to the open waters has been difficult because a large quaking mat surrounds the open water.

Historical and Archeological Features:

Historical or archeological features of significance have not been located; however, the State Historical Society's Historic Presentation Division indicates there is a very high probability that the project contains archeological material. They will be consulted prior to the construction of the proposed parking area or any other ground-disturbing activity, to determine the need for an archeological survey..

Land Use Potential and Resource Protection:

Shaky Lake, the sedge meadow and the lowland forest surrounding the lake meet the Scientific Area Preservation Council criteria for scientific area classification; this zone would encompass the entire project of 240 acres.

C. MANAGEMENT PROBLEMS

No difficult management problems are anticipated. Some problems could result from converting what has been a privately held lake to one under public control. Though access will intentionally be limited, increased recreational use and educational use by the public could result in littering and misuse of the property. This should not be a serious problem provided that maintenance funds are programmed for control and monitoring use in the scientific areas section budget.

Experience with similar DNR properties in southern and eastern Wisconsin indicates that local concern for public overuse are unwarranted. In any event the Department has the option of restricting public use on natural areas and scientific areas, if necessary.

The establishment of purple loosestrife, a threat to the native vegetation, will require some attention. No more than a few dozen plants were noted in June 1978. It has been generally agreed in the literature that local eradication of purple loosestrife is possible only if rapid action is taken. The isolated nature of the plants present should facilitate the use of hand pulling all plants (root crown as well as stem) during July or August, and subsequent removal of all material from the wetland.

#### D. RECREATION NEEDS AND JUSTIFICATION

Systematic inventories of east central Wisconsin have documented a continuing loss of natural areas. It is significant that Shaky Lake comprises about 70% of the pot hole and kettle hole type lake acreage remaining in Outagamie County. The proximity to the Fox River Basin Metropolitan area and the scarcity of the lake and the region, gives the project an excellent potential for teaching and research resource.

#### E. ANALYSIS OF ALTERNATIVES

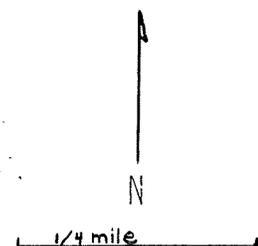
This project could be limited to providing public access to a small private lake. This would do nothing to protect the sensitive wetland features from potential damaging use. The high natural area values could be lost. The alternative of extending the project is undesirable since the project boundaries were drawn specifically to exclude agricultural land and low quality undeveloped land. The existing boundaries adequately protect the resource.

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FIG. 2. PROPOSED BOUNDARY AND  
LAND USE CLASSIFICATION

PA PRESENT ACCESS  
FA FUTURE ACCESS  
SA SCIENTIFIC AREA



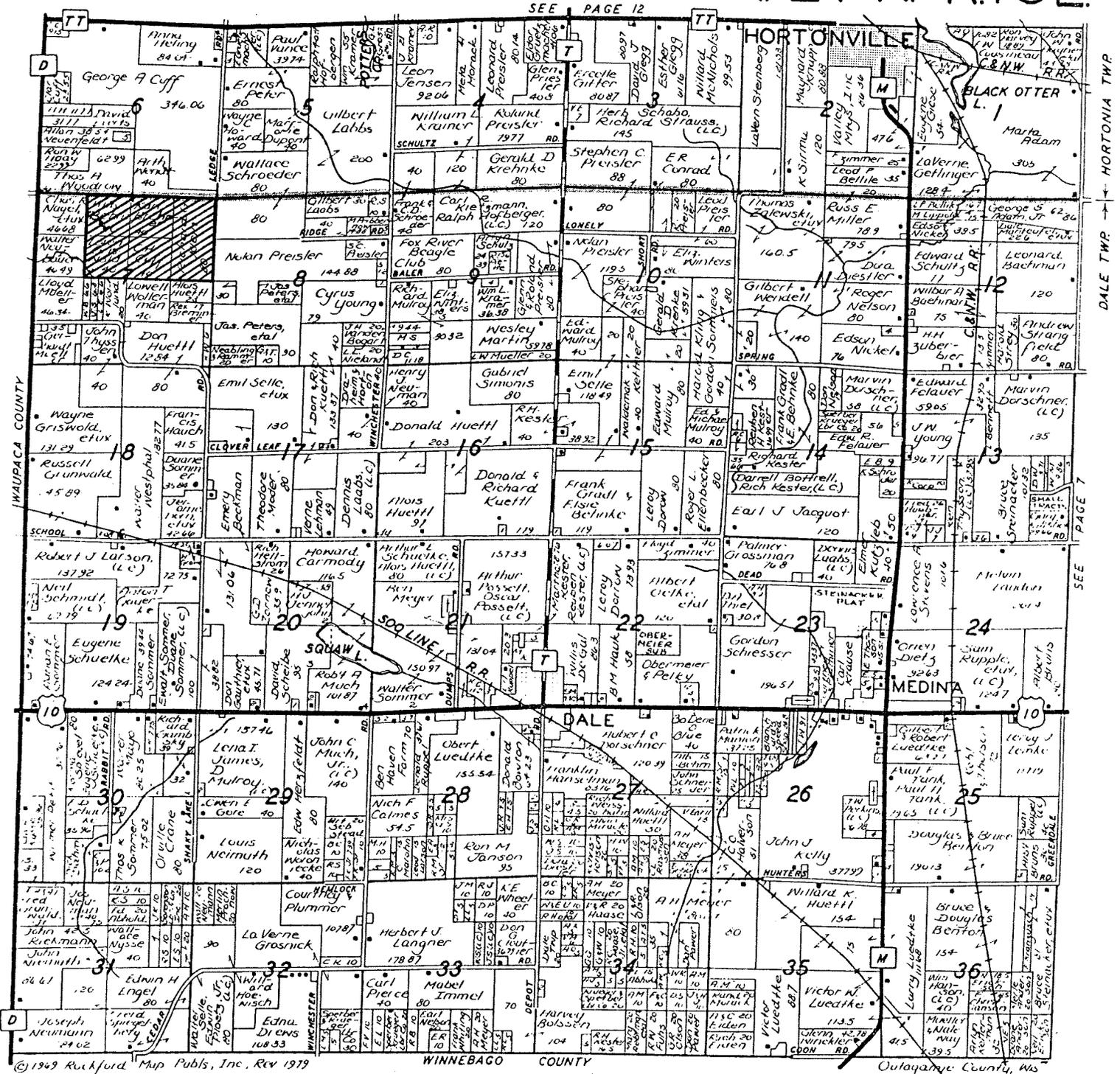


FIG. 1. SHAKY LAKE  
OUTAGAMIE COUNTY



FIG. 3. VEGETATIVE COVER MAP

- L OPEN WATER
- SM SEDGE MEADOW
- SZ SHRUB ZONE
- T TAMARACK
- TS TAMARACK SHRUB
- LH LOWLAND HARDWOOD
- UH UPLAND HARDWOOD



1/4 mile

