

Muskellunge Standing Team Meeting Notes - 2/22/2005

- Larry Ramsell, Bob Benson, and Eric Johnson presented information on the status of the muskellunge fishery in WI. They believe that the state of WI uses a questionable source for eggs in our hatchery operations and presented Muskies, Inc., 'Lunge Log data to support their contention that fewer than expected 50" and larger muskellunge were being caught by anglers fishing WI waters.
- Tim Simonson presented a review of the published information on the variety of factors that affect muskellunge growth, condition, and size-structure.
- Jerry Younk, MN DNR, presented an historical perspective on the muskellunge hatchery and recent successes of the muskellunge stocking program in MN.
- Martin Jennings presented an overview of the impacts of stocking on population genetics.
- Brian Sloss, UWSP, presented some specific ideas for needed research on muskellunge genetics issues.
- We reviewed the following list of recommendations presented by Larry, Bob, and Eric:
- Capture and select ONLY large males – 45" and females – 52" from Lac Court Oreilles, Grindstone or the Chippewa Flowage, to take the necessary (Neubich pers. comm.) 500,000 eggs (5 to 10 females) for the Spooner hatchery operation. A like event would be required for the Woodruff hatchery from an appropriate water body, such as perhaps a previously unstocked section of the Wisconsin River or other suitable candidate.

Standing Team Discussion:

While intended to ensure that eggs only come from individuals likely to produce large-growing offspring, taking eggs from only large individuals (likely to be few in number) may create other problems. Basing a brood source on few individuals will have a "founder" effect due to low genetic diversity (this would primarily be a concern in lakes with some natural reproduction?). Further, the logistical problem of obtaining a sufficient number of eggs from a low-abundance sub-group of the population also presents challenges. Taking eggs from large individuals across several lakes could alleviate some of these concerns (?). We will attempt to use survey crews, who will be working in some of these lakes this spring, to help out the hatchery crews target larger individuals.

We are working on "Brood Stock Management Guidelines" through a contract with Dr. Brian Sloss. These need to be completed, reviewed by the standing team, and implemented as soon as possible. We could also look for other brood stock lakes with documented desirable performance traits and with high enough adult densities to allow us to handle a number of large individuals, which would facilitate efficient egg collection. Some examples could include: Yellow Lake, Burnett County; Trade Lake (?), Burnett County; Moose Lake, Sawyer County. Many of these are LCO-derived but may contain individuals with the desired characteristics.

Another key task should be to document the present performance traits of our muskellunge populations, particularly those that are LCO-derived, via collection of cleithra, perhaps by working with GLIFWC and the tribes. We would like to opportunity to collect cleithra from speared muskellunge on lakes of particular interest to us.

- Repeat #1, and remove the captured "brood stock" to a lake currently without muskellunge to create a "new" brood stock lake. We are prepared to offer organized

support in both money and manpower to assist in these endeavors, and insist at the very least, on “observing” the process. We feel monumental forward progress can be made in the annals of Wisconsin muskellunge management with forward thinking and cooperation between the DNR and the muskellunge user groups.

Rather than “robbing Peter to pay Paul” by moving adults out of fisheries, we would recommend establishing a brood source with stocked fingerlings. This will be done over time and will provide more genetic diversity within the new brood source. Even in a “mixed” population, these fish can be pit tagged and solely used on hatchery operations, particularly in the case where there is no/low natural reproduction in the receiving population and little chance of further interbreeding. We need to identify a lake that could receive the new fingerlings. Again, it is critical that we characterize our stocks prior to establishing a brood stock lake to ensure that the brood source has optimal genetic integrity.

- Capture Mississippi River strain fish from Nancy Lake in Washburn County, near Minong, to obtain sufficient eggs to supply both the Spooner and Woodruff hatcheries. We will survey the Nancy Lake population this spring (2005) and determine the feasibility of Nancy as an egg source. Dr. Martin Jennings will conduct the netting and report back to the Standing Team. It was generally felt, however, that a “known” source of Mississippi River strain muskellunge should be obtained, probably from the state of MN, to establish a new brood source. Nancy Lake may be a logical recipient population for this infusion of more Mississippi River strain fish. We are not prepared at this time to concede that this strain should be used beyond the St. Croix basin, particularly in northeast WI at the Woodruff Hatchery.
- If an insufficient number of eggs can not be obtained from Nancy Lake, procure Mississippi River strain eggs from the Minnesota DNR or other sources if necessary. This would be our preference. We would need to start working on the process of obtaining eggs or fingerlings from MN DNR.
- Stock ONLY Mississippi River strain muskellunge in the St. Croix River drainage waters with émigré access to the main St. Croix River, ceasing the mixing that has been done by stocking Bone Lake fish there. Such stocking endangers not only the Mississippi River strain restoration program now being done in the St. Croix below Taylors Falls by the Minnesota DNR due to emigration, but could conceivably cause dilution of muskellunge fisheries throughout entire St. Croix and Mississippi River systems up into Minnesota over time. Further stocking there by Wisconsin, should be done only with Mississippi River strain muskellunge. We are in general agreement with this recommendation, but we want to make sure that these fish actually perform significantly better before we totally switch over to Mississippi River strain fish. The Nancy Lake “experiment” was poorly designed from a scientific perspective and did not include paired stockings with WI strain fish. We have no way of knowing if WI fish would have performed just as well as Leech Lake fish with a new introduction into a lake with good forage availability. In fact, we do know from Johnson (1971) that LCO fish, when first introduced into Bone Lake, performed better than fish in LCO, in terms of growth. Therefore, we propose choosing approximately X existing muskellunge lakes in the St. Croix basin and conducting a sound evaluation using paired stockings with Mississippi River strain and WI strain fish. This would be conducted by Dr. Martin Jennings with assistance with Fisheries Biologists in the St. Croix basin. This would also provide anglers with some

opportunities in the near-term and would provide us with the information we need to feel comfortable proceeding.

- Stock ONLY Great Lakes strain muskellunge in ALL Great Lakes drainage waters, including the Lake Superior and Lake Michigan drainages, expanding the State's current "restoration" program in the Green Bay drainage, and immediately cease stocking Bone Lake mixed strain fish into the St. Louis River. Such stocking endangers not only the Green Bay, Lake Michigan Restoration program now going on in Wisconsin by the Wisconsin DNR due to emigration, but could conceivably cause dilution of muskellunge fisheries throughout the entire Great Lakes system and into the St. Lawrence River over time. Michigan does not stock "northern" (lacustrine) muskellunge into Great Lakes muskellunge waters. Further stocking there by Wisconsin, should be done only with Great Lakes strain muskellunge. We agree that only Great Lakes strain fish should be stocked into waters of the Great Lakes. When we have sufficient numbers of Great Lakes strain fish from our operations in the Fox River, these fish, when available, should be used to fill the quota for the St. Louis River. We could cease stocking LCO-derived fish in the St. Louis River; needs further discussion with local fisheries biologist. We do not agree that this strain, which is adapted for large, open-water environments, should be used in all inland waters with eventual connection to the Great Lakes. Waters with direct connections to the Great Lakes should be reviewed. MN currently stocks Mississippi River strain fish into the St. Louis River. This would also need to be addressed. We are doing this on Lake Winnebago now, which, along with Green Bay, as the potential to produce the outcome desired by all parties.

If one or more of the above options is not done in 2005, for whatever reason, CEASE all hatchery production of muskellunge in Wisconsin for drainage waters, with the exceptions of the current Green Bay drainage restoration program, or for landlocked seepage lakes, until satisfactory genetic sampling, if feasible, can be completed. If said genetic testing is, as we believe, not feasible, then allow the use of options 1, 2, 3 or 4 in Mississippi River drainage waters where applicable.

This is certainly possible but it is unlikely to be an acceptable option. Even if the allegations of slower growing fish are true, one more year of stocking will not cause significant additional harm (c.f., Shoepac stocking in MN). Many waters dependent upon stocking are performing well with the present brood source. There is no scientific evidence available to suggest that the performance of LCO-derived fish is sub-par, given the right environmental conditions. Use of the 'Lunge Log presents challenges in terms of interpretation because, for example, there is no measure of effort provided by registrants. It is likely that effort is lower in MN, yet the number of large fish registered is higher, but we have no way of evaluating non-reporting. Basing the future of our muskellunge fisheries on voluntary, unverified angler reports would be irresponsible on our part. A genetics study is feasible and has already been started, but it will take longer than a year. Again, we need to document the performance of LCO-derived fish to answer the question of whether "mixing" has negatively impacted the performance traits of our brood source. We believe that both Muskies, Inc., and the WI DNR clearly have the same goal, namely managing muskellunge as a trophy fish in Wisconsin. Prematurely jumping to a solution without solid documentation of the cause and extent of the problem could be counterproductive, in the long-term, to that goal. We agree that there are some unanswered questions regarding the brood stock used in some areas of Wisconsin. Jumping into a production-scale solution without adequate scientific knowledge of the problem could hamper the recovery of our muskellunge stocks if poor or inefficient choices are made. The tools available to evaluate genetic stocks

were previously unrefined. We would like a chance to utilize this new capability to evaluate our brood stock.

We believe we can work together to provide good fishing in the near-term, as well as “learn as we go”, to ensure that the muskellunge program is operated as efficiently as possible in the long-term. Our intent is to optimize the size-structure of our muskellunge stocks while protecting their genetic integrity, where appropriate.

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