

Revised 3/25/76

Project Summary - 1976 F.Y.

Project Title: HYDROLOGY OF CEDAR LAKE; SW-GW RELATIONSHIPS

WRD Project Number: WI 74-043C

Cooperating Agency: Wisconsin Department of Natural Resources (T. Calabresa)

Location: Headquarters--Madison, Wisconsin
Field--East-Central Wisconsin

Project Leader: Robert S. McLeod

Period of Project: September 1973 to June 1978

Objective: 1. Describe the ground water-surface water relationships at Cedar Lake.

2. Determine the response of the hydrologic system to pumping ground water into the lake.

3. Define the relationships between numerous hydrogeologic factors and lake-level fluctuations to provide a better understanding of elements affecting the relationship.

Approach: Data on lake levels will be compared to available data on precipitation, evapotranspiration, and ground-water levels. The relationships between effect of pumping water from the aquifer system into Cedar Lake will be evaluated. Water-level changes in the lake and in the ground-water system will be defined. Changes in water quality due to pumpage also will be studied.

Progress: Lake stage, lake and air temperature, and precipitation were monitored continuously. Periodic water-quality measurements were made of organic and inorganic properties of the lake. Periodic temperature and dissolved oxygen profiles were taken at two locations on the lake. Water levels in 36 ground-water test points were monitored periodically. Water levels were measured weekly at two nearby lakes.

Plans for Next Fiscal Year: Continue monitoring lake stage, lake and air temperature, and precipitation on a continuous basis. Make periodic measurements of organic, inorganic, and physical properties of the lake and of water levels at the ground water test wells. Continue measuring nearby lakes on a weekly basis.

Proposed Plans for Remainder of Project: Test pump high-capacity well near the lake. Evaluate effects of pumping on changes in chemical and physical properties of the lake and on raising lake levels. Write report describing findings.

Reports Published: None