



Illinois Department of Natural Resources

One Natural Resources Way Springfield, Illinois 62702-1271
www.dnr.illinois.gov

Bruce Rauner, Governor

Wayne A. Rosenthal, Director

February 2016

To: **Illinois constituents and other concerned parties**

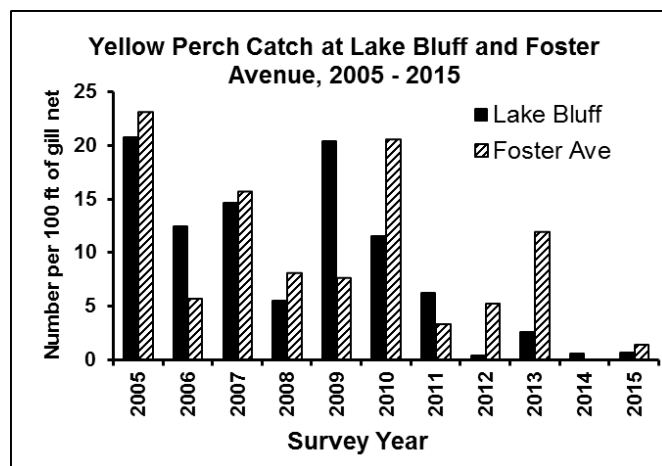
From: **Dan Stephenson, Fish Chief**

Vic Santucci, Lake Michigan Program Manager

This newsletter covers information from field sampling activities during 2015 that were provided by our Lake Michigan Program (LMP) biologists as well as other Lake Michigan fishery management agencies. Many of our LMP fishery reports can be found on the Ifishillinois.org website along with specific information on stocking sites and numbers. Sport fish creel and other Lake Michigan research reports from the Illinois Natural History Survey are available on UIUC's Ideals.illinois.edu website. We are not anticipating any regulation changes in 2016 but some of the information presented here indicates that changes to our Lake Michigan fishery management strategy may be needed in the near future. Following are topics of interest to those who fish in the Illinois waters of Lake Michigan.

Adult Yellow Perch Abundance Low, Yet Early Indicators Suggest Strong 2015 Year Class Produced

Yellow perch seining in 2015 yielded the highest number of young-of-the-year (YOY) perch we have seen since sampling began in 1978. Most fish management agencies around the lake also reported similar high catches of YOY yellow perch in 2015. This is a significant change from the relatively poor recruitment of yellow perch over the past 4 years. The abundance of YOY perch in 2015 is encouraging however those fish will need to survive and grow over the next few years before reaching sizes that anglers prefer. YOY catches in 2010 were strong (previous record high) but have contributed very little to angler harvest so far. Catches of adult yellow perch increased at our two annual sampling sites from record low catches in 2014 (total catch = 33 perch) but the increase was not reflected in the angler catch, which continued to decline. The 2012 and 2010 year classes made up 94% of yellow perch that were sampled. In general, healthy yellow perch populations are composed of multiple year classes and also contain older individuals that that may be more reproductively successful.



New Tournament Permit Process and Application System in Illinois

There were changes to Illinois fishing regulations in 2015 that now require all tournaments to be permitted through the DNR. This change affects all fishing tournaments, including both consumptive and catch-and-release tournaments. The revamp of our tournament monitoring should allow us to better estimate tournament angler usage of Illinois waters and the numbers and sizes of fish caught. There is no fee for tournament permits. Applications may now be completed online on the Ifishillinois.org website.

Salmon and Trout Stocking Targets Met in 2015, Fewer Coho Salmon Likely To Be Stocked in 2016

The 2015 fall salmon runs at Michigan weirs did not produce enough fish for us to obtain all of the eggs necessary to stock our full complement of fish. We did receive additional Chinook salmon eggs from Wisconsin to reach our stocking target of 235,000 fish; however, we anticipate that coho salmon stocking will be less than our target of 300,000 fish. Due to the late season run and overall poor returns of adults, all of our coho salmon came from Wisconsin this year. An initial collection of eggs was transferred to Jake Wolf Memorial Hatchery in late-October. The final group of fry was acquired in January. The hatchery projects stocking between 250,000 and 300,000 coho salmon, assuming good survival in the hatchery for the next two months. These salmon also will be smaller than usual because of the late start. Brown trout and rainbow trout will be stocked at the usual numbers (110,000 each). In 2015, we experimented with using a tube to stock fish below the surface of the water. The fish appeared less disoriented and remained deeper and away from predatory gulls. With a few modifications for 2016, we think this change in stocking method will improve survival of the newly stocked fish.

Forage Fish Abundance Continues to Decline in Lake Michigan

Forage fish assessments by the US Geological Survey indicate that the lakewide abundance of all forage fish is continuing to decline. These fish species are the primary food of Lake Michigan salmon, trout, and other sport fish. Alewife biomass (total weight) is at its lowest level since the bottom trawl survey began in 1973. The decline in forage fishes is corroborated by the USGS acoustic survey that also tracks newly hatched fish. Alewife and other forage fish may be found in high numbers in Illinois waters in spring, as reported by anglers and measured by DNR surveys, but the overall lower lakewide abundance of these fish has been causing them to be very patchy throughout the lake and often

dispersed by mid-summer. Anglers should be concerned because low forage fish abundance doesn't bode well for future Chinook and coho salmon harvests. The Lake Michigan Committee (Great Lakes Fishery Commission) adopted a new Salmonid Strategy in 2013 that reduced the number of Chinook salmon stocked in the lake by 50% in an effort to bring the number of predators more in line with the available forage. In light of the continuing decline in forage, further changes to the stocking strategy may be required. In addition, the Lake Michigan Committee has formed a Native Planktivore Task Group to investigate rehabilitation strategies for native prey fishes such as cisco (lake herring) that are better adapted to the lake than alewife.

Illinois Angler Harvest of Yellow Perch Hits Record Low in 2015, Harvest of Other Species Remain Stable

Sport harvest of yellow perch in 2015 (8,289 fish) was the lowest since the creel survey began in 1985 and it represented a significant drop from the 54,475 perch taken the previous year. Prompted by anglers, the long-standing July closure (since 2001) was changed to a May 1-June 15 closure in 2015 (a 15 fish daily bag limit remains in place). The decline in perch harvest occurred despite opening the month of July, which historically accounted for 40% of the Illinois perch harvest. The low harvest is representative of the low abundance of the yellow perch population and mirrors relatively few yellow perch that were sampled in LMP nets during 2014 and 2015. Total number of salmon and trout harvested in 2015 was similar to 2014 but the composition of the catch changed. The most notable differences were that charter harvest of coho and Chinook salmon dropped between 2014 and 2015 and harvest of lake trout more than tripled. In contrast, sport angler harvest of coho and Chinook salmon increased and lake trout harvest decreased compared to 2014. Brown trout and rainbow trout continue to be a rather small part of the overall Illinois harvest with the sport harvest in 2015 (around 3,000 fish of each species) about half that of 2014.

Coded-wire Tag Study Helps Document Chinook Salmon Movements and Natural Reproduction

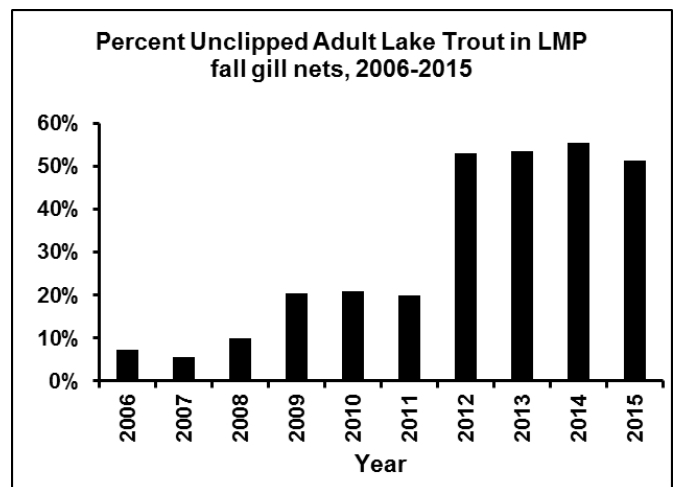
Chinook salmon natural recruitment and movements throughout Lake Michigan are being documented by use of coded-wire tags. The tags are implanted in juvenile Chinook salmon by the USFWS at state hatcheries. The study also includes tagged Chinook from Lake Huron, which anglers catch in our waters, so that immigration rates can be estimated. Initial indications are that the Chinook salmon that Illinois anglers catch during the spring and summer are fish that were stocked at various spots all around the lake as well as natural fish. Late season fish tend to be from the areas where they were stocked. Natural reproduction appears to be holding steady and about 50% of the Chinook salmon swimming around in Lake Michigan are natural fish. Thanks to all of the anglers, charter captains, and Salmon Unlimited of Illinois members that have been instrumental in the collection of biological data and tags to make this study a success.

No Significant Changes in Smallmouth and Largemouth Bass Populations

Smallmouth and largemouth bass populations remain relatively unchanged in Illinois waters of Lake Michigan, although abundance has been declining at some sites as measured by LMP electrofishing sampling. We saw usual numbers of juvenile bass in our summer seining for YOY yellow perch however bass fry were not as abundant in 2015 as they have been in the past. The average size of smallmouth bass that we sampled in our harbor assessments has not changed since 2000; largemouth bass average size increased during 2000-2007 and has remained constant since then.

Lake Trout Natural Recruitment Evident in Lake Michigan, Highest in Illinois Waters

Lake Trout without a fin clip are being caught more frequently in Illinois waters. All lake trout stocked in lakes Michigan and Huron receive a fin clip to designate them as hatchery-origin fish. The largest proportion of fish without a fin clip are found in Illinois waters (>50% of fish in LMP fall gill net surveys). Smaller percentages of unclipped fish are being caught as you move north through the lake (~20% Midlake Refuge; 4% Northern Refuge). USFWS headhunters along with INHS staff have been collecting data on the sport harvest of lake trout at launch ramps during the summer. Around 30% of the lake trout harvested during the summer at North Point Marina and Waukegan were natural fish. It also appears that these fish are from multiple age classes. This may be the first indication of sustained natural reproduction in Lake Michigan and it is likely occurring in Illinois waters. Again, thanks to those that contributed to data collection.



Frequently Asked Questions

What is the status of Asian Carp? Are they in the lake or getting closer to Lake Michigan?

Existing science suggests bighead and silver carp will have a negative impact on the ecology and fisheries of the Great Lakes. The Illinois and Chicago Area waterways remain an important potential pathway into the basin and center of control and management actions. The US Army Corps of Engineers continues to operate

three electric barriers in the Chicago Sanitary and Ship Canal near Romeoville and Illinois DNR continues to utilize contracted commercial fishers to remove invasive carp (4 million pounds to date) from the Illinois and lower Des Plaines rivers. Extensive monitoring above and below the electric barriers during 2015 has documented a second consecutive year of successful Asian carp reproduction in the lower Illinois River, which contributed to the detection of small silver carp (< 6 inches long) 51 miles downstream of the barriers in Starved Rock Pool (88 miles from Lake Michigan) and the capture of three silver carp larvae 16 miles from the barriers in Dresden Island Pool (55 miles from Lake Michigan). Despite these recent changes in the distribution of small carp, the location of the overall leading edge of the Asian carp invasion has not changed substantially in 10 years, since 2006. For the most comprehensive information on carp efforts please see www.asiancarp.us.

Why are fish populations in the lake declining?

Lake Michigan has dramatically changed due to the negative effects of invasive zebra and quagga mussels. As such, it no longer has the ability to maintain the level of fish populations of the 1980s and early 1990s. Other invasive species that have had impacts on the lake also functioned at a higher trophic level (e.g., sea lamprey preying on adult fish) or displaced similar species (e.g., sculpin displacement by round goby). While these other invasive species continue to have significant effects on fish populations, fisheries managers have been able to mitigate some of their impacts by additional stocking or chemical treatment, or natural mechanisms in the lake have kept the invasive populations under control. Zebra and now quagga mussels however operate at a lower trophic level, consuming plankton which is the food of zooplankton and larval fish. The less available plankton means less available food for young sport fish and the prey fish which in turn are food for fish that anglers like to catch. Fishery managers have few tools to deal with these invaders and the impacts are more broad-scale than what we have experienced in the past. Recently, the Invasive Mussel Collaborative, composed of federal and state agencies, industry, and academic institutions, was established to advance scientifically sound technology for invasive mussel control to produce measurable ecological and economic benefits.

If you have any questions regarding this newsletter, contact the Lake Michigan Program office at (847) 294-4134.



Photo: Chris Young