

Status of walleye & yellow perch in Saginaw Bay & proposed regulation changes



Summary:

The Michigan Department of Natural Resources is proposing changes to the management of walleye and yellow perch in Saginaw Bay and is inviting public comment. Walleyes have recovered and are very abundant. While a success story, walleye predation is leading to an imbalance with the available prey base. The consequence is slower walleye growth and very poor survival of juvenile yellow perch. Yellow perch are reproducing very well (like walleyes), but the young perch are not surviving. Predation by other predators, including cormorants, is contributing to this problem but walleye are the most abundant predators in the bay. As a result, the yellow perch population is greatly reduced and both the recreational and commercial fisheries are in collapse. Proposed for walleye is increased recreational harvest by raising the daily bag limit from five to either eight or 10 and dropping the minimum length limit from 15 inches to 13 inches. For yellow perch, proposed is a suite of management activities including (1) liberalizing the walleye recreational fishery (described above), (2) implementing cormorant management (control), (3) lowering the daily recreational perch bag limit from 50 to 25 in the bay and Saginaw River, (4) reducing the amount of commercial fishing effort (nets) in the inner bay, and (5) experimenting with Cisco (lake herring) reintroduction in the bay to restore this important prey species hopefully buffering some predation on young perch. The DNR is inviting input and comments on these proposed management changes, especially the proposed regulation changes. Readers are encouraged to read the details and view the graphs below and send comments to:

DNR-SaginawBayFishRegs@michigan.gov

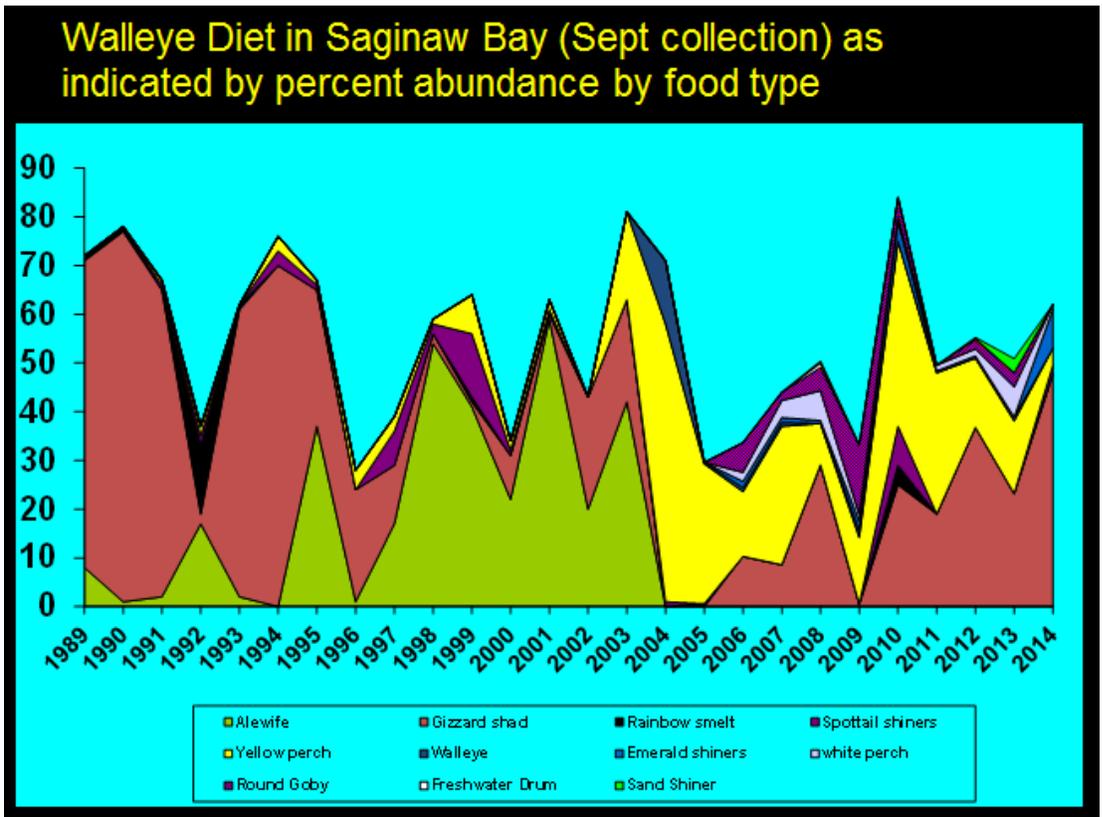
The whole story:

Walleye are the dominant predator fish species in Saginaw Bay and provide for a popular recreational fishery. For many years alewife suppressed walleye reproduction by preying on newly hatched walleye fry in the bay. Alewife declined and virtually disappeared in the early 2000s and in response walleye reproductive success soared. Stocking was discontinued after 2005.

The improved reproductive success of walleye greatly expanded the abundance of catchable adult walleye in the bay. Walleye recovery targets were formally met in 2009, and the recovery of walleye in Saginaw Bay is one of the great fishery management success stories in North America! It is estimated that walleye abundance of age-2 and older fish exceeds 2.5 million in Saginaw Bay. As walleye abundance increased, the abundance of prey species predictably declined due to increased predation. Of special concern was yellow perch. While yellow perch are sought after by both recreational and commercial fishers, their young can also serve as a prey fish. From 1970 (when the DNR began its monitoring) to the early 1990s, young perch survived to adulthood in numbers high enough to sustain the population and fishery. Yellow perch reproduction was poor from 1992-2002 but exploded in 2003 when alewife declined. Like walleye, newly hatched perch fry were consumed by alewife, so in their absence perch reproductive success soared. However, unlike the earlier periods, abundant juvenile yellow perch were not surviving to become adults (the sizes sought by anglers and fishers). This poor survival was attributed to heavy predation.

An examination of walleye diet revealed increased consumption of yellow perch since walleyes recovered and alewife disappeared.

It's believed that although alewife suppressed perch reproduction, they served as a predation buffer to promote good survival of the young perch that were produced each year. Now in the absence of alewife, predation by most predators in the bay shifted to young yellow perch. Before alewife invaded the Great Lakes, it is believed that abundant cisco



(lake herring) served as a prey buffer for perch in the bay. Cisco are a native prey once enormously abundant in the bay and Lake Huron. While some Cisco still persist in the northern most reaches of Lake Huron today, they have been absent from the rest of the lake and Saginaw Bay since the 1950s.

Walleye are not the only predator consuming yellow perch. Abundant double-crested cormorants are also feeding on yellow perch at certain times of the year as evidenced in a recent diet study. It is estimated that cormorants over the course of the open water season will consume 72% as much perch as walleye will.

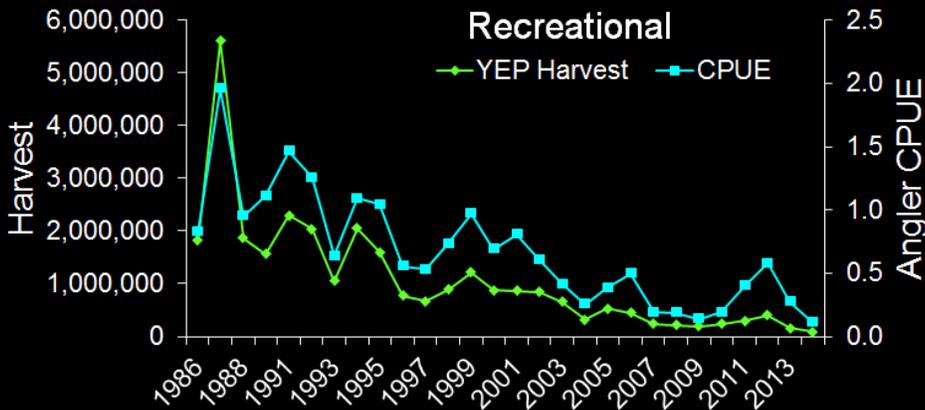
As a result, both the recreational and commercial yellow perch fisheries are in great decline and for all practical purposes are collapsed today.

Besides the decline of yellow perch, walleye growth rates are also declining. While not unexpected and even used as part of the criteria for gauging walleye recovery, there is concern over growth rates becoming too low for walleye.

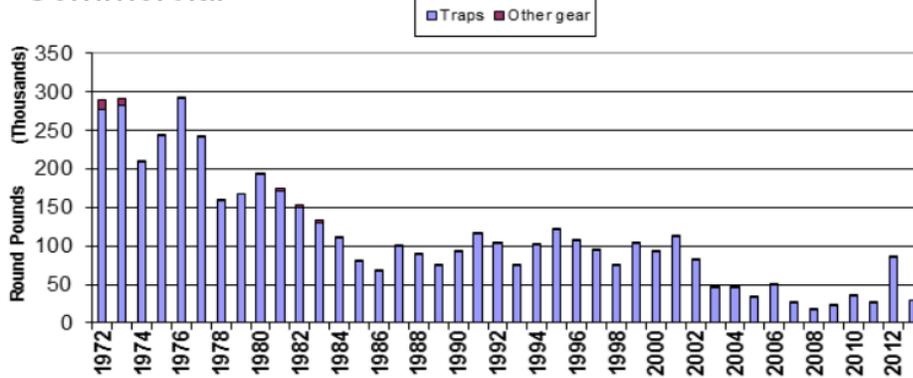
In response to all these recent developments, the DNR has developed a combination of management changes intended to (1) restore predator/prey balance in the bay and (2) to promote recovery of the yellow perch population and fisheries.

As a result, biologists are looking to liberalize the walleye recreational fishery. Biologists believe this is the single best step to restoring predator/prey balance in the bay. Walleye are

Saginaw Bay yellow perch fishery trends



Commercial Yellow perch harvest (lb), Saginaw Bay



being under-utilized in the bay and liberalizing the walleye harvest regulations can ensure more complete utilization in the form of recreational harvest. A simulation model developed by researchers indicates that recreational fishing mortality could be increased by as much as 50% (more) without endangering the sustainability of the walleye population and fishery. The challenge is to know what specific harvest regulations changes will result in the desired increased level of harvest. Similar efforts on Lake Erie to allow for greater recreational

harvest in the Michigan waters has taken the form of increased daily bag limits and a lower minimum length limit. Statewide, Michigan manages walleye with a five fish daily limit and a 15 inch minimum length limit. Two regulation changes are being proposed by fishery managers for walleye in Saginaw Bay. They are:

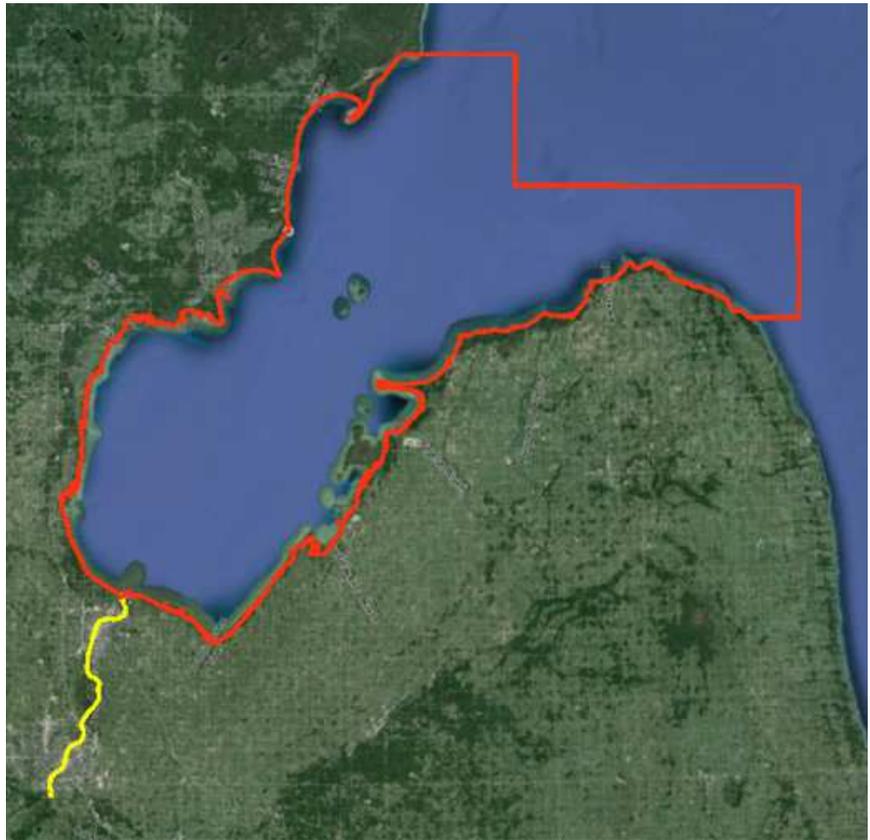
- A daily bag limit of eight walleyes and a 13 inch minimum length limit.

Or

- A daily bag limit of 10 walleyes and a 13 inch minimum length limit.

The proposed extent of the regulation change is the management waters of Lake Huron known as MH-4 and the Saginaw River up to the Center Road Bridge. Seasons would remain unchanged.

The new regulations would go into effect April 1, 2016 for the 2016 fishing season. It is important to note, however, that these proposed regulation changes would be the starting point for a new management process where future bag limits and length limits would be tied to the status of the walleye population and fishery such that if the population diminished, the regulations will become more conservative but if the population remains high,



regulations will remain liberal. This is the same sort of regulation setting process used on Lake Erie only these regulations would be tailored to the status of the Saginaw Bay population of walleyes.

Fishery managers believe this is the right step for walleye, regardless of the needs of yellow perch, but it fits well with what managers are also proposing for changes to yellow perch management. For yellow perch, fishery managers are prescribing a suite of management actions with the intent of promoting recovery of the population and fisheries. Proposed are:

- Liberalize the walleye fishery to promote better perch survival (described above).
- Implement cormorant management (control) on the Saginaw Bay rookeries with reductions to an acceptable target still to be determined, also to promote better perch survival.
- Reduce the yellow perch daily bag limit in Saginaw Bay from 50 to 25 (implemented on the management waters of Lake Huron known as MH-4 and the Saginaw River up to the Center Road Bridge).
- Reduce commercial fishing effort in the inner portion of Saginaw Bay.
- Begin experiments to reintroduce Cisco (lake herring) to Saginaw Bay so as to reestablish a predation buffer to benefit perch survival.

The walleye liberalization is currently being proposed for implementation in 2016. An initial 10% reduction in cormorants has been planned for 2015, with more reductions expected to follow. The reduction in the yellow perch bag limit is proposed for implementation in the 2016 fishing season. The reduction in commercial effort is planned for implementation in 2016 and 2017, and the Cisco reintroduction is planned to begin in 2017.

Looking for public feedback

The Fisheries Division of the DNR is asking for opinions and preferences by the public on these proposed management changes. Comments on any part are welcome, but the DNR is especially interested in input specific to the proposed regulation changes. In summary they are:

For walleye:

- A daily bag limit of eight walleyes and a 13 inch minimum length limit.

Or

- A daily bag limit of 10 walleyes and a 13 inch minimum length limit.

Or

- Status quo, no change from current regulations of five walleyes and 15 inch minimum length limit.

For yellow perch:

- A reduction in the daily bag limit from 50 to 25 perch.

Or

- Status quo, no change from current regulation of 50 perch per day.

Comments and opinions can be sent to the DNR by e-mailing:

DNR-SaginawBayFishRegs@michigan.gov

Additional details:

Researchers predict that a reduction in the yellow perch bag limit would affect only 2% of fishing parties but would reduce harvest by 8%. While not large, fishery managers feel that this can be one important part of the overall suite of strategies to help restore perch in the bay. When perch begin become more abundant, the expected savings in harvest will increase helping to ensure the recovery is sustained.

It's more difficult for researchers to predict the amount of walleye harvest that will be expanded by the proposed walleye harvest regulations changes. Generally they believe that the 10 fish daily bag limit and 13 inch minimum length limit would expand walleye harvest between 10% and 25% in the first year.

Much of the effectiveness of the walleye liberalization hinges on how much fishing effort there is in the recreational fishery. Fishing effort or sometimes called fishing pressure is measured in the number of angler hours exerted in the course of the year or sometimes estimated for just the open water fishing season. The DNR annually estimates this from the creel survey program is maintains on Saginaw Bay. Remarkably, in spite of the recovery of the walleye

population and outstanding walleye fishing, angler effort has continually declined in Saginaw Bay.

It is possible that the new management initiatives and liberalized walleye harvest regulations will generate new interest in the fishery and result in some increased fishing effort, but it is difficult to predict. Other data suggest that the amount of fishing participation in Saginaw Bay depends on the quality of yellow perch fishing.

From this we see that as angler catch rate (CPUE) increases the amount of fishing effort or pressure increases. The quality of the yellow perch fishery explains about half the variability in fishing effort in Saginaw Bay. This underscores the importance of improving yellow perch fishing in the bay. The motivation for liberalizing the walleye fishery, however, is not solely to benefit the perch population. It is seen as a move to better align walleye fishing opportunity to the abundance of the walleye population ensuring full utilization within the limits of sustainability. In other words, it's the right thing to do for walleye regardless of the needs of perch.

If the proposed 25 yellow perch daily bag limit had been in effect in the past on Saginaw Bay, we can estimate what the effect would have been.

During periods of low yellow perch abundance such as since 2005, we see that a 25 fish bag limit reduction would reduce harvest by 8% affecting just 2% of angler fishing parties. During intermediate periods of yellow perch abundance such as from 1995 to 2005, such a regulation would reduce harvest by 14% and affect only 4% of angler fishing parties. Lastly, during periods of higher yellow perch abundance, a 25 perch daily bag limit would reduce harvest by 32% affecting only 7% of angler fishing parties. Fishery managers see this proposed regulation change (reduction of daily perch bag limit from 50 to 25 on Saginaw Bay) as not only part of the suite to conserve perch today, but to position our management to be more effective even as perch begin to recover.

An important element in developing successful fishery management regulations is to include public input and opinion. Send your comments on the proposed walleye and yellow perch regulation changes and overall management changes to:

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Thank you. Your opinion matters.