

# ***Water Quality in the Lake Winnebago Pool***

**W**ater quality. What does it mean to you? Most of us know water quality will affect our swimming, boating, hunting and fishing. The Winnebago Pool is the collective name for Lakes Winnebago, Butte des Morts, Poygan, and Winneconne. People living, working and recreating on the Winnebago Pool all want good water quality. Most would probably agree our water quality vision should include lake water that is low in algae, toxic chemicals, and odors. These qualities usually translate into clear water.

The Wisconsin Department of Natural Resources (DNR) has a mission to protect and enhance our natural resources. However, that mission is very much dependent on the people that live among and utilize those natural resources. It is only through the cooperation and coordination of many that we will find the path to our mutual destination of good water quality.

The water quality of the Winnebago Pool lakes has been examined, or “monitored”, to various degrees by the DNR for nearly 25 years. This report summarizes those actions and examines the data for trends-- increasing or decreasing. Interactions of water quality to fish, wildlife, and aquatic plants are examined as well as the impact of exotic species on water quality.

The data also start to answer the question of how close we are to reaching the goals identified in the Winnebago Comprehensive Management Plan (WCMP). Published in 1989, the WCMP contains specific water quality objectives for the Winnebago Pool. A panel of water quality experts and citizens developed these objectives with the extensive public input of over 2,000 citizens.

An action plan for further water quality monitoring and education is also included. While it is important to review the collected water quality data in light of goals set by the WCMP, it is equally important to use the data to guide further monitoring and assessments of the health of the entire Pool.

**The** lakes that collectively make up the Winnebago Pool encompass over 166,000 surface acres (67,178 ha). This total accounts for nearly 17% of the state's surface water area. Lake Winnebago, at 137,708 acres (55,728 ha), is the largest lake in Wisconsin and one of the largest lakes in the United States. Despite its large size the average depth is only 15.5 feet (4.7 m) and the maximum depth 21 feet (6.4 m).

The Winnebago Pool's main tributary streams are the Fox and Wolf Rivers. The watershed drains about 5,700 square miles (14,763 km<sup>2</sup>), almost 12% of the entire area of Wisconsin. The Wolf River (203 mi. or 327 km long) drains almost 3,700 square miles (9,583 km<sup>2</sup>) of northeastern Wisconsin while the Fox River (117 mi. or 188 km long) drains slightly over 2,000 square miles (5,180 km<sup>2</sup>) of primarily rural land of central Wisconsin.

The Winnebago Pool lies in the Fox Valley. Over two million people are within 75 miles (120 km) of the lakes. The west side of Lake Winnebago is most heavily developed. From south to north the major population areas are Fond du Lac (pop. 42,000), Oshkosh (pop. 63,000), Neenah (pop. 24,000), Menasha (pop. 16,000), Grand Chute (pop. 19,000), and Appleton (pop. 70,000).

The cities of Appleton, Neenah, Menasha and Oshkosh all draw their drinking water directly from Lake Winnebago. Several cities and sanitary districts also discharge their wastewater effluent directly into the Pool lakes or into the rivers adjacent to the lakes. An appendix at the end of this report has a complete list of wastewater discharges to the Fox and Wolf River basins.

