

Fish Lake Management Plan
DOW ID 02006500
T 34, Range 23, Section 36
February 2004

Summary of General Lake Information

Fish Lake is located in Anoka County and encompassed by the Cedar Creek Natural History Area (see attached map). The lake is 332 acres in size and has a maximum depth of 13 feet. Average depth is 6.2 feet. A wildlife lake survey was conducted on July 15, 2003. At that time, maximum Secchi depth was nine feet, and average Secchi depth was 5.4 feet. Aquatic plants were abundant with 98.6% of the sample points having vegetation, and 16 different species were found. *Najas flexilis* and *Potamogeton praelongus* were the most common submerged aquatic plants found.

Relative to other shallow lakes in the area and the state, Fish Lake is a high quality shallow lake as it has good water clarity and an abundant and diverse aquatic plant community. Winter fish kills occur frequently because of the natural shallow nature of the basin. These characteristics also make the lake ideal for wildlife utilization. The abundance of aquatic plants provides food and habitat for aquatic birds and waterfowl.

Fish Lake was stocked with walleyes in 1999. However, this lake does not have a sustainable walleye population because the lake does not have habitat characteristic of a walleye lake (water depths greater than 20 feet, gravel substrates, open water habitat). Green sunfish, bluegills and black bullheads were the most common fish found during the last DNR Fisheries assessment in 1998 and are fish typical of shallow lake systems.

The lake does not have an official public access, although County Road 24 runs adjacent to the north end of the lake, and legal access is available from the road right-of-way.

Watershed Information

The Cedar Creek minor watershed measures about 18,000 acres. Pre-settlement vegetation consisted of mostly oak barrens on the uplands, and a mix of wetland types in the many basins, including conifer and hardwood swamps, shrub swamps, marshes, and fens. Today the watershed is a mix of developed areas, natural areas, and farmland, with some significant tracts of natural vegetation and wildlife habitat.

Fish Lake is largely surrounded by significant native plant communities mapped by the Minnesota County Biological Survey, including oak savanna, oak woodland, hardwood swamp, rich fen, wet meadow, and cattail marsh. These communities provide habitat for rare and uncommon animals, including sand hill cranes and Blanding's turtles. State-listed rare plants occurring in wetland communities adjacent to Fish Lake include the endangered twisted yellow-eyed grass (*Xyris torta*) and the threatened lance-leaved violet (*Viola lanceolata*).

Fish Lake is near the top of the Cedar Creek watershed. The lake flows out through a wetland on the northwest side of the basin, through an intermittent stream and into Cedar Creek. Total distance from the outlet of the lake to Cedar Creek is approximately three-quarters of a mile. Cedar Creek flows into the Rum River in the city of Anoka.

History and Background of Cedar Creek Natural History Area

ENVIRONMENT. The three great ecosystems of North America meet in the vicinity of Cedar Creek --- the western prairies, the northern evergreen forests, and the eastern deciduous forests. This makes Cedar Creek one of the ideal places in North America to preserve and study ecosystems. In addition, within its nine square miles, Cedar Creek contains rare ecosystems of conservation interest, including spruce bogs, remnant northern cedar forests, and tracts of never-plowed savannas.

HISTORY. Cedar Creek Natural History Area was established in 1942 and ranks among the world's top ecological research sites. The science of modern ecosystem ecology was conceived and developed at a small glacial lake on Cedar Creek grounds in the 1940s. In the 1960s Cedar Creek scientists started one of the earliest and longest-running experiments on fire and fire suppression in forest ecosystems. Radio tracking of animals was invented at Cedar Creek in the 1970s. Today Cedar Creek's experiments on biological diversity are world known, focusing on understanding natural ecosystems and the services they provide to humanity and to the planet.

CURRENT MISSION. Cedar Creek scientists, students, and staff are dedicated to understanding how our planet's ecosystems work and how those ecosystems are changing under human pressures. Through research, education, community involvement, conservation, and preservation Cedar Creek strives to bridge the gap between science, community, and government.

Management Background Information

In 2002 DNR staff began working with the University of Minnesota on a collaborative outreach project. It was during this project that Fish Lake was identified for possible Wildlife Lake Designation (Carr, 2002). Fish Lake is one of the few lakes in the area with an undeveloped shoreline. The University of Minnesota would like to maintain the function of Fish Lake as a natural shallow lake ecosystem rather than an intensively managed fishery and also minimize disturbance to wildlife and the native plants in the basin. Wildlife Lake Designation will help achieve these goals by restricting motorized boat and recreation vehicle use and emphasizing the lake as a wildlife lake rather than a fishery. Currently the lake receives little motorized boat use. However, the DNR and the Cedar Creek Natural History Area directors and managers have concerns that recreational use of the basin, including the use of motorized watercraft and pressure to maintain a fishery, will increase with increasing residential development in the surrounding area. Therefore the managers of the Area believe this proactive step to restrict motorized use and de-emphasize fish stocking is best taken now as development is increasing in the area.

Aquatic plants provide many ecosystem functions including protecting and stabilizing the bottom sediments of the lake, competing for nutrients with algae, providing habitat for invertebrates that are good food sources for other wildlife and fish and also filter feeders of algae. In addition, aquatic plants themselves are an important food source for waterfowl and wildlife. Protecting the aquatic plants is key to protecting the integrity of the Fish Lake ecosystem. This protection can be achieved by ensuring the quality of the watershed remains intact. The majority of the watershed is within the boundary of the Cedar Creek Natural History Area, so watershed degradation is unlikely to occur. Motorized boat use can damage aquatic plants in shallow areas (Asplund and Cook, 1997), so restricting motorized boat use of the basin will also serve to protect the aquatic plants and ecological integrity of Fish Lake.

If Fish Lake were designated as a Wildlife Management Lake under Minnesota Statute 97.101A, the DNR would prohibit the use of motorized watercraft including motorized boats and ATVs. Canoes and non-motorized watercraft would be allowed. This restriction would protect the

integrity of the natural plant community and minimize disturbance to the waterfowl and wildlife that use this basin, including nesting loons, sand hill cranes, and Blanding's turtles.

Management Objective

The management objective is to protect the integrity of the natural ecological functioning of Fish Lake as a shallow, wildlife lake. This is in accordance with the goal stated in the Cedar Creek Natural History Area pamphlet: "The wild-land experience of paddling on a completely uninhabited lake so close to the metropolitan area must be preserved for future generations" (College of Biological Sciences, University of Minnesota, 2003).

The DNR does not propose or desire to do any water level management on this basin.

Proposed Management Actions

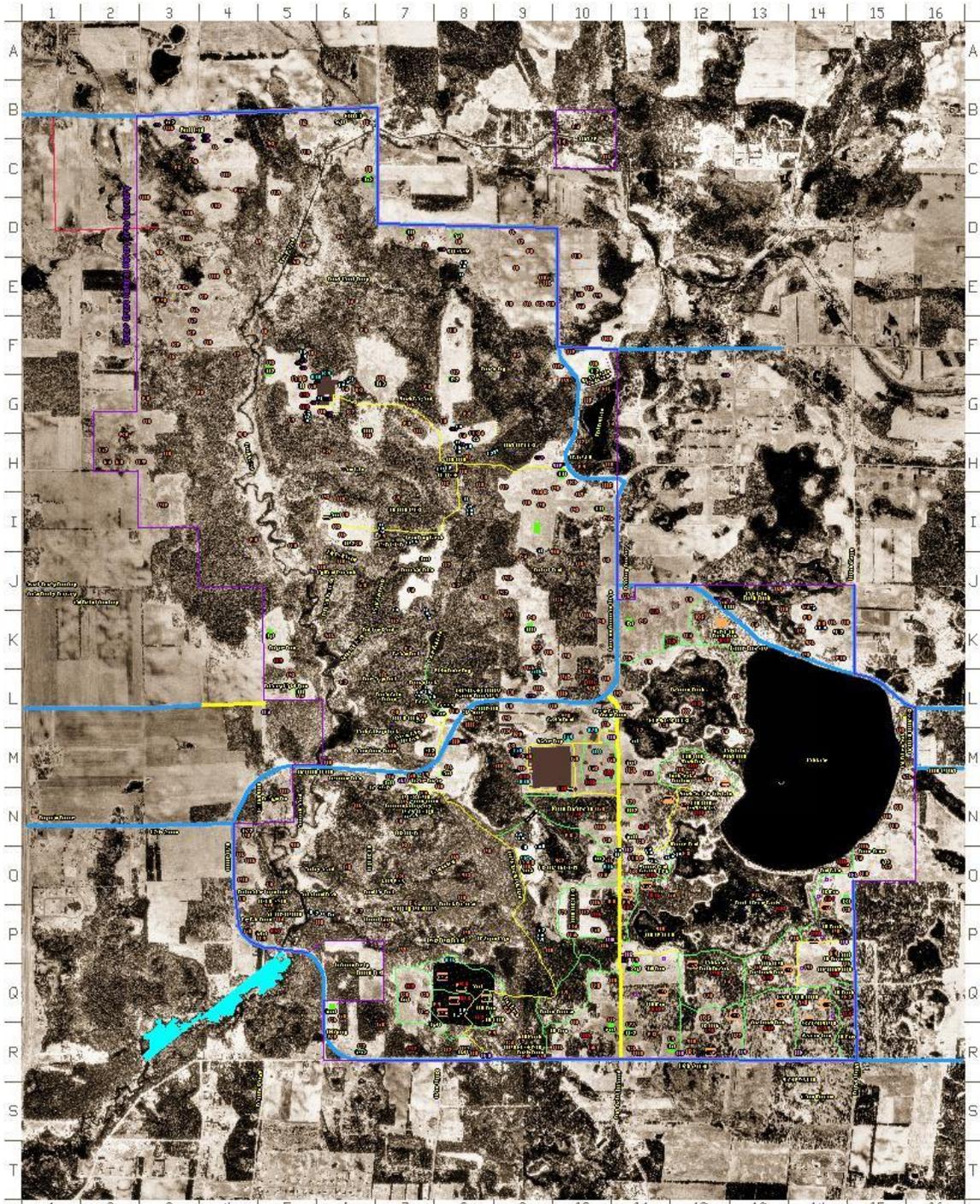
The DNR proposes to designate Fish Lake as a Wildlife Management Lake under M.S. 97.101a in order to prohibit motorized watercraft and recreational vehicle use on the basin and emphasize the value of Fish Lake as a wildlife lake.

References

Asplund, Timothy and Chad Cook. 1997. Effects of motor boats on submerged aquatic macrophytes. *Lake and Reservoir Management* 13(1): 1-12.

Carr, Carolyn E. 2002. Final Report. Cedar Creek Natural History Area Collaboration and Outreach Project.

College of Biological Sciences, University of Minnesota. 2003. Cedar Creek Natural History Area. Pp 23.



Cedar Creek Natural History Area
University of Minnesota

Level-5 road (heavy truck)
Level-6 road (medium truck)
Level-8 road (light truck)

0 1/4 1/2 3/4 1 1 1/2 2 2 1/2 3 3 1/2 4

Scale 1:1 (yard) 0-1000

Scale 1:10 (meter) 0-1000

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