

WDNR Musky Team Update – November 4, 2017

- 2017 Spring Hearings – 1) Statewide motor trolling rule (simplify the current rule, which will sunset in April 2018). 2) Consolidate trophy regulations for muskellunge; increase minimum length limit from 45” to 50” on Wisconsin River, DuBay Dam to Castle Rock Dam, Adams, Juneau, Portage and Wood counties; Lakes Monona, Waubesa, and Wingra, Dane County; Chippewa River, Winter Dam to Arpin Dam, Sawyer County; Little Saint Germain and Trout Lakes, Vilas County; change from “catch and release only” to a 50” minimum length limit on Yellowstone Lake, Lafayette County. 3) Increase the minimum length limit from 40” to 50” on the Wisconsin River, Castle Rock Dam (Adams and Juneau counties) down to the WI & Southern Railroad Bridge, Sauk City (Columbia, Dane and Sauk counties) including Kilbourn Flowage and Lake Wisconsin; Lake Wissota, Chippewa County; Holcombe Flowage, Chippewa and Rusk counties; High Falls and Caldron Falls Flowages, Marinette County; Katherine Lake and Willow Flowage, Oneida County; Whitefish Lake, Sawyer County; North and South Twin Lakes, Vilas County; and Lake Geneva, Walworth County. Approved by the NRB and Governor’s Office, awaiting Legislative review.

Proposal/Question	Votes		Counties		
	Yes	No	Yes	No	Tie
Trolling	2217	1581	57	15	0
45” to 50” – Adams, Dane, Juneau, Lafayette, Portage, Sawyer, Vilas and Wood	2208	989	57	11	4
40” to 50” - Adams, Chippewa, Columbia, Dane, Juneau, Marinette, Oneida, Rusk, Sawyer, Sauk, Vilas, Walworth	2208	1066	54	16	2
Hook-and-line harvest tag (ADVISORY)	1912	1865	30	39	3
Willow Flowage 50” (440216 - ADVISORY)	2304	1032	53	16	3
Wisconsin River 50” (010116 - ADVISORY)	2164	1020	56	13	3
Katherine Lake 50” (440116 - ADVISORY)	1985	913	61	11	0

- 2017 Citizen Resolutions – Warmwater Study Committee, WI Conservation Congress; endorsed by the Musky Team. These will likely appear as WCC Advisory Questions in Spring 2018.

County	Res. #	Title	Yes	No
Vilas	640317	Change northern musky season to remain open until 12/31 or ice up, whichever is first	42	15
Vilas	640617	Raise the minimum size limit for musky to 50" on White Sand Lake	41	18
Vilas	640717	Raise the minimum size limit for musky to 50" on the Cisco Chain of Lakes	37	20

- Evaluation of pellet-started vs. pond reared muskellunge survival – We reviewed the results of the UWSP study comparing the cost-to-rear and post-stocking survival of fish reared using two techniques at the Wild Rose State Fish Hatchery (WR). Half the fish were raised in ponds using traditional methods and half the fish were started on dry food in tanks and then moved to ponds and “finished” on minnows for about 60 days. During 2013-2016, fingerling Muskellunge were reared, marked, and stocked in 43 lake-year paired-stocking replicates throughout Wisconsin. A total of 11,334 Minnow Only (MO) and 21,075 Minnow Finished (MF) fingerlings were stocked during the study. Across all years, size and condition at stocking was significantly higher for MO fish compared to MF fish (P<0.01 for all comparisons), with MO fish averaging 12.5” and MF fish averaging 10.8”; MF fish rarely reached 12”. Health metrics were similar for both

treatments across years. Nighttime boat electrofishing catch rates were used to assess short-term (2-6 weeks) post-stocking survival. A total of 698 MO (8.7%) and 756 MF (5.0%) fingerlings were recaptured. Mean relative survival across all lakes and years (for all paired stockings) was 1.44 MO to every 1.00 MF fish. Rearing costs were approximately 35% higher for MO fish compared to MF fish. However, accounting for post-stocking survival, MF fish were only 8% cheaper. Formulated feeds may be a viable method if the cost to rear more individuals (to offset reduced survival) is less than the cost to rear fish on natural prey and hatcheries have available rearing space and infrastructure. Based on these results, 35% more muskies would be required to offset the reduced survival of these fish. Assuming a demand of about 15,000 muskellunge, an additional 5,250 fish would have to be produced, at an estimated cost of \$57,510, versus \$63,900 for MO fish. However, on average, 30% of MF fish (versus 10% of MO fish) were < 10"; in either case, these fish are unlikely to contribute to the fishery. We recommend moving all universal receptor quotas to Wild Rose, with continued efforts to start muskellunge on dry food, but suggest that eggs be obtained earlier in spring from southern waters, rather than waiting for eggs from northern Wisconsin (these basin-specific eggs have been increasingly more difficult to obtain and spawning dates in NE WI are much later than in southern WI). This will provide a longer growing season for these fish, which should be finished on minnows for as long as needed to achieve an average length of at least 11" prior to stocking in Universal Receptor waters; any fish < 10" are unlikely to survive. We will continue to evaluate the longer-term survival of these fish as they enter adulthood.

- We're evaluating how size-at-stocking affects survival and lakes where we've PIT tagged all stocked fish. Max Wolter, Neal Rosenberg and Mike Persson described a partnership that's developed between GTH and Muskies, Inc., who's been donating money to hold muskies longer into the fall to increase the size at stocking. This extended rearing typically results in about 13" fingerlings, which are stocked back into the brood stock lake. Max is seeing early indications of excellent survival of these fish. Some ongoing concerns with the program are raptor predation on ponds, aging pond liners and availability of forage.
- Great Lakes Spotted Musky Update – Steve Hogler provided an update on the GLS musky program. Yearlings from Wild Rose were stocked into the brood stock lakes (1,350), Green Bay (5,424), and Lake Winnebago (500). No fingerling muskellunge were available from Michigan this year due to a VHS outbreak on Lake St. Clair, so brood stock lakes were stocked at a higher rate (1.5/acre) to help make up for the shortfall in 2018. Hopefully, we'll get fish in 2018 for stocking in 2019. Large fingerlings at Kewaunee were stocked in late October. One pond produced 2,645 fish – the other pond has yet to be harvested. This spring, during egg-take operations, Steve Hogler and his crew handled a 56.3" (49 pounds) musky in the Fox River, the largest to date, which was originally tagged in 2009 at 50.2" (34 pounds). An angler reported catching a Floy tagged fish at 52" – the fish was determined to be 14 years old. Fishing effort on Green Bay has been at an all-time high over the last 3 years. Catch/effort has remained similar over the last 8 years.

	2015		2016		2017	
	Fingerlings	Yearlings	Fingerlings	Yearlings	Fingerlings	Yearlings
Brood Lakes	--	2,583	--	900	--	1,350
Green Bay	5,700	6,348	4,411	4,323	2,645+	5,420
Winnebago	--	650	--	426	--	500

- Aquaculture Bill – Pursuant to 2017 Act 21, the department must formalize the role and extent that genetics is involved in fish stocking strategies and standardize fish donation procedures. The Musky Team reviewed a draft Genetics Management Plan for muskellunge and Simonson is making revisions and forwarding to the team charged with responding to this new legislation.
- Ongoing Evaluations – 1) Methods to estimate musky abundance - UWSP is conducting annual population estimates on selected lakes in northern Wisconsin to evaluate year-to-year variability; 2) Validation of fin-ray aging with known-age fish –Lake Superior State, Coastal Carolina University, and UWSP; 3) Habitat use and survival of stocked fingerlings – UWSP - completed;
- Hugh Becker Symposium publication update. A final draft is under review by editors and the book is essentially ready for the printer, with one paper waiting on a revised figure. All the rest of the work is completed and once reviewed a final time by the editorial board, it will be sent to the printer for a 2017 publication date (4-5 weeks after final review by editors). So, we're hoping it will start shipping the first week of December.