Walleye Restoration in the Milwaukee River Estuary

The Department of Natural Resources (DNR) invites you to attend an informational meeting to share your ideas about this important project.

The Department has prepared a report on its 7-year plan to evaluate the effects of stocking walleye in the Lower Milwaukee River. In addition, an updated plan has been drafted to guide future work.

At the open house, DNR staff will be on hand to discuss the results of the 1998-2004 study and the updated plan. There will be a brief presentation at 7 p.m., but feel free to stop in any time between 6 p.m. and 9 p.m. to view charts and displays, ask questions and share comments.

If you would like to receive a copy of the report or draft walleye management plan, they will be available at the open house or from our website (http://dnr.wi.gov/org/water/fhp/fish/lakemich/managementreports.htm) after November 24th. If you are unable to attend this open house, submit your written comments by January 31, 2005 to:

DNR Fisheries Management
600 E. Greenfield Avenue
Milwaukee, WI 53204

Bring your questions, comments and ideas to the open house on the Walleye Management Plan for the Milwaukee River Estuary.

For more information, please contact the following Department of Natural Resources staff:

Brad Eggold, Fisheries Supervisor
414-382-7921

Pradeep Hirethota, Fisheries Biologist
414-382-7928

Jim Thompson, Fisheries Technician
414-382-7924

Tom Burzynski, Fisheries Technician
414-382-7922

Cheryl Peterson, Fisheries Technician
414-382-7923

Matt Coffaro, Fisheries Expert
414-263-8614

Will Wawryzn, Fisheries Biologist
414-263-8699

Walleye Restoration in the Milwaukee River Estuary

Open House

Tuesday, November 30, 2004
6:00 – 9:00 p.m.
7:00 p.m. presentation

Wisconsin State Fair Park
Tommy G. Thompson Youth Center
Gate 5
640 S. 84th Street
West Allis, WI 53214
414-266-7000

Project Overview

With the removal of the North Avenue dam on the lower Milwaukee River in 1997, several miles of upstream waters were made available to migratory as well as resident fish species whose movements were restricted until then by the dam. Surveys indicated many native fish species recolonizing the area as the water quality and habitat progressively improved. This project was aimed at attempting to reintroduce walleye (*Sander vitreus*), one of the native species in the Milwaukee River system, which had become only a remnant population due to damming and poor habitat conditions. Additionally, it was envisioned as an alternate source of nearshore fishing due to a declining yellow perch population.

The project, as it progressed, encompassed several objectives.

- Stock 10,000 extended growth Great Lakes strain walleye each year through 2004,
- Evaluate the predatory impact, if any, by stocked walleye on stocked Chinook salmon smolts,
- Evaluate an alternate marking technique using Visible Implant Elastomer (VIE) technology,
- Examine and document natural reproduction,
- Annually estimate the size of the walleye population,
- Determine growth and survival of stocked walleye,
- Determine movement and seasonal migration patterns using radio telemetry, and
- Assess their contribution to the nearshore fishery.

Results

Approximately 10,000 extended growth Great Lakes strain walleye fingerlings were stocked annually since 1995 in the lower Milwaukee River downstream of the former North Avenue dam.

Predation impact, if any, caused by walleye on stocked salmonid smolts was monitored each year soon after releasing the salmon smolts by capturing and analyzing stomach content of the predators. Considerably higher predation impact was noticed in 1996 and 1997 during the first ten days post-stocking. Based on this information, the stocking location for Chinook salmon (*Oncorhynchus tshawytscha*) smolts was relocated to McKinley Marina, several miles away from the location of walleye stocking. This change eliminated the loss of Chinook salmon smolts due to predation immediately following stocking. A net pen was also used to acclimate the salmon smolts to the lake water by holding them over night in the marina water.

A comparison of growth and survival rates between walleye marked with two different marking techniques (finclip vs. VIE) did not show any significant differences. A cost benefit analysis indicated no obvious benefits using elastomer marking. VIE marks were detectable in walleye as old as 5 years, however, the retention rate appeared to decrease with age.

In general, growth rates of these walleye were greater than statewide average growth rate for walleye populations (average growth rate of 100mm per year in the first three years in the Milwaukee harbor).

Mature and spent walleye were recorded during spring spawning assessments beginning in 1998. However, we have not yet documented successful natural reproduction in the system. Population size estimated based on all age groups of walleye varied from year to year, in 2003 it ranged from 401 to 2,388 and in 2004 from 2,979 to 10,809.

Radio telemetry technology was used to track movement by surgically implanting a radio transmitter into the body cavity of walleye. The data indicated a distinct seasonal movement pattern by adult walleye according to water temperature and food availability. During the summer they moved from the rivers to cooler and deeper harbor waters. In winter they moved to the warmer waters in the Menomonee River canals which receive warm water discharges from a nearby power plant.

There is a significant angling effort targeted towards walleye in recent years along the Menomonee River canals, Summerfest lagoon and in the Milwaukee River upstream of the former North Avenue dam to Kletzsch Park. Most of the anglers practice catch-and-release.

Overall results from the first 7 years of the walleye restoration plan have been mixed. Stocking levels have fluctuated from year to year making it difficult to reach the 2 adult walleye per acre targeted in the plan. However, results from the predation study indicate that at present walleye stocking and population levels, impacts to stocked Chinook salmon and possibly other stocked fish are minimal to zero.

Results from this study suggest a course of action for future management of walleyes in the Milwaukee River Estuary. Four objectives of the updated plan are listed below:

- Protect, maintain, and enhance habitat for game and non-game fish species.
- Protect and restore native species.
- Maintain and develop fisheries assessments.
- Maintain and enhance salmon and trout populations in Lake Michigan.

These objectives along with problems and tactics that address these objectives will be presented and discussed at the open house.