

Lake Michigan Fisheries Forum: 29 August 2016, Lakeshore Technical College, Cleveland, WI.

Todd Kalish, DNR deputy fisheries bureau chief; Opening remarks

- Common goal: Sustainable fishery for current/future generations, maintain value of the fishery
- Common approach: Encourage/acknowledge diverse experiences, expertise and points of view; take into account biological, economic and social factors.
- Surveys and analyses leading to recommendations:
 - o Predator:prey ratio
 - o Return weight of females at weir
 - o Depressed prey base
 - o Angler reports: large salmon with lots of alewife, dead alewife on beaches
 - o Quagga, zebra mussels are changing the lake
- Management needs to adapt to these changes
- Common purpose: collaborate for shared goals → commitment to the resource, diverse viewpoints are strength not weakness, DNR is actively working to be more effective in partnerships. Charge to the audience to also be more effective partners. Divided we will not reach our shared goal (sustainable fishery)

Titus Seilheimer, Wisconsin Sea Grant fisheries specialists; Statements and polls

- LMFF → Purpose is to review/provide input to fishery goals, objectives, management plans for Lake Michigan
- Members assist DNR with managing the fishery into the future
- Stated meeting guidelines: Question/comment cards, facilitate discussion.
- Polls
 - o Practice question: Yellow perch are clearly the tastiest fish to fry.
 - o Participation in the fishery: Charter: 51%; Angler: 30%; <10% in other categories.
 - o How long have you been involved? >20 years: 71%
 - o Has productivity for salmon changed? Decreased: 75%
 - o Has alewife biomass changed? Decreased: 66%
 - o What percent of Chinook salmon is naturally reproduced?
 - 50-75%: - 25%;
 - 25-50%: - 18%;
 - <25%: - 31%.

Brad Eggold, DNR Great Lakes District fisheries supervisor; Presentation

- Timeline for determining chinook reduction plans
- Stakeholder engagement over past 5 years
- Presentation of different options:
 - o Outreach/Marketing of Fishery
 - o Hatchery Production
 - o Net Pen Usage
 - o Stocking at Dusk/Night
 - o Species Mix
 - o Chinook salmon and lake trout plans
 - Maintain/increase
 - Maintain status quo
 - Maintain with equivalents
 - Decrease by ~50% (47%)

- Lake trout reductions
- Lake trout seasons and bag limits
- Other Management Options – Limited discussion because these are not feasible or not relevant to short term decision-making process for next year's stocking levels

Questions from the Audience

- Once stocking level is reduced, will it stay at that level or be adjusted?
 - Answer: Stocking level will be adjusted based on future assessments of the fishery.
- Why not commercial fishing for lake trout to reduce predation pressure on alewife?
 - Answer: Establishing a commercial lake trout fishery is a very long process and is beyond the scope of the current decision making required for next year's stocking quota. Potential to explore this option in the future, but it would require following the appropriate procedures.
- Why not increase lake trout bag limit to five?
 - Answer: Data suggest that anglers would not reach this value so there is not good justification for this regulation.
- Why are there so many pink salmon this year?
 - Answer: Likely coming from the St. Mary's River systems, produced by natural reproduction (DNR staff were not aware of current stocking programs).
- What is the effect of 50 percent reduction in stocking of chinook salmon on Predator:Prey Ratio?
 - Answer: Would drive the predator/prey ratio down.
- How many non-adipose clip chinook have a CWT (i.e., are stocked not naturally reproduced)?
 - Answer: DNR looked at 1,000 fish, 0.5% of no-clip fish had a CWT. This is consistent with observations from the clipping truck QAQC.
- What is estimated percentage of wild chinook?
 - Answer: We do not have 2016 numbers; however, in Wisconsin waters ~55-66% were wild in 2015.
- Are wild chinook included in the stocking cut?
 - Answer: No. We are unable to effectively manipulate the number of naturally reproduced chinook entering Lake Michigan.
- What percentage of lake trout are naturally reproduced?
 - Answer: Depends on the location in Lake Michigan. In the north, natural reproduction is near 0%. In the mid- and southern-portion of the lake, natural reproduction is 30-50%.
- Why are we stocking lake trout in the northern part of the lake if they are not naturally reproducing? What are future plans for lake trout?
 - Answer: DNR is working with other jurisdictions on the lake to develop a strategy to reduce stocking of lake trout and to identify specific criteria for locations across the lake.
- Are stocking values at mid-lake and Julian's Reef set by treaties with the tribes in Michigan?
 - No.

Facilitated Discussion (Questions followed by comments/discussion)

- **Should DNR engage angler groups to develop a marketing strategy?**
 - Consensus - Yes – work with stakeholders to develop timing of press release (lots of support from audience)
 - Approximately 10% of fishery is charter boats, 90% is private sport fishers. It is important that both groups be represented when developing a marketing strategy.

- Make sure you are strongly considering the economic impact charter fishing brings to the fishing industry and local communities.
 - Want more ability to contribute to data collections, build scientific evidence. Dissatisfied with current DNR efforts.
 - Titus highlighted the Salmon Ambassador Program.
- **Should more net pens be included in the management options?**
- Consensus - Yes – work with stakeholders to develop net pens in areas that do not have them (support from audience).
 - Potential for catastrophic mortality events in net pens.
 - Potential of other sources of mortality if you stock them into the lake, highlights that goal of net pens is to reduce these sources of mortality.
 - Net pens make mortality events observable because they are in confined space. These mortality events happen in the wild too, but we do not see them.
 - Discussion of the importance of net pens on imprinting, questions about whether location matters more. John Janssen discussed most recent scientific understanding of imprinting, stated that the most important imprinting begins at the earliest stages of life. Immediately following hatch.
 - Stocking earlier is the best way to avoid cormorants. Agreement that it is more than just cormorants, lots of different seabirds are eating these fish following stocking.
- **Should WDNR stock at night? If no, should we use short term net pens without feeding to release fish at night?**
- Using net pens for night stocking, suggestion that this seems to work.
 - Cormorant hazing questions: What do other states do? Can we do more?
 - Yes, we can do more, but it is complicated with new legal orders pertaining to hazing and other practices to reduce fish depredation by cormorants. We may pursue these options in the long term and may work with clubs, etc. at the time of stocking.
 - Net pens seem to help reduce bird predation.
 - DNR and clubs should be working together to address this. Mixed agreement in the crowd.
 - Most in the audience agreed that net pens could be used to release fish at night.
 - This is a misleading question, should be yes and no to each question.
- **How many Chinook salmon should be stocked by Wisconsin in 2017?**
- Clear consensus to “maintain or increase” from general audience, but not necessarily consensus from forum members in particular... this question instigated a discussion that lasted the majority of the meeting.
 - How many people want to turn Lake Michigan into Lake Huron? Indicated desire to consider the current predator and prey abundances in the lake.
 - Statement that DNR needs to guide audience with our expertise, compared current meeting to, “Asking school children how much recess do you want?”
 - Lake trout reductions will allow high levels of chinook stocking.
 - Question about whether or not we are currently getting our equivalents from species that we are not reaching our quota.

- Clarification from DNR that these fish are included in the current chinook stocking numbers, which would be less if these fish were being stocked (e.g., steelhead).
 - Have we taken into account other prey ratios? For instance, coho and rainbow eat “shrimp” (I assume this means mysis and hemimysis).
 - DNR clarified that chinook diet is composed of ~95% alewife.
 - Lots of support from the audience for option #1 – Maintain and increase stocking.
 - Recommendation to reduce lake trout stocking of mid-lake reef and move these fish closer to shore where they provide easy access to anglers.
 - Lake trout natural reproduction will lead to multiple generations of naturally reproduced lake trout → even with reduced stocking, lake trout will still increase due to natural reproduction.
 - Statement to reduce all species, coho, etc.
 - Statement supporting the need for more lamprey, which will reduce lake trout numbers.
- Question from the audience about the likelihood that Michigan will stop lake trout stocking in ceded territory.
 - This is a long term solution and Michigan is currently working with the tribes to evaluate this option in the future.
 - If we do not cut stocking, will other states absorb larger cuts?
 - DNR answer: We have a commitment through the Great Lakes Joint Strategic Plan, but we do not know what other states would do. There are unknown implications to violating the Joint Strategic Plan.
- Can we adjust stocking cuts to numbers other than 47%?
 - Yes, the Lake Michigan Committee recommendation is a recommendation only. Management authority remains within each of the states.
 - The option where equivalents are used to meet stocking shortfalls allows for lots of options by manipulating the number of all salmonids stocked into Lake Michigan.
- Statement that DNR should look at other angler generated data.
- Further support that anglers prefer chinook over other species.
- John Janssen (UWM-SFS) addressed the audience and fielded questions.
 - Dave Warner (USGS) has observed very few alewives in the trawls.
 - Places where anglers observe large numbers of alewife are near harbors associated with rivers that increase local productivity through nutrient enrichment.
 - These areas also have large numbers of hemimysis, which the alewives are eating in large numbers.
 - These are the places where alewife are concentrating and chinook are finding them and feeding heavily.
 - Similar concentrations are not occurring across the lake, but tend to be limited to those locations along the Wisconsin shoreline with nutrient rich tributaries.
- Can we increase brown trout numbers?
 - No, this is likely not an option because of hatchery space.
- Is there anything the DNR is doing to control quagga/zebra mussels?

- DNR collaborates with numerous entities to disseminate an education and outreach program to reduce the spread of these species, but actual physical control is beyond the capacity of DNR.
 - Mark Holey (USFWS) addressed audience and fielded questions.
 - Stated that USFWS role is primarily related to stocking.
 - Lake trout restoration has been a goal for Lake Michigan since the 1960s. Since the 1960s, there have been many revisions to the restoration strategy and the focus has gotten better each time. We are continuing to work on improving our lake trout goals.
 - USFWS responds to the plans put together by the parties of the LMC.
 - Federal court manages the waters in the ceded territories.
 - Currently, USFWS is working with the states to reduce lake trout stocking in the future, but up to this point, restoration has been a goal for lake trout in Lake Michigan.
 - Ended by noting the immense value of the CWT data, which provides us the best information to manage these fisheries that we have ever had. We know more now than we ever have.
 - Question: If lake trout live for decades, how do we know we haven't reached the restoration goals?
 - Originally, fish were stocked everywhere, but then we've modified restoration to focus on a few priorities areas.
 - We currently have very good data and we are getting better recruitment.
 - Working to improve goals and define what the targets are to define success.
 - Discussion about the role of thiamine deficiency and natural reproduction. Currently, thiamine levels are not high enough to lead to early mortality syndrome (EMS).
 - Missed opportunity to tie this into decreasing reliance on alewife and increasing utilization of round gobies. Potential factor leading to this improvement.
- **Increasing bag limits to harvest more lake trout**
 - Yes, a lot of support for this option.
 - Open the Mid-Lake Refuge.
 - Question about options that increase harvesting of lake trout in light of fact that DNR advisories indicate the fish should not be consumed regularly because of contaminants issues.