2010 January to July Summary of the Coalition Activities Pertaining to the Great Lakes and Inland Decrees

Lake Trout Harvest Model not Working for Northern Lake Huron

A model is used within the Tribal treaty waters to establish lake trout harvest limits for both the Tribal and State fisheries of each fishing zone. The model was showing some uncertainty for northern Lake Huron so a special Executive Council Meeting of the Tribes, State and Federal Government was held on June 21, 2010 to determine the safe harvest limits of lake trout in zone MH-1(Rogers City to Drummond Island) Stephen Schultz was not available for the meeting but I was able to attend. Steve provided some direction before and after the meeting and the results were satisfactory to the State, Tribes and Federal representatives. I also felt the settlement was reasonable and the compromise will allow both the Tribal and State recreational fisheries to continue during the next 2 years near the recent harvest levels while the model is being updated.

The main concern with the harvest model is the lake trout fishery has changed significantly since 2004 and it is difficult for the biologists to determine the actual survival rate of the fish. The lake trout are living longer but growth has decreased. Before 2004, age 6 lake trout were fully vulnerable to survey nets while today a fish needs an extra 2 to 3 years to grow large enough to be caught effectively in the same survey nets. The amount of forage fish in Lake Huron has decreased greatly since the zebra and quagga mussel populations exploded resulting in record low levels of smelt and alewife.

An unexplained trend is fewer young fish are being caught during surveys. The biologists are not sure if there is less young fish or the assessment gear is just not efficient enough to capture them. The adult lake trout have been moving to deeper waters up to 300 feet to feed while just a few years ago larger lake trout were not regularly caught beyond 150 feet. This is a problem because smaller lake trout prefer waters deeper than 150 feet and the deeper waters provided a refuge by physically separating the larger lake trout from the smaller lake trout thus greatly reducing cannibalism. This separation apparently is much reduced. A major diet study that began last year showed that larger lake trout are feeding heavily at times on small lake trout. With smelt and alewives at very low levels, adult trout, salmon, walleye and other predators are consuming large numbers of stocked and wild small sport fish which reduces greatly the survival of young fish. In other words, small trout and salmon are currently a significant forage fish (baitfish) for the large adult predators in Lake Huron. So research is focusing on whether there are fewer small lake trout or have the small trout migrated to locations where the surveys are not catching them.

Another interesting observation is the percentage of wild lake trout in the 1 to 3 pound range has recently increased significantly and has approached 30% or more in some areas of Lake Huron.

Hatchery fish survival on the other hand has been decreasing steadily since the alewife population collapsed in 2004. One theory supporting increased wild lake trout production is the drastic decline of alewife has resulted in much better survival of young lake trout because of less competition but more importantly lake trout are eating less thiaminase which destroys vitamin B and inhibits early survival. Alewife contain very high levels of thiaminase and if lake trout consume large numbers of this forage successful reproduction is greatly reduced. More work needs to be done to better account for wild lake trout recruitment in the model.

After about 3 hours of discussion at the meeting, it was decided that harvest model was likely underestimating the number of lake trout in the northern area of Lake Huron and that continuing the harvest near current levels would protect the fishery. These harvest limits will remain in effect for 2 years while adjustments are made to the model. The survey techniques have already been modified to deal with the changes in habits of the lake trout and other research has been started. For example, the State and Tribal researchers are conducting extensive studies to determine the survival rates of fish that are caught and released. In addition, the Tribes have been experimenting with legged whitefish gill nets and it appears that this new design reduces the by-catch of lake trout by over 67% while only reducing whitefish harvest by only 11%. Legged gill nets have the mesh removed from the bottom 3 feet so fish can swim freely under the mesh. Since there is little market value for lake trout and the larger fish damage the nets the Tribes are very interested in further reducing the incidental catch of trout.

Activities in the Inland Waterway (Black, Burt, Crooked, Pickerel, and Mullett Lakes)

As I mentioned in my summary last year, a major controversy occurred concerning the possible closure of the recreational walleye harvest in Mullett Lake. The fishery is shared between the Tribes and State and a 2009 spring survey showed the number of adult walleye to be much smaller than predicted and it appeared that the State recreational harvest for 2010 would have to be eliminated. After two major sessions involving the public, Tribes and State a successful compromise resulted that will allow the recreational harvest of walleye to continue in 2010. This agreement was possible because of the Tribes' willingness to address the concerns expressed by us and others. We were also able to have meaningful discussions with the MDNRE and several representatives from the Coalition worked with Kelley Smith, Chief of Fisheries, to organize and facilitate the public meetings.

Kelley Smith wanted to continue the dialogue so he suggested that a MDNRE Citizens Fishery Advisory Committee be established with representatives of agencies and stakeholders involved and concerned with the lakes in the Inland Waterway (Black, Burt, Crooked, Pickerel, and Mullett Lakes). The committee was formed in November of last year and we have met 3 times. I was appointed Chair of the Northern Inland Lakes Citizens Fishery Advisory Committee and Alan Terry, who is also a representative of the Coalition, serves on the Committee. The goal of the group is to increase interest in all inland lakes and to promote research to better understand the fisheries and ecology of these waters. Over the years, there has been much emphasis placed on studying streams and the Great Lakes but not enough

work has been done to document and understand the ecology of inland lakes. The Advisory Committee has been very successful and several major research projects will be conducted over the next 2 to 3 years. A joint project between the DNRE and MSU has been funded that will support 2 Ph D students and will look at the ecology of walleyes throughout the Inland Waterway. The Little Traverse Bay Bands of Ottawa Indians will be conducting a study to examine in depth the walleye populations in Pickerel and Crooked Lakes. Researchers and administrators from the University of Michigan Biological Station at Douglas Lake became very interested in the research priorities established by the Advisory Committee and as a result are coordinating several research projects in the Inland Waterway and surrounding Lakes. The Biological Station, with its outstanding facilities, hosts researchers from all over the world each year. For example, Dr. Troy Keller from Columbus State University, Columbus, GA is conducting a class at the Station that is examining the impacts of exotic zebra mussels on the food web in the Waterway. He is also conducting a pilot study to determine the feasibility of installing high tech sampling stations on each of the larger lakes to obtain automatic real time chemical and biological data. In addition, Dr. Amy Schrank, School of Forest Resources and Environmental Science, Michigan Tech University, Houghton, MI will be conducting a class at the Station that will be examining the forage fish and additional food sources of walleyes and other predators in Black Lake.

Finally, large numbers of walleye were made available by the MDNRE and the Tribes for stocking in both Mullett and Black Lakes. During June and July, 192,184 spring fingerling walleyes were planted in Black Lake and 101,000 were planted in Mullett Lake.

The Advisory Committee plans to remain active and if anyone would like the minutes of the previous meetings, be added to the mailing list or other information please contact me.

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