

**Wisconsin Departmental of Natural Resources and
Wisconsin Conservation Congress**

**Lake Michigan Yellow Perch Public Meeting
Milwaukee, WI**

October 23, 2014

Summary Report

Acknowledgements

The WDNR Bureau of Fisheries Management would like to thank the Wisconsin Conservation Congress (WCC) for their collaboration in conducting this public meeting. Many thanks to all the invited speakers including Richard Barbiero from the Great Lakes National Program office, Chicago, John Janssen and Fred Binkowski from the University of Milwaukee, Pradeep Hirethota, WDNR, Paul Smith from the Milwaukee Journal Sentinel, and John Dettmers from the Great Lakes Fishery Commission. Thanks to Rob Bohmann from the WCC for moderating the discussion session. Also, thanks to WDNR Mediasite staff for recording the program and making it available on our website <http://dnr.wi.gov/topic/Fishing/lakemichigan/LakeMichiganYellowPerchPublicMeeting.html> and to the UW-M School of Freshwater Sciences for providing the space to host the meeting.

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Background: The yellow perch population in Lake Michigan has experienced a rapid, lakewide decline in abundance during the early 1990s, and has continued to decline despite stringent regulations imposed to reduce harvest. Individual management authorities closed the commercial perch fishery in the lake's main basins and reduced the potential harvest from recreational angling by implementing restrictive harvest regulations. In Wisconsin, commercial yellow perch harvest was suspended in 1996 in the main lake. The sport harvest was reduced to 5 perch per day with a season closure to protect spawning perch. These regulations were intended to ensure that adequate numbers of mature perch remained for future spawning seasons when favorable conditions returned to the lake. While these actions helped produce a few strong year-classes and prevented a complete collapse of the perch population, recent stock assessments indicate continued lowered population abundance.

Management authorities convened a yellow perch conference in December 1994 at Kenosha, WI to alert constituents about declining yellow perch abundance around the lake. A Yellow Perch Task Group was created and the group developed and implemented a research strategy to explore the causes of declining yellow perch populations. The lack of population recovery is thought to be due to poor perch recruitment. The Lake Michigan ecosystem has been altered tremendously due to aquatic invasive species especially zebra/quagga mussels that have changed the aquatic food web.

The public meeting: The WDNR Bureau of Fisheries Management in conjunction with the Wisconsin Conservation Congress held a public meeting to update anglers and stakeholders on the latest science about Lake Michigan ecology and yellow perch population status, fishing and management. This meeting included informative presentations by invited experts and a facilitated discussion session. Ron Bruch, Director of Fisheries Management, provided the opening remarks identifying the objectives and expectations of the public meeting.

The main objectives of the meeting were to:

- Discuss changes in Lake Michigan ecology and how changes have affected yellow perch populations (e.g. recruitment and growth) and fishing;
- Update stakeholders on the status of yellow perch populations;
- Discuss yellow perch stocking options; and
- Provide a forum for stakeholders to ask questions and provide input on future yellow perch management in Lake Michigan.

The invited presentations covered changes in the lower trophic level, bottle necks for survival and distribution of young yellow perch, status of the yellow perch population in

Wisconsin waters of Lake Michigan, historical perspective of yellow perch fishing in Wisconsin, stocking considerations, and a summary of the overall ecosystem from a whole lake perspective. Following the presentation there was a facilitated discussion to receive and record input from the public. A total of 65 participants attended the meeting.

A brief summary of presentations

Nutrients and primary/secondary productivity in Lake Michigan (by Rick Barbiero, Great Lakes National Program office)

Rick discussed the changes in nutrients in the open water and its impact on phytoplankton production and in turn zooplankton biomass. Adequate plankton biomass and timing plankton bloom is critical in the survival and growth of yellow perch larvae. Long-term remote-sensing data on the whole lake chlorophyll content indicates a dramatic decline in the spring phytoplankton bloom.

- Intended phosphorous reduction program subsequent to the 1972 Great Lakes Water Quality Agreement brought about initial decline in phytoplankton production in the 1980s.
- More recently, rapid decline in the phytoplankton community occurred in the 2000s as a result of colonization of invasive 'dreissenid' mussels (zebra and quagga) which filter the phytoplankton from the water column.
- Cladocerans zooplankton (daphnia), a preferred fish food, declined drastically while larger calanoid copepod population increased.
- There is strong correlation between the phytoplankton concentration in May and the biomass of cladocerans in August in the open water. The pattern in nearshore waters and offshore waters is similar.

Yellow perch early life history and bottlenecks (by John Janssen, University of Wisconsin, Milwaukee)

John Janssen informed the group that there are multiple bottlenecks for yellow perch to go from egg to small juvenile fish in Lake Michigan. Yellow perch spawn on the rocky habitat along Wisconsin and Illinois shorelines. Lake Michigan has strong currents which carry newly hatched perch larvae across the lake. Based on a 1998 study, by July-August the larvae produced from yellow perch on the Wisconsin/Illinois side drift over to Michigan waters.

- Increased density of filter-feeding mussels have decreased food for zooplankton,
- Young perch less than 0.25 inch long may be too small to feed on large calanoid zooplankton which are more abundant than preferred cladocerans.
- When the young perch become demersal later in the summer round gobies compete with them to feed on the rocky bottom.
- Mussels are negatively impacting native diporeia population and thus depleting juvenile perch food.

Status of Yellow Perch Population in Wisconsin Waters of Lake Michigan (by Pradeep Hirethota, Wisconsin DNR)

WDNR conducts various assessments through the year to monitor yellow perch spawning, egg density, young-of-the-year (YOY) catch and distribution, adult size and age structures, sex ratios, and sport and commercial harvests.

- Both young and adult perch numbers have declined since the mid 1990s. Since 1990 we have seen only two good year-classes, one in 1998 and the other in 2005.
- The last decent year of YOY perch was 2010 with catch per effort of 11 young perch per 100 ft of net. Also, the average size of YOY yellow perch at the end of the summer has decreased in recent years.
- Age 3 yellow perch numbers have dramatically declined since 1992. No age 3 yellow perch were caught in the most recent winter graded mesh gill net assessment. The overall CPE for the 2014 graded mesh assessment was 0.9 perch per 1000ft of net.
- Male perch have dramatically declined in both spawning assessment and graded mesh gill net assessment in recent years.
- Stringent harvest regulations are in place with a 5 daily bag limit for sport harvest, and commercial fishing season closure since 1996 (Table 1). However, the adult biomass has continued to decline due to recruitment failure.
- The sport harvest has declined in recent years to an estimated 8,800 perch in 2013 compared to 51,000 in 2010, and the harvest rate is going down despite the strict harvest regulations. The sport harvest in 2013 was primarily composed of one year class.

Table 1. Current yellow perch sport harvest regulations in Lake Michigan

State	Daily bag limit	Season closure
Wisconsin	5	May 1 – June 15
Illinois	15	May 1 – June 15
Indiana	15	None
Michigan (south)	35	None
Michigan (north)	50	None

Historical Lake Michigan Yellow Perch Fishing Experience (by Paul Smith, Milwaukee Journal Sentinel)

Paul Smith talked about the historical importance that yellow perch had in the local tradition of Friday fish fries, and how Jones Island was once a busy fishing village in the mid-1800s harvesting whitefish, sturgeon, yellow perch, and chubs.

- Perch populations have historically been up and down, but since the mid 1990s the yellow perch population has remained at historically low levels.
- In 1994 there was a workshop held at UW-Parkside, WI to discuss the situation which led to major regulation changes.
- There are no organizations built around yellow perch in Wisconsin to advocate for changes in yellow perch management in Lake Michigan.
- Paul emphasized that it is time to step up and address the current situation to see young people once again have an opportunity to fish for perch.

Yellow Perch Aquaculture (by Fred Binkowski, UW Milwaukee)

Fred discussed various aquaculture systems, what it takes to raise fish in an intensive aquaculture system, and steps toward the production of yellow perch fingerlings for stocking. He also briefly discussed various cost categories, and measures of evaluation once yellow perch have been stocked.

- Eggs hatch in approximately 12 days at 63-64 F, and it takes about 90-120 days for yellow perch to reach about 3.5 inches.
- Yellow perch purchased from private aquaculture would cost about \$0.83 per fingerling.

Status of Yellow Perch Population – Whole Lake Perspective (by John Dettmers, Great Lakes Fishery Commission)

John attempted to mesh all the talks into one big picture of the ecosystem which would include all the four states and tribal authority who are concerned about the yellow perch fishery. He mentioned that a Joint Strategic Plan was signed in 1981 in order to discuss and resolve issues jointly.

- The decision analysis conducted by the Quantitative Fisheries Center, MSU concluded that maintaining a suitable spawner biomass was critical for the recovery of the fishery that would take advantage of appropriate conditions when they becomes available.
- Tagging study showed that yellow perch from Wisconsin freely move to Illinois.
- If stocking is considered as a viable option, yellow perch stocking may cost much more than the cost of stocking Chinook salmon on a per fish basis.
- Would the angling community be prepared to make some trade-offs?
- It may take 10-20 fingerling perch stocked to be able to harvest one adult perch.
- “Best management intensions may not yield expected improvements quickly or at all.”
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Comments from facilitated open discussion (Facilitator: Rob Bohmann, Chair, Wisconsin Conservation Congress)

Q. Can you create a Perch Stamp similar to Trout Stamp to raise money?

A. It is a legislative issue. WCC proposed to have a \$5 stamp with every license purchased.

Q. What about all the road salt that is going into the lake and settling to the bottom? Does it help gobies?

A. Gobies are originally from brackish/salt water (Caspian Sea). Salt does not settle on the bottom of the lake unless lake water is saturated with salt. We don't think that this is a major issue.

Q. What about the cost of stocking perch? Why no talk about closing down commercial fishery and making only sport fishery? Will perch be removed from the commercial species list? Are the commercial fishers going to pay for perch recovery? Is it true that half the cost of salmon stocking comes from regular license fee?

A. Commercial fishing for yellow perch is closed now. WDNR could reopen again if population rebounds and sustains exploitation. Salmon stamp money is used for raising salmon for stocking.

Q. Are you approaching federal agencies to help fund the protection of native fish species like yellow perch?

A. Not sure.

Q. Trout and salmon is a put and take fishery. Can you do the same for perch in the harbors that may create some local interest?

A. It is one of the options we are discussing to see if it is feasible.

Q. Was it a success stocking walleye, sturgeon and smallmouth bass in the harbor? If you stock perch in the harbor will they move out to the main lake?

A. Walleye stocking in the lower Milwaukee River did create fishing opportunities in the estuary although we have not documented any natural reproduction yet. Sturgeon stocking has shown positive results and we are seeing 3 to 4 year-old sturgeon in the harbor and outside the break wall. We don't know what stocked yellow perch will do if they are stocked in the harbor. That is why if a stocking program is started it must be accompanied by a robust stocking plan including an evaluation of the contribution of stocked fish to the harvest.

Q. It seems there are a lot of unanswered questions here. If you are starting small, everyone wants it in their own backyard. Is this the last ditch effort, is it the right thing to do, would it screw something up, would it be positive? What would biologist think about bringing different strains?

A. WDNR will work with WCC and others to formulate a plan and direction for future yellow perch management in Lake Michigan that will attempt to answer these and other questions.

Q. Commercial licenses pay \$70,000 to -75,000, and it costs DNR \$776,000 to manage. Will yellow perch management discussed at this meeting be part of the 10 year Lake Michigan Integrated Fisheries Management Plan?

A. You are correct in that it does cost the Department about \$750,000 dollars to manage the commercial fishing fleet. Any yellow perch plan developed will be part of the new 10 year plan.

Q. Would adding phosphorous to the lake help?

A. It will go down to the mussels and help create more algal bloom.

Q. Did Illinois have a perch season closure this year?

A. No. The new season closure was decided on in late June, too late for implementation in 2014. It will be closed starting next spring from May 1 through June 15.

Q. Can you have some predators to control mussels?

A. It is not easy to get rid of mussels. But, at some point the population may level off. There are gobies, fresh water drum, and Lake Whitefish that eat mussels.

Q. Would stocking perch in the harbor affect the genetic strain of natural Lake Michigan population?

A. Maybe. Populations in the harbor may spawn in the harbor and larvae might get flushed out into the lake. If conditions are not right for them in the lake like too early in the season before the plankton bloom starts they may starve to death. The river spawning perch usually use backwaters as nursery. Juneau pond adjacent to the harbor may be a potential location to raise fingerlings.

Comment: We may not get back to the levels from old days, but we need resources to get this going.

Comment: Remembers seeing perch spawning along the Govt. pier and lakeshore some 70 years ago. Eliminate mussels; yellow perch may spawn again nearshore.

Comment: N. Dakota stocks 4-6 million perch per year to attract tourism. Make exchange with them for trout/salmon. How many here are in favor of stocking? (About 12-15 people raised hands.)

Comment: Perch feed on goby hatch, so stock at that time. First, put and take and then they may reproduce?

A. Mixing strains has been a catastrophe in our experience. Many examples show it is a bad idea. Use Lake Michigan strain eggs.

Comment: No commercial fishers are left in Milwaukee now. The only species left to fish for is Lake Whitefish. Perch were down in the 60s when alewives were dense. In late 70s, a massive die off of alewife due to extreme cold winter led to resurgence of yellow perch. Mussel factor is new. Perch tagged in Green Bay in 1977 were caught in Sheboygan harbor in fall 1977. Do you really believe that yellow perch stocked in Milwaukee harbor are going to sit here? In the summer they are in the harbor and in the winter we caught them in deep water down to 120 feet because they move to optimal temperature.

A. We have to discuss this more in depth to determine a future course of action.

Conclusion

The Department is committed to working with stakeholders to improve fishing for yellow perch in nearshore waters of Lake Michigan. We will be forming a team to investigate the possibility of using both stocking and habitat improvement to create a better fishery for yellow perch. This team will create a plan that will outline steps needed to accomplish these tasks including funding, collaboration with other state and Federal agencies, appropriate yellow perch strain(s), rearing location, stocking numbers, marking requirements and post-stocking evaluation. Please understand these important efforts cannot reclaim a perch fishery in Lake Michigan matching the magnitude of that we have lost. The impact of aquatic invasive organisms changing the basic Lake ecosystem is just too great. Instead, we hope to achieve, for our urban anglers, a significant but localized perch fishery in our Lake Michigan harbors and estuaries.