

Muskellunge Standing Team
Chula Vista, Wisconsin Dells
February 28th, 2008, 12 p.m. to 4 p.m.

In attendance: Stewart, Simonson, Steve Gilbert, Greg Wells, Steve Hewett, Martin Jennings, Terry Margenau, David Rowe, Jordan Weeks, Doug Welch, Kurt Welke

1. Review Statewide Stocking Guidance – Reviewed and discussed Martin Jennings' issue brief on stocking in small lakes. Another argument includes the fact that one overall goal of the program is to provide “trophy” musky fishing. The capability of small lakes to produce numbers of trophy-sized fish is extremely limited. However, several small waters are being managed as popular action fisheries. The team approved the issue brief and recommends that general guidance be include on lake size criteria for stocking. For action waters, the recommended minimum lake size is 200 acres. For trophy waters, the recommended minimum lake size is 500 acres. These are guidelines and do not retroactively remove waters from quotas. The team will send out a message to all biologists sharing the criteria and asking them to critically review their quotas, based on density, fishing effort/public use, and distance from hatchery, encouraging them to remove smaller waters where appropriate. The message should also include a reminder that the stocking plan in the NOR was intended to be an adaptive process and that quotas can be changed on waters if good information if available to justify the changes.
 - a. Musky Stocking In Small Lakes (Issue Brief)

2. Brood stock management 2008. Martin Jennings presented his evaluation of the brood stock management plan to date. The dilemma between having a large enough muskellunge population and the paucity of non-stocked waters has created a crunch to identify suitable candidate lakes to be designated as brood stock lakes, particularly in the upper Chippewa Basin. Ideally, we would like to have 10 lakes within each genetic management unit (which looks like, based on preliminary genetics sampling, will follow major watersheds). This would provide 5 primary lakes in the rotation and 5 alternates. This goal will be difficult to achieve in the Chippewa basin. Marty recommends the following criteria for candidate lakes: a minimum of 1000 acres, category 2 with known reproduction, genetic analysis scheduled or completed, and stocking be suspended if the lake is selected as a brood lake. The following candidates were identified by NOR in recent meetings conducted by Steve Avelallemant: Chippewa Basin - Butternut Lake, Chippewa Flowage East Basin, Chippewa Flowage West Basin, Lost Land/Teal Chain, Moose Lake (Sawyer), White Sand Lake (LDF). The two Chippewa Flowage basins should be used in successive years so that recipient lakes will not get Chippewa Flowage fish more than twice within 10 years on an alternate year stocking schedule. Further communications with the Lac Du Flambeau tribe and genetic analyses are needed before White Sand Lake can be included. It also presents a challenge for the hatchery due to the distance from Spooner. SS plans to conduct test netting on Lost Land/Teal this spring. The hatchery intends to take eggs from Moose Lake this spring. Wisconsin Basin – North/South Twin, Plum, Tomahawk, Pelican, Moen Chain, Big/Little Arbor Vitae, Squirrel. The committee recommended that if egg numbers are difficult to obtain, that category 3 lakes (e.g., Whitefish) could be used for eggs as long as they can be kept separate in the hatchery and only used to stock universal receptor waters. The committee recommends that NO PIT tagging of brood fish take place in the Wisconsin Basin in 2008. Marty will continue to work with GTH to PIT tag brood fish in the Chippewa Basin and he plans to evaluate the practice before we expand it statewide.
 - a. Evaluation of Brood Lake selection criteria (Jennings – Midwest presentation)

3. DRAFT Guidelines for Development of Stocked Brood Sources – Not discussed (Attached - Simonson)

4. 54” length limit/harvest moratorium on Lake Michigan – The committee endorses the approach taken to seek public input on the 54” minimum length limit through the Conservation Congress resolution process. This is the proper avenue to initiate a review of the management goals for this fishery. The department is open to reevaluating the management goals for the musky population in Lake Michigan. The department does not endorse the complete harvest moratorium proposed by the Green Bay Muskellunge Coalition in their January 8, 2008 paper to the Natural Resources Board. However, the committee discussed a structured approach, developed by David Rowe, to respond to potential fish kills on Green Bay this spring.

One of the options is to seek voluntary closure of the fishery in the spring or to seek a spring closure via emergency rule if large numbers of dead muskellunge are discovered in the spring and they test positive for VHS. So, one option is a harvest moratorium in spring when the fish are most susceptible.

5. Muskellunge Roundtable Discussion – Emerging Issues – Simonson met with concerned anglers in conjunction with the annual meeting of the Wisconsin Chapters of Muskies, Inc., at the Madison Fishing Expo on 2/23/2008. Several issues were identified and some may need follow-up. The early catch and release season, and the process used to change the season, was a hot topic. The Muskies, Inc., chapters intend to follow up by contacting legislators and encouraging members to turn out for the Spring Hearings to vote on the proposal. Another issue was the 54" size limit/harvest moratorium on Lake Michigan. The idea of a musky stamp or harvest tag was raised. Trolling was also mentioned, with some support for allowing trolling statewide with one line to eliminate the uncertainty surrounding live bait fishing in fall. Another idea mentioned was establishing a youth only catch and release season prior to the regular musky opener.

6. GL Spotted Muskellunge (GLSM) Program – Discussed brood stock management plan for GLSM robust to VHS. The team recommends establishing 3 inland lakes with existing muskellunge fisheries to be stocked with fish from Ontario as GLSM brood sources. These fish should be individually PIT tagged for later identification and placed in waters, preferably without natural reproduction, ultimately connected to Lake Michigan, and relatively close to Wild Rose. GLSM fingerlings should be stocked into these waters over 10 years to develop a high enough density to allow for future collection of eggs and milt. Local managers should be contacted and efforts to implement more restrictive 50" minimum length limits should be initiated immediately. We feel selecting at least 3 waters would be prudent, each stocked with 1/3 of the fish obtained from Ontario each year. This will allow alternating brood sources, rather than relying on one lake year after year, if needed. And, if one lake is lost, the others will all contain the entire complement of genetic material obtained from Ontario. We recommend the following "Primary Holding Waters":

Archibald Lake, Oconto County, 393 acres, 50' max
Elkhart Lake, Sheboygan County, 286 acres, 119' max
Little Green Lake, Green Lake County, 466 acres, 28' max

Other options discussed included: White Potato Lake, Oconto County, 978 acres, 11' max; Anderson Lake, Oconto County, 182 acres, 40' max.

For comparison, Long Lake (Waushara County) is 272 acres and 71' deep (max.). Archibald, Elkhart, White Potato, and Anderson do not currently have musky quotas, but historically had musky populations. Elkhart is stocked by the local club and has a long history of muskellunge. Archibald has a NR population but genetic analysis shows it is of mixed lineage. Archibald is also within the Ceded Territory. It will be difficult to find a lake with limited access that is large enough to support the minimum population size needed to maintain genetic diversity.

Long term Brood Stock Management - Develop More Rigid Conservation Hatchery Techniques, which allow maximization of genetic diversity with low numbers of founding individuals. There are techniques available (e.g., from Northwest salmon restoration efforts and zoo-related conservation situations) for dealing with breeding issues in populations with low numbers of individuals. These techniques should be explored and implemented for the Lower Fox River until such time as sufficient genetic diversity can be introduced into the GLS muskellunge population or they can reproduce on their own. Brian Sloss is willing to assist with development of these recommendations.

7. Genetics Study – Waters for 2008 (Ave/Sloss). – Not discussed.

8. Leech Lake Study - The Musky Team recommended that the Leech Lake quotas remain on the production plan for 2008 at this time and that WDNR request Leech Lake eggs from MN DNR as soon as possible, on the condition that a FHC be conducted on 20 fish from the brood stock population. If they are unable or unwilling to comply with these fish health rules, then the Musky Team will recommend termination of the project to the FM Board. UPDATE – MN is not interested in sacrificing 20 muskellunge for fish health

testing. They test ovarian fluids, which is not a method accepted by WI Department of Agriculture, Trade and Consumer Protection. Therefore, DATCP will not allow the import of eggs.

9. Update - Critical/Sensitive Habitat delineation; U of MI study; Musky Alliance donation – Cunningham/Haase. – Not discussed.

10. Early Catch and Release Season (information). – Alerted Team members to the current timeline for implementation of the new statute directing the department to establish an early catch and release season. Because the department is required to go through the rule-making process, a question to this effect will appear on the Spring Fish and Wildlife Rule Hearings questionnaire. The new rule will be effective for the 2009 fishing season.

DRAFT

2008-2009 COOLWATER STOCKING GUIDELINES - MUSKELLUNGE

These stocking guidelines will be used to submit stocking quotas will be for the 2008-2009 production year. This means eggs/fry/fingerlings during 2008 and yearlings during 2009!

Discussion points:

1-Can priorities be reduced to three (rehabilitation, research, and maintenance) for most species? In years when a shortage occurs, it would likely be in the maintenance category. The regions would prioritize fish within that priority with the thinking that fish would be stocked into waters where they will do the most good.

2-Northern pike stocking density should be simplified to a fish per acre stocking rate. In addition, the committee should discuss and recommend to the board whether it is necessary to stock 111 small fingerling pike per acre to create a good fishery (this is the rate one would calculate according to the current guidance).

3-Are coop fish a greater priority to us than regular Department stockings? For example, coop trout are sorted and sent to coops before Department fingerlings are stocked. In addition, coop trout stocked as yearlings receive a priority 4, rather than a 5 that most yearling fish receive.

4-Any other revisions that your committee thinks should be made to the guidance.

STOCKING PURPOSE

REHABILITATION (Priority 1): Winter-kill lakes should not be stocked if serious mortality occurs more frequently than once in 15 years unless a plan to minimize the risk of future winter-kills is developed and implemented. Stock fry or small fingerling the first year, and large fingerlings or adults for 4 subsequent years. Source of fish should be the same waterbody if possible otherwise a basin stock should be used. If natural reproduction is not established after 10 years from the onset of stocking, discontinue stocking until action is taken to identify and correct the reason(s) for poor natural recruitment.

RESEARCH or EVALUATION (Priority 2): Stocking sizes and frequency as needed to realistically meet the objectives of the evaluation project. Approved evaluation projects only.

REMEDICATION OR RECREATION (MAINTENANCE) (Priority 3): No stocking shall occur in waters with adequate natural reproduction, in order to minimize the potential negative impact of stocked fish on naturally reproducing populations in the receiving or connected waters. Either small or large fingerlings should be used based on the abundance of existing predators. Source of fish should be a basin stock. Generally, fingerlings should be stocked in alternate years. If the fishery objective (e.g., adult density, catch rate, etc.) is not met after 10 years from the onset of stocking, discontinue stocking until action is taken to identify and correct the reason(s) for poor survival.

Muskellunge stocking in NOR waters for 10 years beginning in 2003 should follow the protocol developed to evaluate the contribution of stocked muskellunge in Reproductive Category 2 waters (those with some natural reproduction) and to look at resulting densities of stocking rates

in Category 3 waters in the Northern Region. Waters in other Regions do not need to follow this protocol.

SPECIAL NOTES/CONSIDERATION(S)

Budget issues may mean that 'Tiering' may be applied. Should surplus fish become available, capped waters will receive fish to the biological quota under a tiered system. Coop rearing fish are stocked above the "cap" up to the biological (maximum management stocking rate) quota.

Please specify the stocking rate, which should reflect the biologically defensible rate desired for the specific body of water, regardless of the caps in place. It will be used to fill requests above the cap in the event of surplus fish and it will be used to determine the number of cooperatively reared or stocked fish for supplemental stocking above the cap.

Please indicate the basin where the water to be stocked is located.

SIZE DESIGNATIONS:

FRY: newly hatched fish prior to the onset of feeding

SMALL FINGERLING: 4 to 6 inches in size

LARGE FINGERLINGS: > 7 inches in size (old "fall" fingerling)

STOCKING RATES:

| Purpose | Priority | Life Stage | Size | Stocking Rate | Stocking Frequency | Maximum per waterbody |
|---|----------|-------------------|-----------|---------------|------------------------------|-----------------------|
| Rehabilitation (first year; choose one) | 1 | Fry | -- | 500/acre | First year of Rehabilitation | 100,000 |
| | | Small Fingerlings | 4 to 6" | Up to 5/acre | First year of Rehabilitation | 5,000 |
| Rehabilitation (after year one) | 1 | Large Fingerlings | > 7" | Up to 2/acre | Annual, for up to 4 years | 2,500 |
| Research | 2 | As needed | As needed | As needed | As needed | Size-dependent |
| Remediation or Recreation | 3 | Small Fingerlings | 4 to 6" | Up to 5/acre | Alternate | 5,000 |
| | | Large Fingerlings | > 7" | Up to 2/acre | Alternate | 2,500 |

Muskellunge stock availability chart:

| Stock name: | Suitable for the following inland waters: | Suitable for Great Lakes outlying waters: |
|----------------------|--|---|
| Upper Chippewa River | Chippewa R., St. Croix, L. Superior inland waters, Black River; Universal Receptors* | N/A |

| | | |
|------------------------------|---|--|
| Great Lakes Spotted^ | Lake Winnebago and down stream via the Fox River to Green Bay | Green Bay, Lake Michigan and L. Superior |
| Upper Wisconsin River | Wisconsin River and L. Michigan inland basins; Universal Receptors* | N/A |
| Leech Lake | Approved Research Projects only! | N/A |

Note:

* "Universal Receptors" are waters outside the native range of muskellunge that are dependent on stocking.

^ The Fisheries Management Board will be examining where Great Lakes Spotted Muskellunge may be appropriately stocked

Revised: 4/06

DRAFT Guidelines for Development and Maintenance of Stocked Brood Stock Lakes for Muskellunge

There are currently 2 situations where the development of brood stock lakes may be advantageous. First, if Leech Lake muskellunge are deemed to provide superior performance in St. Croix Basin waters, we will need a long term source of those fish. Second, having an inland source of Great Lakes Spotted muskellunge may be desirable.

The Muskellunge Standing Team felt it would be worth exploring, in concept, the feasibility of developing a source of Leech Lake (LL) muskellunge within the St. Croix Basin of Wisconsin, in conjunction with ongoing long-term side-by-side comparisons of LL fish with WI production muskellunge from the Chippewa basin. A newly developed brood population will not be mature for quite some time, making it virtually useless for the evaluation project. However, if the LL fish prove to provide superior performance within the St. Croix basin, it would make sense to have an available source for future production.

There are many technical issues surrounding the development of a brood stock lake. Maintaining an effective population size is chief among them. Further, the desire to obtain eggs from a naturally reproducing population may prove to be difficult. Currently, most, if not all, introduced populations within the St. Croix basin are sustained through stocking. Establishment of a stocked population is unlikely to result in natural reproduction, given what we have seen with other lakes in the basin.

Proposed Considerations/Conditions:

- Maintenance of a stocked population as a brood source will require periodic infusion of fish from the original source. This may mean, e.g., annual fingerling requests from Minnesota DNR.
- Production fish should not be stocked back into the brood source lake.
- Individual fish should be PIT tagged and should not be used for spawning more frequently than every 3 to 5 years. Ideally, fish would never be used twice, but that may not be feasible.
- Selected lakes need to be large enough to support a suitable “effective population” (need to determine what this would be). We also would need to develop and establish a specific series of genetic guidelines to ensure all identifiable risks are known and determine relevant courses of actions to minimize those risks.
- The genetics of the spawned fish should be tracked through time to ensure they remain consistent with the origin.
- The selected lake should not be an existing study lake, in order to avoid bias associated with different rearing conditions, although we could designate an existing lake and begin building the population with large fingerlings after the study.
- The lake should be surveyed annually for natural reproduction.

Specific Options for consideration:

Option 1. Designate Nancy Lake as a brood source and rebuild the population with annual stockings of LL fingerlings from MN DNR. Given its size, this would require from 770-1500 fingerlings annually or every-other year. However, the Washburn County fisheries biologist recently suggested that the local residents may not want to see the continuation of the musky program there.

Option 2. Designate a non-musky lake in the St. Croix basin as a brood source. This may raise concerns from local residents who are not used to having a muskellunge population in the lake they live on (Long Lake Syndrome).

Option 3. Designate an existing musky lake in the St. Croix basin as a brood source. This would avoid the Long Lake Syndrome but would require rigorous marking of fish to ensure that only LL fish are spawned. Because these lakes are not self-sustained, it shouldn't be an insurmountable problem.

Option 4. Designate an existing study lake as a future brood source. Continue regular stockings from MN DNR once the study is completed, assuming the performance of the LL fish is determined to be superior. These fish will already be marked from the study. Shell Lake or Deer Lake (Shell Lake would likely require 2500 fingerlings on a regular basis from MN DNR; Deer Lake would require about 800).

RECOMMENDATION: Options 1 and 2 create sociological concerns. Designating a non-study lake (Option 3) will not result in more rapid development of a brood source. Therefore, Option 4 seems the most appropriate course of action.

Tim Simonson (reviewed by Dr. Brian Sloss)

July 18, 2007