

Appendix 1: DNR Fisheries Management Plan

NA-01570-01

LAKE MANAGEMENT PLAN

DEPARTMENT OF MINNESOTA NATURAL RESOURCES

Region III	Area Montrose	D.O.W. Number 86-221	County Wright	D.O.W Lake Name Camp	Acreage 108		
Long Range Goal: Provide a bass-panfish fishery where 50% of sunfish harvested are greater than seven inches; and largemouth bass are taken at a rate of 40 per electrofishing hour.							
Operational Plan: Conduct a resurvey 2012 to include an assessment of the largemouth bass population by electrofishing. Electrofish for bass each fall as Camp Lake is a control lake for the statewide experimental regulations study. Conduct a winter fish house count every third year.							
Mid Range Objective: Evaluate fish populations and monitor trends in largemouth bass.							
Potential Plan: Expand public access \$50,000. Creel survey 5,000. TOTAL \$ 55,000							
Primary Species Management Largemouth bass		Secondary Species Management Northern pike		FOR CENTRAL OFFICE USE ONLY			
Area Supervisors Signature		Date / /		Entry date	Year Resurvey		
Regional Supervisors Signature		Date / /		Stock species - Size - Number per Acre Pr./Sec			
<u>NARRATIVE:</u> (Historical perspectives - various surveys; past management; social considerations; present limiting factors; survey needs; land acquisition; habitat development and protection; commercial fishery; stocking plans; other management tools; and evaluation plans)				Schedule		Year Beginning	
				Population Manipulation <input type="checkbox"/> YES <input type="checkbox"/> NO Year			
				Development <input type="checkbox"/> YES <input type="checkbox"/> NO Year			
				Creel or Use Survey <input type="checkbox"/> YES <input type="checkbox"/> NO Year			
				Other			

Surveys: Lake surveys 1971, 1981, 1992, 2002. Fish population assessment 1987. Electrofishing for largemouth bass, 1996-2002 (control lake for statewide experimental largemouth bass regulations). Natural reproduction check 1980. Annual winter fish house counts 1975-1993, 2001. Recreational use survey 1985.

Past Management: Northern pike fingerlings were stocked in the 1960's and early 1970's; adults were stocked in 1986 and 1992. Walleye fingerlings were stocked in 1978 and 1979. Camp Lake has been used as a source of bluegill for stocking winterkill lakes: bluegills were removed in the 1970's and early 1980's.

Social Considerations: The Annandale Sportsmen's Club was interested in lake management and was instrumental in obtaining the public access. The lake is moderately developed. A property owners association existed for a short time and was concerned about carp control. This is a very popular lake for local residents who like to fish sunfish.

During the ten years from 1982-1991 an average of 17 houses were placed on the lake each winter. Fishing pressure was estimated to be 50 hours per acre in 1985. Non-fishing recreational use was three hours per acre.


Limiting Factors: Algal blooms are heavy and average size of sunfish is small. The lake has poor water quality. The results of water testing in 2002 showed total phosphorous, chlorophyll a, and secchi disc were 0.137 ppm, 12.7 ppm, and 3', respectively. Carlson's trophic status indices for the parameters were 74, 53, and 59, respectively. There is no record of participation in the Citizen Lakes Monitoring Program.

Land Acquisition: Additional land would allow improvement of the public access. Currently parking exists only for four vehicles. An interested seller was found in 1987 but would not agree to the state appraisal.

Survey Needs: Resurvey 2012 to include an assessment of the largemouth bass population by electrofishing. Spring seining was done in 1987 with very nice results, cpe = 27 largemouth per haul. Future nettings will allow an analysis of fish population trends.

Historical net catches of some important species (expected values for lake class 24):

	1971	1981	1987	1992	2002	1st-3rd Quartiles
northern pike	3.00	3.25	0.75	0.75	9.75	1.50 - 7.29
bluegill	57.80	86.5	21.2	19.50	13.78	7.54 - 62.50
black crappie	4.20	0.83	0.17	-	1.22	1.83 - 21.16
yellow perch	2.00	10.00	12.5	14.75	5.25	2.0 - 27.94
walleye	-	2.25	1.75	1.00	0.25	1.17 - 6.33




During 1992 catches of bluegill, yellow perch and walleye were within the range of expected values for lake class 24. The catches of northern pike and black crappie were below the first quartile value.

In 2002 the catches of bluegill and yellow perch were within the range of expected values for lake class 24. The catches of black crappie and walleye were below the first quartile value; and the catch of northern pike was above the third quartile.

During the years 1996-2002 largemouth bass were assessed by electrofishing in the fall (except 1997, when it was done in Spring). Electrofishing catches ranged from 46-229 largemouth per hour. Mean length of largemouth was small, however, 9-11 inches. Largemouth seem generally abundant though small, and growth is characterized as average.

Stocking Plans: No stocking is necessary. The lake is somewhat small to be considered for walleye management. Northern pike exist at somewhat high levels; however, the average size is good, mean length 23 inches.



Habitat Protection: Existing emergent vegetation has been mapped using GPS/GIS technology. The map will provide a base of information for the future and is a way to identify critical fish habitat. Waterlilies grow along the west shore and the largest cattail stand was on the north shore. Only one small bulrush bed exists on the northwest shore (.06 acres, growing sparsely). Coontail and sago pondweeds were the most common submerged species, especially in the north where boating was made difficult. Wild celery is common in the shoreline areas and grows to a depth of seven feet.

Evaluation: A creel survey is part of the potential plan to estimate harvest from this very popular Wright County lake.

Watershed Considerations: Work with local units of government to reduce non-point pollution sources. The Wright County Planning and Zoning Office has local authority to regulate septic systems. The Wright County Soil and Water Conservation District can suggest best management practices for area agriculturalists. The immediate watershed of the lake has been mapped and land use practices identified. The watershed is small, 622 acres, and the land to water ratio is 5:1. The percent land use is 3% residential, 71% agricultural, 14% grassland, 7% forest, and 5% water/wetland.