Fish Creek Stream Monitoring

Tests of Water from Fish Creek at Highway 42 – 1999 thru 2015

Test Program Highlights

Since 1999 volunteers have been monitoring Fish Creek water quality at several locations from its source to near its mouth where it flows into Fish Creek Harbor. The monitoring includes field tests of water temperature, dissolved oxygen, pH, and transparency. Samples are also collected for laboratory testing of alkalinity, ammonia, conductivity, nitrogen, phosphorus, as well as E. Coli and total coliforms. These physical, chemical, and biological characteristics provide measures of the safety and quality of stream water, as well as its ability to support plant and animal life.

The Town of Gibraltar has provided financial support for the laboratory testing.

Some key results from the Highway 42 test site are highlighted in this summary.

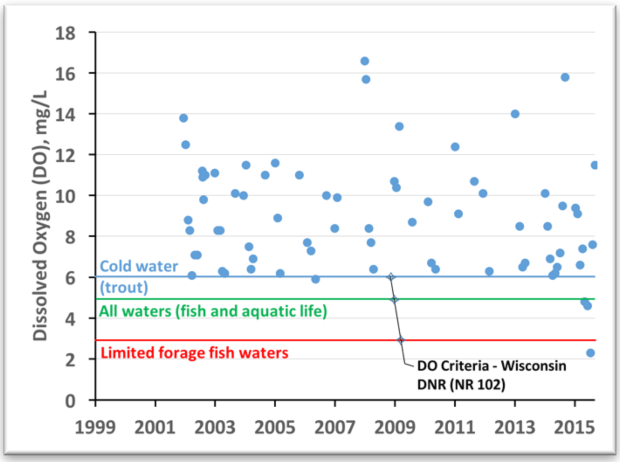
Fish Creek is about 1.5-mi. long and 8-ft. wide, with a moderate gradient of 15-feet/mile. Springs supply water to a wetland area that feeds the stream. The stream flows along the edge of the escarpment until it reaches a ponding area and then runs through the village of Fish Creek crossing Highway 42 before discharging into Fish Creek Harbor. Fish Creek supports spring spawning runs of suckers, and walleye have also been found. Emergent plants include cattails, bluejoint grass, various sedges and rushes. (**Surface Water Inventory of Door County**, Dec. 2000)

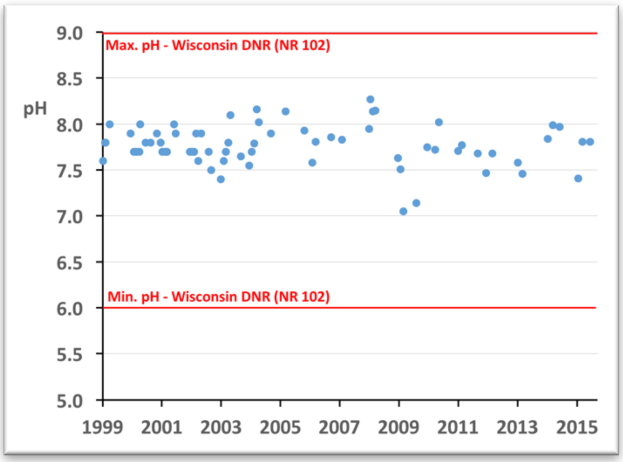
Temperature measurements (instantaneous readings less than 77˚F) indicate Fish Creek is a cold-water stream. And transparency measurements (> 60 cm) are consistent with streams that provide support for fish and aquatic wildlife habitats.

Prepared for Town of Gibraltar Annual Meeting, April 19, 2016

Dissolved Oxygen (DO)

Dissolved oxygen in streams is essential for sustaining marine life, and the DNR sets criteria for warm and cold surface waters. Colder water can hold more oxygen.



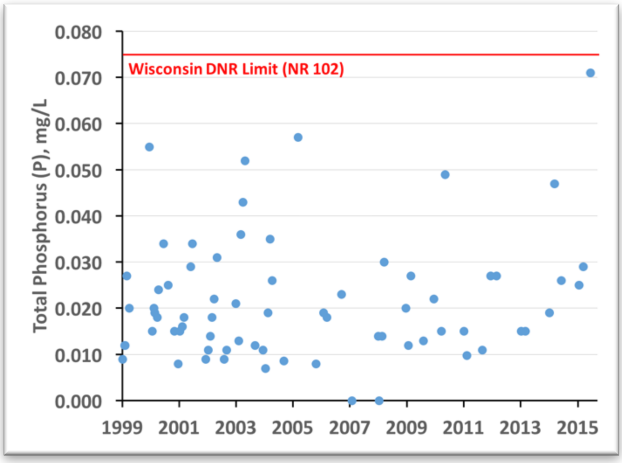


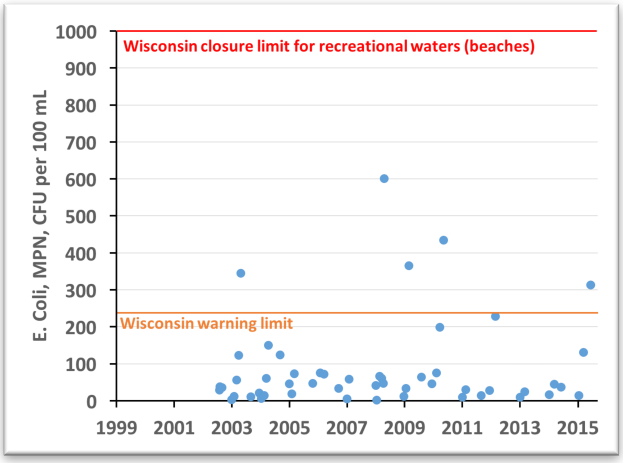
pH

pH is a measure of hydroxyl ions and indicates whether water is acidic (less than 7) or basic (greater than 7), with a pH of 7 being neutral. Optimum pH levels for fish range from about 7 to 8. The DNR standard for pH is 6 to 9, and Fish Creek pH data are within those limits.

Total Phosphorus

Phosphorus, an essential nutrient for plant growth, is also the most widespread water pollutant in Wisconsin lakes. Increased phosphorus levels can cause increases in aquatic plant and algae growth. Subsequent decomposition of excess plants can cause oxygen levels to decrease, which in turn can result in fish kills. Fish Creek total phosphorus data are below the DNR maximum limit.





E. Coli

Escherichia coli (E. Coli) is a type of coliform bacteria that indicates water has been contaminated with human or other animal fecal material, and thus may contain potentially disease-carrying organisms. Wisconsin imposes maximum limits on E. Coli for recreational waters; for example, beaches. Although Fish Creek is not necessarily intended for swimming, it is noteworthy that test data fall below the state limit for beach closures.