2023 Spring Hearings Background Information

DNR Fisheries Management rule and advisory questions Wisconsin Conservation Congress fish-related advisory questions

- In 2023, the Spring Hearings questionnaire will again be online. The online public input questionnaire will open on April 10 at 12 p.m. and will close on April 13 at 12 p.m. The Spring Hearings questionnaire and background information will be posted at dnr.wi.gov, search "Spring Hearings." Spring Hearings questionnaires will NOT be printed this year.
- DNR staff will be available at the WCC/DNR Open Houses the week of April 3 to answer questions about the DNR Fisheries Spring Hearing questions and other fishing-related matters of local interest.
- The DNR Fisheries Management questions are mainly rule change proposals in 2023. Spring Hearings rule questions occur in odd years, since the Legislature does not review administrative rules in even years.
- Following the Spring Hearings input, these questions and the public input will be reviewed by the Bureau of Fisheries Management and at the Conservation Congress statewide convention. These questions may advance as rule proposals in the 2023 Spring Hearing rule package.

DNR Fisheries Management Proposed Rule Change Questions

Question 10. Muskellunge statewide season structure

Do you favor implementing a standard season structure statewide (including boundary waters and the Great Lakes) for Muskellunge with opening day of the harvest season beginning the first Saturday in May and extending to December 31 in open water only?

The current Southern Zone (inland waters south of Highway 10/Waldo Blvd) Muskellunge season runs from the first Saturday in May to Dec. 31 (ice angling allowed), and the Northern Zone (inland waters north of Highway 10, Waldo Blvd—excluding WI/MN boundary waters) season runs from the Saturday prior to Memorial Day to Dec. 31 (on open water only--ice angling prohibited). The proposed season structure is an open harvest season running from the first Saturday in May to December 31 on open water only.

This proposal would apply a uniform statewide season structure for Muskellunge in Wisconsin. It would not make changes to existing size and bag limit regulations. It would also eliminate the need for Muskellunge zones and would simplify season structure regulations. It would include an "open water only" component which would change the southern zone rule to no longer allow ice angling for Muskellunge prior to the Dec 31 season closure to address concerns about potential delayed mortality of muskies due to exposure to freezing temperatures. However, in the southern zone, open water occurs throughout most of December.

The management goal is to simplify regulations and to provide additional angling opportunity for Muskellunge in northern Wisconsin. Under the current zonal system there are two separate Muskellunge harvest openers. In the Southern Zone, anglers can legally fish Muskellunge beginning the first Saturday in May, while in the Northern Zone they cannot legally target Muskellunge until the Saturday before Memorial Day. This system has been in place for over 50 years. Common reasoning for the current rule includes protection of fish during the spawn and fear of illegal capture via foul hooking. However, there is a lack of sufficient published research available to support these reasons. Furthermore, studies like Flink et. al. 2021 (*Fisheries*) indicate that angling for naturally reproducing spawning pike (a very closely related species) has had no adverse effects at a population level.

Wisconsin also currently has a year-round catch-and-release season for bass. This season allows anglers to target bass statewide all year long. At times anglers may claim to be fishing for bass while attempting to catch and release Muskellunge, Walleye, or Northern Pike during traditionally closed seasons. Opening the Muskellunge season statewide at the same time as other gamefish seasons would lead to simplified regulations and more angling opportunity.

Question 11. Walleye inland waters bag limit

Do you favor a statewide Walleye/Sauger bag limit of 3 per day on all inland waters? Bag limits for Great Lakes (including Green Bay) and Wisconsin-Iowa, Wisconsin-Minnesota, and Wisconsin-Michigan boundary waters would remain unchanged, as would any water with a bag limit currently lower than 3.

Walleye, Sauger, and their hybrids are managed with a variety of site-specific regulations throughout Wisconsin, but the current standard outside of the Wisconsin Ceded Territory is a 5-fish daily bag limit for Walleye, Sauger, and their hybrids, with a 15-inch minimum length limit. The 5-fish daily bag limit standard has been in place since 1949, with length limits being more commonly adjusted to manage Walleye and Sauger harvest in the intervening years, notably becoming more restrictive after 1989. The distribution of Sauger in Wisconsin is generally restricted to the state's large river systems; where Walleye and Sauger co-occur in the state the species are typically managed together under the same bag limit.

In 2015, a region-wide 3-fish daily bag limit was established for Walleye in the Wisconsin Ceded Territory (comprising the northern 1/3 of the state), and more recently, the Winnebago system adopted a 3-Walleye/Sauger daily bag limit. Additionally, all waters in six southeastern counties (Kenosha, Racine, Sheboygan, Walworth, Washington, Waukesha) and two east-central counties (Shawano and Waupaca) have 3-Walleye/Sauger daily bag limits. Many other individual waters outside these areas also have a 3-daily bag limit for Walleye and Sauger.

Recent public opinion surveys and other outreach related to an update of Wisconsin's Walleye Management Plan found that significant public concern exists about increasing angling pressure and harvest of Walleye in regions where bag limits remain at 5 Walleye/Sauger per day.

This proposal would reduce the standard daily bag limit for Walleye, Sauger, and their hybrids on inland waters from 5 per day (combined Walleye/Sauger/hybrids) to 3 per day (combined Walleye/Sauger/hybrids). Great lakes and border waters would not be included in this change and some may continue to have bag limits that are higher than 3. This proposal would not affect the total daily bag limit for walleye and sauger (5 in total per day from all waters fished that day), nor the possession limit (10 in total).

Question 12. Data collection on small fishing tournaments

Would you support the DNR implementing a mandatory self-registration system for small tournaments that could be used to collect data on the number and types of small tournaments and participants across Wisconsin waters?

The department does not currently require registration of small, unpermitted fishing tournaments, but increases in the number of these tournaments in some regions over the past few years has shed light on the need for additional data from these tournaments. Permits are required for tournaments with 20 or more boats, 100 or more participants, off-site weigh-ins, total prize values over \$10,000, those that target trout, those that allow culling of bass, or those that allow an expanded bag limit. Permitted tournaments are capped by maximum numbers of tournament boat days per month by waterbody size (except for Lake Michigan, Green Bay, Lake Superior, and Lake Winnebago which have no limits), but small tournaments fall below these thresholds and are not tracked by DNR or included in calculations toward monthly caps.

Public reports have pointed to an observed increase in the number of small tournaments and in user conflicts both at crowded boat landings and on the water. State statute authorizes the DNR to promulgate rules that regulate fishing tournaments to control overcrowding, prevent unsafe conditions, and prevent user conflicts. If DNR were to pursue any changes to these regulations, the first step would be to collect information on the number and frequency of small fishing tournaments on Wisconsin waters. A mandatory self-registration system would enable this data collection. If small tournaments cumulatively account for substantial tournament pressure, the DNR may pursue additional regulations including requiring a free, general permit for small tournaments but restricting the total number of tournaments or participants on a waterbody per month. Future proposed regulations would go through the advisory question process after this initial data collection period.

Question 13. Walleye experimental regulation - Lake Wissota and associated waters

Do you favor applying a daily bag limit of 3 fish and a minimum length limit on Walleye of 13 inches while all Walleye from 16 inches to 24 inches must be released and only one Walleye greater than 24 inches may be kept on the waters listed above in Chippewa, Eau Claire, Rusk, Taylor and Sawyer Counties?

This proposal would apply a daily bag limit of 3 fish and a minimum length limit on Walleye of 13 inches while all Walleye from 16 to 24 inches must be released and only 1 Walleye greater than 24 inches may be kept. This proposal would apply on the following waters in Chippewa, Eau Claire, Rusk, Sawyer and Taylor counties, including connected tributaries up to the first dam:

- Lake Wissota
- Lake Holcombe
- Cornell Flowage
- Old Abe Flowage
- Chippewa Falls Flowage
- Dells Pond
- Jump River
- Flambeau River to the Thornapple Dam
- Chippewa River to the Arpin Dam (near Radisson, Wisconsin)

The current regulation is a 3 fish daily bag limit, Walleye from 14 inches to 18 inches must be released and only one over 18 inches may be kept.

The management goal is to increase density and size structure of Walleye while allowing for the harvest of relatively larger fish. It is currently not being met due to slow growth and inadequate protection of Walleye greater than 16 inches. Adult Walleye population estimates in Lake Wissota are low compared to other Ceded Territory populations with natural reproduction (generally 3-4 adults/acre) and haven't improved over time, growth rates are slow and haven't improved over time, and size structure is poor and hasn't improved to desirable levels over time. Anglers and stakeholders have expressed displeasure in the lack of "quality" in the fishery.

This regulation proposal is one tool to help meet the management goal because it will increase protection of Walleye from 16 inches to 24 inches while allowing harvest of Walleye from 13 inches to 16 inches and one over 24 inches to allow anglers to keep some quality-sized Walleye.

FISHERIES MANAGEMENT PROPOSED RULE CHANGES – ST. CROIX RIVER BOUNDARY WATERS

Questions 14. – 20. St. Croix River (Wisconsin-Minnesota boundary waters) game fish regulation changes

The Minnesota and Wisconsin Departments of Natural Resources are jointly reviewing fishing regulations on the lower St. Croix River from Taylors Falls, MN/St. Croix Falls, WI, downstream to Prescott, WI. Bag and size limits on the border waters have been largely unchanged since the 1940s and 1950s. The last regulation changes in WI/MN waters were in 1990, when minimum size limits were implemented for Walleye (15 inches) and Bass (14 inches). Prior to 1980, Muskellunge and other species not specifically listed with border waters seasons and limits were regulated by the inland regulations of the state in which taken.

Fishing regulations on the river have generally been more permissive (high bag limits, generous season on all species, etc.) than on inland waters of either state. Even though the fishery has held up well, there is concern among biologists and anglers that the fishery may not be able to withstand current and future stressors and high levels of harvest going into the future. The review of existing regulations is an opportunity to be proactive and potentially make adjustments that will protect the quality of the fishery and the fishing opportunities that currently exist. These regulation changes would also attempt to simplify border water regulations by matching the current regulations on the Mississippi River with the exception of proposed catfish regulation changes. The following proposals would be implemented simultaneously with Minnesota DNR.

Question 14. St. Croix River White and Yellow Bass Regulation

Do you favor applying a daily bag limit of 10 and no minimum length limit on White and Yellow Bass combined on the St. Croix River from St. Croix Falls dam downstream to Prescott, WI in Pierce, St. Croix and Polk counties?

White Bass have historically been managed with generous bag limits in the upper Midwest, much like panfish species that have relatively short life spans and high turnover. However, recent analysis of age and growth has shown that White Bass live much longer in similar rivers than previously thought (up to

15 years) but reach a large size in only 5-6 years and a harvestable size in only 1-2 years. Reproduction and recruitment are also highly variable from year to year. White Bass catch rates have continuously declined in electrofishing surveys of Lake St. Croix since 2011 at 18.5 fish/mile to 1.03 fish/mile in 2019. This information suggests that managing this species with a high bag limit is not appropriate in the St. Croix River. Yellow Bass are traditionally managed under the same regulation as White Bass due to species similarity. This proposed regulation will help to manage this species for high catch rates of larger individuals and to reduce overall harvest.

Question 15. St. Croix River trophy catfish regulations

Do you favor applying a daily bag limit of 5 Channel Catfish and only 1 Channel Catfish over 24 inches may be kept, and a daily bag limit of 2 Flathead Catfish per day and only 1 Flathead Catfish over 24 inches may be kept, on the St. Croix River from St. Croix Falls dam downstream to Prescott, WI in Pierce, St. Croix and Polk counties?

Large catfish, particularly Flathead Catfish, are long-lived and can attain large sizes and provide trophy fishing opportunities. Flathead catfish also become concentrated in late summer and winter months increasing their vulnerability to harvest. Flathead Catfish commonly reach a weight of over 50 pounds in the St. Croix River, which is by far the largest of any gamefish species in the river other than Lake Sturgeon. Flathead Catfish are also a top-level predator that could aid in controlling invasive carp. Channel catfish are the host species for the federally endangered Winged Mapleleaf Mussel which is currently only found in 5 rivers across the United States with the St. Croix being one of them. Flathead Catfish are longer lived, reach larger sizes and generally less fecund and prolific compared to Channel Catfish. Habitat requirement also differ for each species throughout the year as well as preferred food sources. Therefore, because of these differences in life histories between the species, managing the species with separate regulations is recommended to effectively manage the populations for future sustainability. Catching a greater number of large/trophy-sized Flathead Catfish was rated most important by respondents in a recent angler survey completed on the Mississippi River.

The management goal is to increase the abundance of large trophy size fish of both species while conforming to the future proposed Minnesota border waters and inland catfish regulations which will further simplify regulations between the states. The addition of the 1 over 24-inch size limit will add additional protection to trophy size fish, (particularly Flathead Catfish) and it may distribute the highly desired "large and trophy sized fish" among a larger number of anglers.

Question 16. St. Croix River quality Northern Pike regulation

Do you favor applying a daily bag limit of 3 Northern Pike per day and only 1 over 30 inches may be kept on the St. Croix River from St. Croix Falls dam downstream to Prescott, WI in Pierce, St. Croix and Polk counties?

Northern Pike are generally in low abundance in the St. Croix River according to recent surveys. Northern Pike are a cool water species and thus require refuges during high summer water temperatures which reduces mortality rates and supports good growth rates. However, this can lead to concentrations of Northern Pike during the summer and winter months. As a result, populations can experience high harvest rates during these periods, especially for large fish.

In a recent survey targeting anglers on the Mississippi River regarding regulation changes, about 700 of the 850 respondents to this questionnaire indicated they fish for Northern Pike. Catching large and trophy-

sized fish was the aspect of Northern Pike fishing rated most important by 48% of respondents. A majority (59%) of respondents with an opinion on Northern Pike bag limits supported a daily bag limit of 3 or less. Anglers also indicated that increasing the catch and release of large fish (34%) and providing more trophy sized fish (30%) were the most important goals for using a length based limit on Northern Pike. Reducing harvest of larger Northern Pike through the use of a reduced bag or a "1-over" regulation may improve available spawning stocks, but the primary effect would be in mitigating the impact of angler harvest on the large/trophy sized population. In particular, it may help to prevent stock depletion during times of the year when fish are concentrated.

Question 17. St. Croix River Walleye and Sauger regulation

Do you favor applying a daily bag limit of 4 Walleye and Sauger combined per day with a 15 inch minimum length limit for Walleye and no minimum length limit for Sauger, however only 1 Walleye or Sauger over 20 inches may be kept per day on the St. Croix River from St. Croix Falls dam downstream to Prescott, WI in Pierce, St. Croix and Polk counties?

Walleye are one of the most abundant gamefish species in the St. Croix River besides Smallmouth Bass and are a highly popular target for anglers. The Walleye population in the St. Croix River is in relatively good shape, however year classes can be variable and angler catch and harvest may be high. Recent fisheries data indicate that Walleye in the St. Croix River exhibit significantly faster growth rates compared to the Wisconsin statewide average of Walleye growth rates in similar riverine systems. Relative abundance of Walleye appears to have remained relatively stable in Lake St. Croix with the exception of a large 2018 year class. Both Walleye and Sauger mortality rates are relatively moderate to high and recruitment is variable from year to year. The degree to which angler harvest rates influence Walleye mortality rates is currently unknown in the St. Croix River but exploitation may be high according to the previous creel survey. Walleye were the most targeted fish species by open water anglers, the 3rd highest species represented in the total catch and the topmost harvested game fish species in Lake St. Croix.

Sauger have been in decline across most of their range in the recent past due to habitat loss and exploitation. In the Mississippi River pools 5, 5A, 6, 7, 8, and upper 9, fisheries data suggest a decrease in Sauger abundance as well. From 1983 through 2017, the percentage of Sauger in Walleye and Sauger surveys has gradually decreased from 60 percent to 40 percent. Although these fisheries surveys do not show a long-term trend in Sauger abundance from 1980 through 2017, there is a declining trend since 1998 of about 80 percent. In addition, Sauger reproduction, as measured in the fall in the Mississippi River, has been below average for nine of the last ten years. In Pool 8, 1993 to 2017 long-term trend data suggests a decline in Sauger abundance by as much as 70 percent concurrent with an increase in average size. These trends suggest recent weak reproduction. According to recent fisheries data, Sauger catch rates in the St. Croix have been slightly below the long term average in recent years and year classes have been variable throughout the years. A reduced Sauger bag limit could aid in stabilizing the apparent declining abundance trends in the St. Croix River.

The goal of the reduction in the bag limit is to reduce overall harvest and distribute walleye and sauger among a larger number of anglers. The 1 Walleye over 20" will allow for increased protection of larger individuals while minimizing the "cropping" effect that can occur with protected slot limits. Decreasing the overall bag limit while using a "1 over" regulation will reduce harvest of larger individuals especially during the pre-spawn period.

Do you favor applying a daily bag limit of 15 of each panfish species including Bluegill (sunfish), Crappie and Yellow Perch on the St. Croix River from St. Croix Falls dam downstream to Prescott, WI in Pierce, St. Croix and Polk counties?

Sunfish, crappie and Yellow Perch represent some of the most commonly targeted fish species in Wisconsin, especially for harvest opportunities. This is also the case in the St. Croix River with Black Crappie and Bluegill. According to a recent creel survey, Black Crappie were the topmost targeted and harvested species during the ice fishing season. Bluegill and Black Crappie combined represented the most harvested species during the open water season as well. Populations of these species are generally in good shape with the majority of fish concentrated in Lake St. Croix. However, electrofishing catch rates of Bluegill in Lake St. Croix have been relatively low in recent years compared to other complex riverine systems throughout the state and average 18.5 Bluegill/mile, which is in the 25th percentile for similar systems.

Sunfish, crappie and Yellow Perch in the upper Midwest have historically been managed with unrestricted or generous bag limits. However, recent trends show that many states have adopted substantial reductions in bag limits for these species in their inland waters. Bag limit reduction is a consistent management tool applied to protect high-quality fisheries from quality overfishing (reduction in average size of fish caught due to high harvest). The common goal with the Minnesota DNR is to manage panfish species for sustainable high catch/harvest rates of larger individuals and to distribute overall seasonal harvest among a larger group of anglers.

Question 19. St. Croix River continuous game fish season

Do you favor applying a continuous open gamefish season (not including Muskellunge and Lake Sturgeon) to the St. Croix River from the St. Croix Falls dam downstream to Prescott, WI in Polk, St. Croix and Pierce counties?

Currently the St. Croix River fishing season dates include a closed season for gamefish species which include Largemouth Bass, Northern Pike, Walleye and Sauger. The St. Croix River is the only major tributary in Wisconsin that currently has a closed gamefish season. The Wisconsin River, Chippewa River and Black River have had continuous open seasons and negative impacts to the respective fisheries because of the presence of the open season, have not been observed. This regulation would improve consistency with the Mississippi River and its tributaries.

The current open season dates are different between gamefish species which further complicates these regulations. Currently, the Largemouth Bass and Smallmouth Bass open season runs from the Saturday preceding Memorial Day through March 1 while the open season for Northern Pike, Walleye and Sauger runs from the Saturday nearest May 1 through March 1. The St. Croix River open seasons also differs from the current Mississippi River continuous open season. The continuous open gamefish season would also provide increased fishing opportunity by allowing year-round fishing for these species. Any increases in angler harvest resulting from the proposed continuous open season are not expected to result in an increase in mortality rates of bass, Northern Pike, Walleye or sauger and would not apply to Muskellunge and Lake Sturgeon. A fish refuge would be designated from State Highway 8 in St. Croix Falls upstream to the St. Croix Falls dam to protect migrating spawning fish that will concentrate below the dam during the spawning period. The reduction in bag limits for each species coupled with the implementation of the fish refuge will aid in buffering any potential increases in harvest rates of species. These regulations are proposed in conjunction with Minnesota DNR future rule changes and changes would be implemented simultaneously between states.

Question 20. St. Croix River fish refuge

Do you favor applying a fish refuge to the St. Croix River from the State Highway 8 bridge upstream to the St. Croix Falls dam in Polk county from March 1 to June 15?

The proposed fish refuge on the St. Croix River would designate the area upstream of the State Highway 8 bridge to the St. Croix Falls dam in Polk County as a fish refuge beginning with the normal gamefish season closure in March through June 15. Walleye, sauger and Lake Sturgeon are highly migratory and will migrate up to hundreds of miles to spawn. Barriers to movement such as dams force fish to congregate in the tailwaters and downstream during spring migrations which can lead to increased mortality from angler harvest. With the simultaneous implementation of a continuous open gamefish season on the St. Croix (if passed in spring hearings), this fish refuge is necessary to protect these species where they congregate. Fisheries movement data has documented Walleye migrating back downstream post-spawn into mid-May, therefore an end date of June 15 will protect the majority of fish as they migrate back downstream following spawning and coincide with the opening of the catch and release sturgeon season. According to DNR annual Lake Sturgeon surveys below St. Croix Falls dam, Lake Sturgeon are present in this area through mid-June. This refuge would begin implementation simultaneously with the proposed continuous open season for gamefish. This refuge would apply to all species in order to enhance enforcement of the regulation and protect species including Walleye, sauger, Northern Pike, Muskellunge and Lake Sturgeon during the critical spawning period for these species. The fish refuge would protect approximately 0.75 miles of river from fishing pressure during the spawn. This fish refuge would be implemented by Minnesota DNR simultaneously.

LOCAL FISHERIES MANAGEMENT PROPOSED RULE CHANGES

Question 21. Illinois-Fox River fish refuge (Waukesha County)

Do you favor applying a fish refuge on the Illinois-Fox River in the city of Waukesha, Waukesha County, from Madison Street upstream to the Barstow dam each year from March 1 through May 1?

The Barstow Dam is located in downtown Waukesha and is a very popular angling destination providing excellent shore fishing opportunities for local anglers. Significant numbers of Walleye, Muskellunge and Northern Pike accumulate below the dam during the spring spawning periods. Law enforcement and the Muskellunge Club of Wisconsin has requested this rule change proposal. Annual complaints are received from the public, stating that anglers are targeting gamefish during closed harvest seasons using heavy gear and lures. Recent changes in bass continuous open season have created further complications for conservation wardens when enforcing closed seasons on Muskellunge, Walleye and Northern Pike. Seasonal closure of all fishing through implementation of this refuge will allow consistency for law enforcement and protect pre-spawn gamefish during critical spawning period of March 1 through May 1.

Questions 22. – 24. Multi-species biomanipulation regulations – Wilke Lake (Manitowoc County)

Do you favor applying an 18 inch minimum length limit and daily bag limit of 1 for bass in Wilke Lake, Manitowoc County? Do you favor applying a 25-35-inch protected slot and 2 fish daily bag limit for Northern Pike to Wilke Lake, Manitowoc County? Do you favor applying an 18 inch minimum length limit and daily bag limit of 3 for Walleyes in Wilke Lake, Manitowoc County?

For Wilke Lake in Manitowoc County, this proposal would apply the following regulations:

- Bass minimum length limit of 18 inches and a daily bag limit of 1 Largemouth or Smallmouth Bass
- Northern Pike no minimum length limit, 25 35-inch protected slot limit with a daily bag limit of 2
- Walleye minimum length limit of 18 inches and a daily bag limit of 3

The primary concern for Wilke Lake is the poor size structure of the bluegill population driven largely by slow growth rates from density-dependent competition. Results from the latest spring electrofishing and netting surveys in 2018 have shown that the bluegill population is dominated by smaller individuals, most of which are too small for anglers to harvest. Results from these surveys showed very few bluegills greater than 7 inches in the population. Catch rates from both fyke netting and electrofishing surveys have shown that densities of bluegill in Wilke Lake remain high. Slow growth rates driven by higher densities is likely driving the poor size structure observed. Growth rates from bluegill collected in the spring 2018 comprehensive fish survey showed that bluegill growth in Wilke Lake is well below the statewide average, with bluegills in Wilke Lake only being 5.9 inches on average by age 6.

As stated above, a likely reason why bluegill growth and size structure are poor in Wilke Lake is densitydependent competition among bluegill for food and habitat resources. Adequate numbers of predatory fish are necessary within a lake to keep numbers of panfish (i.e., bluegill) down so that the panfish population does not experience density dependent competition. Recent electrofishing surveys have shown that Wilke Lake supports moderate numbers of Largemouth Bass. Inadequate densities of predators could be limiting predation on bluegill, resulting in too high densities of bluegill that are experiencing significant competition for resources and poor growth and size structure as a result. Furthermore, Largemouth Bass tend to grow well in Wilke Lake, reaching an average size of 14.9 inches by age 6 and 16.1 inches by age 7. These growth rates are above the upper quartile for Largemouth Bass in complex warm, dark lakes. Despite decent growth rates, only 27% of Largemouth Bass captured in the spring 2018 electrofishing survey were legal size. While no harvest specific data is available from creel surveys, Largemouth Bass are the only gamefish species that currently provides quality harvest opportunities and the low percentage of legal-size bass given the decent growth rates could indicate harvest is reducing the number of bass >14 inches in the population. Reducing the bag limit and increasing the minimum size limit will hopefully reduce the harvest of Largemouth Bass and increase Largemouth Bass densities and predation on bluegill. Reduced numbers of bluegill will result in faster growth, improved size structure, and a more desirable bluegill fishery. Furthermore, this regulation will also hopefully create a high-quality Largemouth Bass fishery in Wilke Lake.

Recent netting and electrofishing surveys have shown that Wilke Lake supports low densities of Walleyes, one of the two predators (the other being Largemouth Bass) that will primarily consume bluegills. Inadequate densities of predators could be limiting predation on bluegill, resulting in too high of densities of bluegill that are experiencing significant competition for resources and poor growth and size

structure as a result. Reducing the bag limit and increasing the minimum size limit for Walleyes will hopefully reduce the harvest of Walleyes and increase their predation on bluegill. Reduced numbers of bluegill will result in faster growth, improved size structure, and a more desirable bluegill fishery. Furthermore, this regulation will also hopefully improve the quality (i.e., numbers and sizes) of the Walleye fishery in Wilke Lake. Results from the 2018 comprehensive fish survey showed that Walleyes have the ability to grow to 18+ inches in Wilke Lake as five Walleyes ≥20 inches were captured in this survey.

A comprehensive fish survey including a spring netting I survey was conducted on Wilke Lake in the spring of 2018. Northern Pike catch per unit effort from that survey was 4.5 Northern Pike per net night and a total of 195 unique (i.e., unmarked) Northern Pike were captured. Northern Pike captured in this survey ranged in size from 12.0 - 25.5 inches long. Not one Northern Pike ≥ 26.0 inches (i.e., the current minimum length limit) was captured. Furthermore, the adult Northern Pike population in 2018 was estimated to be 420 Northern Pike (95% CI ranged from 318 - 622) using a Schnabel mark – recapture population estimate for an adult density of 4.5 Northern Pike per acre. Results of age and growth analysis showed that Northern Pike are growing slowly, reaching 20 inches by age 5 and exhibiting little growth beyond age 6. Results from the 2018 comprehensive fish survey have shown that Wilke Lake supports a moderate – high density Northern Pike population with slow growth likely due to density- dependent competition and little to no opportunity for anglers to harvest any Northern Pike under the current regulation. Implementing the protected slot limit will allow some harvest of smaller northern pike which will hopefully improve growth rates of northern pike in Wilke Lake. Also, the protected slot limit will protect the fastest growing fish that grow into the slot limit, improving the quality of the northern pike fishery in Wilke Lake.

Question 25. Trout harvest regulation – Dell and Beaver creeks (Sauk County)

Do you favor applying a daily bag limit of 5 trout in total and no minimum length limit on Brown and Rainbow Trout, however all Brook Trout must be immediately released, and only artificial lures may be used, to Dell Creek from South Avenue to Coon Bluff Road, and Beaver Creek in Sauk County?

The existing regulation was put in place under a scenario where the stream was being managed to maximize Brown Trout fishing opportunities, in terms of catch rates as well as quality size structure. This went hand in hand with extensive Brown Trout stocking efforts in the stream.

With the management focus switching to maximizing Brook Trout fishing opportunities, Brook Trout will now be stocked instead of Brown Trout. The regulation must also be changed to increase the chances of success by fully protecting Brook Trout from harvest while providing opportunity for harvest of competing trout species (Brown and Rainbow Trout), potentially reducing their abundance and thus competition with Brook Trout.

Question 26. Trout in native Brook Trout streams – Pine, North Pine and Cady creeks (Dunn, Pierce, St. Croix counties)

Do you favor applying a regulation of 5 trout in total with no minimum length limit for Brown Trout and Rainbow Trout combined, and all Brook Trout caught shall be immediately released, to Pine, North Pine and Cady creeks in Pierce, St. Croix and Dunn counties?

Pine and Cady creeks are the last 2 remaining Brook Trout fisheries in Pierce County that are fishablesize streams. Furthermore, genetic analysis has shown that both streams contain unique wild Wisconsin strain Brook Trout populations that have not been influenced by hatchery genetics in the past. Cady Creek is now on a 5 year rotation for feral Brook Trout egg collection by DNR hatcheries because of its superior genetics and both streams are designated as Brook Trout Reserve streams, meaning that these streams have the potential to sustain Brook Trout populations in the future despite a warming climate. Both streams have had several miles of intensive trout habitat restoration projects completed with the goal of promoting Brook Trout populations. There are several miles of public fishing access on both streams via DNR fee title and streambank easement land. With the high investment in these streams and the importance of the Brook Trout resource, maintaining and promoting the existing Brook Trout populations within these streams is essential for future management. After Brown Trout invasions within both streams, Brown Trout abundances have increased exponentially in Pine Creek and Cady Creek until Brown Trout removal began in 2018 in Cady Creek. With the increase in Brown Trout, Brook Trout have declined in Cady Creek from over 5000/mile to 1000/mile (Figure 2). Brown Trout were not removed from Pine Creek and Brown Trout relative abundance in this stream was 10,062 total fish/mile in 2021. (Figures 1). Brown Trout removals from 2018-2021 have removed approximately 10,000 Brown Trout from Cady Creek. Brown Trout removal has resulted in declines of Brown Trout by 1000/mile. Removals are planned annually into the future to continue to suppress Brown Trout until recruitment overfishing occurs and Brook Trout reestablish to pre-Brown Trout invasion abundances. To further aid in Brook Trout restoration, Brook Trout were transferred from upstream areas where abundances are still high to downstream areas of low abundance where Brown Trout removal is occurring. Further liberalizing Brown Trout harvest by anglers will aid in further suppression of Brown Trout. This regulation will also aid in protecting the Brook Trout population until the population is reestablished and back to pre-Brown Trout invasion abundance.





Question 27. Trophy Muskellunge regulation – Wisconsin River (Marathon and Portage counties), waters in the Oconomowoc and Illinois-Fox River watersheds (Waukesha County), Plum Lake (Vilas County), Turtle-Flambeau Flowage and connected waterbodies (Iron and Vilas counties)

Do you favor a minimum length limit of 50 inches and daily bag limit of 1 for Muskellunge in the waters listed?

- The Wisconsin River from Lake DuBay Dam upstream to the first dam in Merrill including Lake Du Bay, Mosinee Flowage, Half Moon Lake, Lake Wausau, Wausau Dam Lake, and all sloughs, bayous, flowages and tributaries upstream to the first dam or highway bridge (Lincoln, Marathon and Portage counties)
- Pewaukee, Okauchee, Oconomowoc, Fowler lakes, Lac LaBelle, and connecting portions of the Oconomowoc River from Lac LaBelle upstream to North Lake (Waukesha County)
- Plum Lake (Vilas County)
- Turtle-Flambeau Flowage, Trude Lake, Bear River, Flambeau River upstream of Turtle-Flambeau Flowage at Murray's Landing, Little Turtle River, Manitowish River upstream of the Flambeau River to the Rest Lake Dam (including Benson, Sturgeon and Vance lakes) (Iron and Vilas counties)

Wisconsin River:

Currently, the majority of the Wisconsin River System (including the Big Rib River) in Portage, Marathon, and Lincoln counties is classified as A1 trophy Muskellunge fisheries, yet all these waters follow the statewide regulation (40-inch MLL). For consistency in managing A1 trophy Muskellunge fisheries in the Wisconsin River, harvest regulations should match the management regime. Although harvest for Muskellunge tends to be minimal statewide, anecdotal reports suggest there is some level of legal harvest occurring in this river. This means that some fish are not able to reach their full growth potential within their lifespan, which can have implications on natural reproduction and fishery expectations. Implementing a 50-inch MLL would provide additional protection to these fish.

Muskellunge angler groups along the river (12 Apostles, Bill's Musky Club, Wausau Muskies, Inc., Wisconsin League of Musky Anglers) have also shown interest in proposing a 50-inch MLL to help protect the trophy fishery. Many of the members suggested that increasing the MLL to 50-inches would also simplify the regulations for both enforcement and anglers on the Wisconsin River.

All these systems contain high quality riverine habitat with significant habitat volume and have highly productive forage bases dominated by suckers. In concert, these system-specific factors suggest fish can reach trophy growth potential of 50-inches within their lifetime.

In addition to the habitat evidence, the biological survey data on size-structure and growth potential indicate these waters produce fish that regularly exceed the 50" threshold. Fyke net and electrofishing survey data from these systems indicate that maximum length on average is 47.8" and ranges 40.8" – 53" among systems. Fyke netting catch rates may be variable from flowage to flowage, but the range of catch rates among flowages (0.1-0.3 fish/net-night) suggests these are lower density populations for a river.

Over time volunteer angler data from Muskies, Inc. has shown that Muskellunge size-structure improved vastly in these portions of the Wisconsin River since the practice of catch and release and the establishment of higher minimum length limits (Figures 1 and 2).



Figure 1. Decadal trends in the proportional size distribution of 45" fish and greater in the Wisconsin River across 3 counties, using Muskies, Inc. volunteer angler data, 1980-2019.



Figure 2. Decadal trends in the proportional size distribution of 48" fish and greater in the Wisconsin River across 3 counties, using Muskies, Inc. volunteer angler data, 1980-2019.

The Wisconsin River System in this segment of the river meets all the biological and habitat criteria for implementing trophy Muskellunge harvest regulations (50-inch MLL). To best manage this resource and better protect trophy Muskellunge, we propose changing the current regulation and employing the FM Toolbox regulation for trophy Muskellunge: 50-inch MLL and a daily bag limit of 1 fish.

Waukesha County waters:

This proposal started with a 2020 citizen resolution (#680420) for a Waukesha County-wide 50 inch minimum length limit. Due to the limited amount of Muskellunge waters in Waukesha County, it was advised by the Fisheries Management Muskellunge team to specify waterbodies rather than a county wide regulation proposal. Attitudes about Muskellunge fishing have changed through time and currently anglers prefer to go to waters with potential to catch big Muskellunge rather than waters with potential to catch many Muskellunge. Additionally, many anglers support catch and release, very few anglers harvest Muskellunge they catch and the majority that do keep fish keep Muskellunge > 50" for mounting rather than consumption. The 50" minimum length limit is in the fisheries regulation toolbox and is intended to increase the trophy potential for urban anglers. All waters in this proposal have excellent trophy potential due to excellent productivity and a diversity of forage species.

Waukesha County has provided tremendous angling opportunities for Muskellunge anglers due to an intensive stocking program, high productivity and a diversity of forage species. Both state and private sources of unspecified strains have been stocked to create both trophy and action opportunities. Pewaukee Lake is our largest inland Muskellunge water at 2,500 acres. Nestled in the heart of the southeast region, Pewaukee Lake receives very high local fishing pressure as well as numerous transient anglers from the Chicago and Milwaukee metropolitan areas. The Oconomowoc River feeds Okauchee, Oconomowoc, Fowler and Lac La Belle lakes. Combined acreage of these four lakes of the Oconomowoc River chain covers 3,694 acres and 32 river miles before emptying into the Rock River. Law enforcement has been consulted on this proposal and recommends a county wide 50-inch minimum length limit be implemented to simplify regulations and improve enforceability. Additional public input is to be collected to further gauge public support. The high fertility of both the Oconomowoc watershed and Pewaukee Lake results

in exceptional Muskellunge growth rates. Okauchee and Oconomowoc Lakes have above average cisco populations also contributing to excellent growth.

Plum Lake:

Muskellunge anglers have expressed interest in increasing the number of trophy potential waters in Vilas County. Attitudes about Muskellunge fishing have changed through time and currently anglers prefer to go to waters with potential to catch big Muskellunge rather than waters with potential to catch may Muskellunge. Additionally, many anglers support catch and release, very few anglers harvest Muskellunge they catch and the majority that do keep fish keep Muskellunge >50" for mounting rather than consumption. The 50" minimum length limit is in the fisheries regulation toolbox and is intended to increase the density of large Muskellunge.

Turtle-Flambeau Flowage:

From the 2016-2017 population estimate: 172 tagged in 2016 (22.5-49.5"), 165 netted in 2017 (24.5-49.5"), handled 21 recaptures, yielding a population estimate of 1,359 adults or 0.1/acre. The RSD42 value documented during this population estimate was 20%.



Figure 1 (left) and Figure 2 (right). 2017 length frequency distribution for adult Muskellunge in TFF, and VonBertallanfy growth curve for the TFF Muskellunge population (left and right, respectively).

Although currently the TFF Muskellunge population is narrowly meeting management objectives for adult density and size structure outlined in the Fishery Management Plan, the objective of the proposed regulation is to reduce harvest and allow Muskellunge to reach their full growth potential, thereby maintaining adult density and enhancing size structure.

Question 28. Bass – Rost and Wescott lakes (Oconto County)

Do you favor applying a daily bag limit of 5 fish and no minimum length limit for Largemouth and Smallmouth Bass on Rost and Wescott lakes, Oconto County?

In Rost Lake, there appears to be steady recruitment of Largemouth Bass, with ages 3-8 being represented. However, growth rates for bass were slow, with all bass lagging behind the northeast Wisconsin average. It takes an average of 8 years for a Largemouth Bass to reach the legal size limit of 14 inches in Rost Lake.





Largemouth Bass length frequency distribution from Rost Lake fyke net surveys, 1998 and 2016.





Mean length at age for Largemouth Bass in Rost Lake, 2016 and 1998, compared to other lakes in northeast Wisconsin.

Wescott Lake has a very high density of Largemouth Bass with a CPE of 69/mile. These values are well above the 75th percentile for Largemouth Bass when compared to other simple, warm, clear lakes in Wisconsin. There appears to be steady recruitment of Largemouth Bass, with ages 2-8 and 11-12 being represented. Growth rates for bass were slightly below the northeast Wisconsin average (Figure 2). It takes an average of 7 years for a Largemouth Bass to reach the legal size limit of 14 inches in Wescott Lake.





Length distribution of Largemouth Bass collected on June 10, 2019 from Wescott Lake.



Figure 2.

Mean length at age for Largemouth Bass in Wescott Lake 2019 compared to other lakes in northeast Wisconsin.

Question 29. Northern Pike consumptive opportunity – Tiger Cat chain, Spider chain, Lake Chippewa (Chippewa Flowage), and Lac Courte Oreilles chain (Sawyer County)

Do you favor applying a daily bag limit of 10 for Northern Pike on Tiger Cat Chain, Spider Chain, Lake Chippewa (Chippewa Flowage) and Lac Courte Oreilles Chain in Sawyer County?

The current regulation [no minimum length limit and daily bag limit of 5] allows relatively liberal harvest of Northern Pike in these waters. However, there are numerous indications that additional pike harvest could be attained, and may be beneficial, under a more liberal harvest regulation. Reducing Northern Pike abundance has been promoted as a management action to both improve Northern Pike size and reduce competitive interactions with Muskellunge, with some demonstrated success (LCO pike removal project). Anglers that are harvesting pike in these lakes are being restricted by the current bag limit in enough cases to justify a more liberal harvest limit.

Programs that have been developed to incentivize harvest of Northern Pike show promise for increasing harvest interest which may translate to desired pike abundance and size structure. However, these programs also make it even more likely that anglers will be restricted by the current bag limit. For example, 14% of anglers targeting pike for harvest kept a limit on the Chippewa Flowage in 2019, a significant increase in pike harvest interest from what was demonstrated in prior creel surveys (<1% of interviewed anglers had a full limit of pike in the 2011 creel). We also know that susceptibility of pike to angling varies seasonally. While year-round estimates of how many anglers "limit out" may be modest, it may be considerably more common during certain times of the year when pike catch rates are higher (Figure 1). Higher bag limits would allow anglers to better capitalize on these periods of increased efficiency, particularly May when pike are post-spawn.



Figure 1. Pike harvest by month (as % of total) for the open-water portion of the Pike Improvement Project on the Chippewa Flowage in 2019. It was not possible from these data to determine effort for each month in 2019, but effort estimates for pike from a 2011 DNR creel are shown for comparison and we assume pike effort patterns are largely similar from one year to the next.

Relatedly, messaging about harvesting pike can seem inconsistent when standard harvest limits are in place. More liberalized limits for these specific waters would be more consistent with messaging about management goals for both pike and Muskellunge. Liberalized rules would also be tremendously popular with partners (lake associations, resort groups) who have been requesting additional tools to help manage this issue.

Even if liberalized bags are not successful in reducing the abundance and improving size structure of pike, increased harvest opportunities can still be considered a beneficial outcome with little to no downside in these waters where pike are not native.

Question 30. Quality Northern Pike regulation – Largon Lake (Polk County)

Do you favor applying a 26-inch minimum length limit and daily bag limit of 2 for Northern Pike in Largon Lake, Polk County?

The current 32-inch minimum length limit (MLL) allows for almost no harvest. Of the 721 Northern Pike handled in the 2021 fyke netting survey, only 0.7% of the adult population were of legal size (Figure 1). The adult Northern Pike population was estimated to be 10.9 fish/ac, which is considered a high-density population.



The 2013-2014 winterkill likely played a role in the current status of the Northern Pike fishery. We collected very few fish age 8 and older, which would have been fish that survived the winterkill. Perhaps we would have seen slightly older age structure, higher size structure, and lower density had it not been for the 2013-2014 winterkill; however, a restrictive "trophy" regulation is not appropriate on lakes that experience winterkill, even if winterkills occur infrequently.

The 26" MLL would be more socially acceptable because it would allow more harvest while continuing to maintain quality size structure. With increased harvest of mid-sized Northern Pike, it could be beneficial for producing more >32" Northern Pike than what is currently the case with the 32" MLL.

Northern Pike are clearly the dominant predator in Largon Lake. The Largemouth Bass population has been slow to respond following the 2013-2014 winterkill, which was evidenced in the 2019 SE2 survey when we had a catch rate of only 6 bass/mile. By allowing additional harvest of Northern Pike, the bass population may also continue to increase. Largon Lake historically had a bass population with desirable size structure.

Question 31. Northern Pike – Pearl Lake (Waushara County) and the White River system (Marquette and Waushara counties)

Do you support applying a no minimum size limit and 5 daily bag limit for Northern Pike to Pearl Lake, Waushara County and the White River system, Marquette and Waushara counties?

Note: The White River System encompasses White River System Waters from Neshkoro Millpond Upstream, and includes Neshkoro Millpond, Lower White River Flowage, West Branch Millpond, and Wautoma Pond, including all tributaries.

Pearl Lake - A fyke netting survey was conducted on Pearl Lake in 2021 targeting Northern Pike. There were 185 Northern Pike sampled with a catch rate of 5.5/net night, which was higher than the last 2004 survey (4.7/net night). Overall abundance rating was moderate-high, with an 82nd statewide percentile rank and a population estimate of 3.5/acre. Size structure was poor with a PSD of 4 and no fish over 23 inches were sampled. Mean age for fish 18.0-18.9 inches was 5.7 for males and 5.2 for females, which ranks below the 10th percentile. Pearl Lake is not currently meeting management goals stated above and the lack of legal fish potential (>26 inches) is limiting harvest and angling opportunities.



White River System - Overall the White River System waterbodies are not currently meeting management goals stated above and the limited legal fish potential (>26 inches) is limiting harvest and angling opportunities. Growth potential is limited for these waterbodies and well below the statewide average. Reducing density through potential angler harvest may improve size structure and growth, thus provide better angler opportunities. The White River System is managed primarily for trout with Class 1 and 2 trout streams with brook, rainbow, and Brown Trout natural reproduction. Reducing Northern Pike abundance and potential predation is good strategy.





Question 32. Northern Pike protected slot –Silver Lake (Waushara County) and Wood Lake (Marquette County)

Do you favor applying a 25-35-inch protected slot and 2 fish daily bag limit for Northern Pike to Silver Lake, Waushara County, and Wood Lake, Marquette County?

Silver Lake - A fyke netting survey was conducted on Silver Lake in 2021 targeting Northern Pike. There were 114 Northern Pike sampled with a catch rate of 1.6/net night, which was higher than the last 2015 survey (1.0/net night). Size structure was moderate and there were 6 fish sampled over 26 inches. Growth rates were below the statewide average, but there appears to be growth potential for growing larger fish. Growth potential is often a limiting factor for Northern Pike management in Waushara County lakes. The available deep water habitat and growth potential make Silver Lake (and connected Irogami Lake) a good candidate for consumptive and quality Northern Pike management. With its proximity to Wautoma and high fishing pressure on Silver Lake, angler harvest may be limiting the potential for growing larger fish. Implementing the protected slot limit regulation would allow for harvest of eater sized fish (particularly males) and provide greater protection for adult females to reproduce and provide quality fishing opportunities. This would also match the current regulation on connected Irogami Lake, making the regulations easier for anglers to understand and law enforcement to enforce.

Wood Lake - A fyke netting survey was conducted on Wood Lake in 2021 targeting Northern Pike. There were 101 Northern Pike sampled with a catch rate of 1.6/net night. Size structure was moderate and there were 15 fish sampled over 26 inches of which 11 were over 30 inches including 1 over 41 inches. Growth rates were generally below the statewide average, but there appears to be growth potential for growing trophy fish. Trophy growth potential is often limited for Northern Pike management in Marquette County lakes. The available deep water habitat and growth potential make Wood Lake a good candidate for consumptive and trophy Northern Pike management. Implementing the protected slot limit regulation would allow for harvest of eater sized fish (particularly males) and provide greater protection for adult females to reproduce and provide trophy fishing opportunities.

Question 33. Panfish – Blackhawk Lake (Iowa County) and Turtle Lake (Walworth County)

Do you support a daily bag limit of 10 in total for panfish in Blackhawk Lake, Iowa County and Turtle Lake, Walworth County?

Blackhawk Lake - Size structure of the Bluegill population is currently lacking despite extremely fast growth rates and high densities observed during spring electrofishing surveys. Catch rates during the 2021 spring surveys was 203 fish per mile, above the 75th percentile for warm-dark-complex lakes statewide. Mean length during 2021 surveys was 5.67 inches, with a maximum size of 8.3 inches. Even with high catch rates, growth is fast. Age-3 Bluegill average 5.6 inches, while age-4 Bluegill average 7 inches. High angler pressure has been observed in Blackhawk Lake over recent years and panfish are likely the most targeted fish in the lake. Therefore, limiting the bag limit on panfish should allow more fish to reach preferred sizes and limit growth overfishing.



Bluegill size structure from individual fish captured during 2021 spring electrofishing surveys.



Bluegill growth rates in comparison to statewide averages. Blackhawk lake values are shown in red (±1 SD); statewide averages are shown in black.

Bluegill Age Structure



Age structure of Bluegill collected during spring sampling in Blackhawk Lake. Lengths from aged fish were extrapolated and applied to unaged fish using age-length keys.

Full 2021 Survey Report: Comprehensive Fishery Survey of Blackhawk Lake (wisconsin.gov)

Turtle Lake - According to the local lake group, the fishery of Turtle Lake is subject to periodic, intense pulses of high angler use, particularly during ice fishing season. Reducing the daily bag limit on panfish would aid in dealing with these pulses of high angling pressure. Data collected from spring electrofishing (SEII) conducted in 2021 indicates a large proportion of 7 to 8-inch bluegill, a unique size structure for a lake this size (small) with public access in southeast Wisconsin (high public use). Based on size structure and growth data, maintaining or increasing numbers of large adult bluegill via a reduced bag limit is a reasonable goal.

Age	# fish	Ave Length	Max	Min
3	5	3.6	4.4	3
4	9	4.9	5.3	4.4
5	20	6.1	8.3	5.3
6	10	6.6	8.1	5
7	3	7.7	7.9	7.5
8	0	0	0	0
9	1	8.1	8.1	8.1

Question 34. Panfish – Lake Mendota (Dane County)

Do you favor applying a daily bag limit of 10 panfish and no minimum length limit for Lake Mendota in Dane County?

DNR monitors the fishery of Lake Mendota very closely. DNR conducts annual spring electrofishing surveys targeting panfish including Black Crappie, Bluegill, and Yellow Perch. In-depth Comprehensive

Surveys occur on Mendota on a five-year rotation and include spring and fall electrofishing as well as spring fyke netting. Improving the Yellow Perch fishery is a high priority, so DNR has been conducting annual fall gillnet surveys targeting Yellow Perch since 2014. Relevant data and conclusions as it relates to the proposed panfish regulation change are summarized below but full text reports including management recommendations detailed in the 2019 Lake Mendota Comprehensive Report are available here: <u>DNR Lake Mendota Report</u>. And the 2014-2019 Yellow Perch gillnet surveys here: <u>DNR Perch Report</u>

Based on age estimates, the 2019 surveys showed panfish grow fast in Lake Mendota. For example, it takes a bluegill in Lake Mendota 6-7 years to reach 10" whereas it would take bluegills in other lakes 10 or more years to grow to the same size. A 10" crappie in Mendota is about 4 years old compared to most other lakes taking 5 years+ to reach the same size. Yellow Perch in Mendota will grow to 10" in 4 -5 years compared to 6-8 years in most other lakes.

In terms of abundances of panfish, Lake Mendota is below the median catch rate for bluegills compared to other lakes, but this trend does not appear to be influenced by angler harvest. If that were the case, we would expect to see a sharp decline in the size distribution of adult bluegills (e.g. no fish over 8" as anglers remove those sizes and above). However, the size distribution for Lake Mendota bluegill is excellent, with a normal bell-shape centered around 8" with fish exceeding 10", with no indication anglers are having a major impact on their size structure.



The Black Crappie population shows a similar trend to the bluegills with good growth rates, better than average abundances, and good size structure with age classes ranging from 3-13 years old corresponding to fish ranging from 3" to 13". It is also important to note Black Crappie populations routinely exhibit variable recruitment (boom-bust) cycles dominated by year-class strength in certain years. As an angler, this dynamic is self-evident with years of excellent fishing followed by years of poor fishing action when targeting crappies.



In contrast with bluegills and Black Crappies, abundances of Yellow Perch are low compared to other similar lakes and their abundance is reduced by angler exploitation and predation pressures. The Lake Mendota perch fishery is comprised of mostly young fish ages 0-3, with very few age 4 and older fish in the system. This trend has persisted for at least the last six years, with few fish surviving past age 4, and is further highlighted with the high total mortality estimate which has averaged 60% for the previous 6 gillnet surveys. Growth-overfishing is apparent at age 4 and larger where fish exceed 11" and few large fish are released by anglers.

Strong predation pressures at young and old life stages are also depressing the Yellow Perch population. Though anglers appear to have a negative impact on the perch fishery at older ages, abundant predator fish are a strong force in mediating young perch abundance which can regulate year-class strength for years to come. Juvenile perch are a preferred prey item for many predators; as perch recruitment increases many predators switch their feeding behavior to preferentially feed on perch. UW Center for Limnology researchers conducted diet and stable isotope analyses with preliminary results showing young perch are major prey items for Walleye in Lake Mendota.

Young perch are also at a disadvantage due to invasive spiny waterfleas which displace native daphnia, an important diet item for developing perch early in life. However, older perch are benefiting from increased spiny waterflea abundance as these prey items are readily available when other preferred diet items are not.

Panfish populations could be improved with increased habitat in the form of overhead cover and spawning habitats. Situated within the heavily urbanized city of Madison, Lake Mendota has a heavily modified shoreline mostly comprised of private manicured shorelines with rip rap or break walls with mowed lawns with few downed trees or wood in the water and elevated levels of nutrient loading and resuspension.

This proposed regulation is likely to improve perch abundances and size structure since perch are experiencing high adult mortality in addition to low recruitment. The proposed regulation is likely preemptive or protecting potential future overharvest of bluegills and crappies since there is no evidence of angler over-harvest impacting size structure or growth rates for either species. With the recent PFAS consumption guidance covering the lower Yahara Lakes from Lake Monona to the Rock River confluence (PFAS Advisories), this regulation may help alleviate future harvest in Mendota as anglers change their behavior to avoid the PFAS consumption advisory. For example, we might expect to see an increase in angling pressure and harvest in Mendota as anglers who once harvested fish from Waubesa move to Mendota to avoid the PFAS consumption advisory.

In 2016, a 25 fish daily bag limit for panfish with a 10 fish maximum of Yellow Perch was proposed internally within DNR as a way to offer some harvest pressure relief for Yellow Perch without greatly impacting the current fishing experience for bluegills and crappies. The statewide panfish experimental regulation study is ongoing and is scheduled to be completed by 2026 and will likely include additional regulation options.

Question 35. Panfish – Osprey and Island lakes (Sawyer County)

Do you favor applying a year-round panfish bag limit of 15 with no more than 5 per species to Osprey and Island lakes in Sawyer County?

The main issue with the current *seasonal* 15 in total but no more than 5 per species regulation is social. Among the experimental panfish regulations being evaluated, the *year-round* 15/5 has "shown the most promise to increase size structure in panfish populations that receive high angling pressure" (Panfish Team Memo, January 2022). However, local lake groups on both of these waters have expressed concern about the regulation being seasonal rather than year-round.

The DNR's Panfish Team has been a part of some of these discussions and has expressed openness to allowing lakes to switch to the year-round 15/5. Such a change would be very appreciated by our partners on these lakes and would allow them to remain part of the larger regulations experiment. We expect that the proposed regulation will be equally, if not more, effective at accomplishing the management goal of improving panfish average length, and will be more socially acceptable.

Question 36. Panfish experimental regulation – Moose Lake (Sawyer County)

Do you support applying a daily bag limit of 5 panfish, only one of which may be over 12 inches, to Moose Lake in Sawyer County?

The current crappie population in Moose Lake largely meets the objectives established in the FMP. Size is relatively good compared to other lakes in the area (see Figure 1, and Table 1 in later section). Abundance is around the median for lakes in the area and the complex-cool-dark lake class.



Figure 1. Catch, size metrics, and length histogram for Moose Lake crappie, 2017.

Because Bluegill and Yellow Perch provide very limited opportunities for anglers in Moose Lake, there is a strong interest among stakeholders in maximizing the potential of the crappie fishery.

There is some justification for special emphasis on crappie and experimental regulations based on a few recent and unique management factors:

- Crappie and Walleye absorb almost all of the harvest attention in Moose Lake because of limited opportunities for other species (extremely low abundance of other panfish, pike, and bass).
 Walleye are abundant, but small. It is possible the average crappie yields almost the same fillet weight as the average Walleye!
- 2. The drawdown limits management options for other panfish species
- 3. Advances in fishing technology are sparking concerns among stakeholders about increased angler efficiency.
- 4. Moose Lake crappie grow relatively well, showing consistent ability to reach 12 inches in length (Figure 2). Based on a 2013 analysis, Moose Lake crappie reached 11 inches in 6 years, on average, and 12 inches in 8 years, both marks exceeding growth rates for northern Wisconsin (10.1 @ age-6 and 11.3 @ age-8).



Figure 2. Moose Lake crappie length at age in 2013 compared to the northern Wisconsin average. Estimated age from Moose Lake was derived from scales (presumably the predominate structure in the data used to calculate the northern Wisconsin average).

5. Annual mortality was estimated to be 40.6%. This analysis was affected by inconsistent recruitment, but offers the best available view of mortality in this population. This level of total mortality is not abnormal for crappie, and falls within a range where more restrictive regulations may be beneficial. In circumstances where total mortality rates for crappie are high (often as a result of high natural mortality), restrictive regulations are not advised as they will result in loss of overall yield. A mid-level mortality rate offers some promise that reductions in exploitation can lead to better overall survival without being hamstrung by excessive natural mortality. While it would be extremely useful, it is not possible to split out natural and fishing mortality on Moose Lake from the available data, but we assume, based on the popularity of the crappie fishery, that fishing mortality is a considerable component of the observed total mortality.



Figure 3. Catch curve for Moose Lake crappie with instantaneous mortality and survival estimates. Ages were estimated using scales. Crappie were assumed to be fully recruited to the gear and the harvest fishery at age-3 (~8 inches length).

Question 37. Urban fishing pond – Village of Suamico (Brown County)

Do you favor adding the Unnamed Pond on the Village of Suamico property (44.61710 N, 88.06849 W) in Brown County to the DNR Urban and Community Fishing Program?

There is currently one other urban pond in the greater Green Bay area so this would provide another year round fishing opportunity for juveniles and disabled anglers. Since the Village of Suamico does not want to run aerators on the pond, stocking harvestable size trout early in the spring would be the best way to provide fishing opportunities in a pond that likely winterkills without aerators. Designation as an urban pond allows the Village to stock trout immediately at ice out, extending the time that juveniles and disabled anglers can fish for trout in the pond.

FISHERIES MANAGEMENT ADVISORY QUESTION

Question 38. Personal bait harvest of minnows on VHS-affected waters

Do you support allowing personal bait harvest of minnows from VHS-affected waters, using legal nets and traps, as long as no live minnows are moved away from the waterbody of harvest regardless of source of the minnows (harvested from the waterbody or purchased from a bait dealer)?

See question for full background. VHS-affected waters include:

- Lake Michigan (VHS-confirmed)
- Lake Superior (VHS-confirmed)
- Lake Winnebago (VHS-confirmed)
- Mississippi River (VHS-suspected)
- Lower Wisconsin River upstream to the Prairie du Sac Dam (VHS-suspected)
- Fox River between Lake Winnebago and Green Bay (VHS-suspected)
- Waters connected to the above up to the first barrier impassable to fish

If this proposal advances, it would become part of the wild bait harvest rule currently under development. To



be enforceable, no live minnows could be moved away from the VHS-affected waterbody, whether a person harvested the minnows from that waterbody or purchased minnows from a bait dealer or fish farm to use on that waterbody. If transportation of live purchased minnows away from the waterbody continued to be allowed with the current restrictions (the minnows may only be used again on the same waterbody or may be used on other waterbodies as long as those minnows were not exposed to any other water or fish from the waterbody), a person could easily combine any minnows harvested from the VHS-affected water into the same container as the purchased minnows and transport them away live with no way to verify that all minnows were purchased minnows. This could facilitate the transportation of VHS and invasive species to other waterbodies. Requiring that no live minnows are moved away from the waterbody regardless of source would reduce this concern.

Wisconsin Conservation Congress Advisory Questions

The following is background information prepared by DNR staff on Wisconsin Conservation Congressproposed advisory questions relating to fishing.

WARM WATER COMMITTEE

Question 39. Lake Wausau Northern Pike Slot Limit

Would you support adding a protected slot for Northern Pike on Lake Wausau of 25-35 inches with a daily bag limit of 2 fish?

Although there are no data to support that angler harvest is having an effect on pike size structure, the public has expressed concerns that harvest may be impacting trophy potential under the current regulation (daily bag of 5 and no minimum size limit). Spring fyke netting data in 2018 shows the majority of captured pike being smaller than the proposed protected slot size. Protecting 25–35-inch Northern Pike on Lake Wausau would shift harvest occurring on those 25–35-inch fish to the most abundant sizes of fish in the system (likely fish <25 inches), while allowing harvest of trophy-sized fish. The goal of the protected slot would be to increase the density of Northern Pike >25 inches, which currently are low density within Lake Wausau.



Question 40. Wisconsin Northern Pike Ice Spearing

Would you support a Wisconsin Northern Pike spearing season from the first Saturday in December through the last Sunday in February?

Spearing Northern Pike through the ice may raise user conflicts between anglers and tribal harvest. Since a rule change in 1993 that eliminated the January and February spearing seasons on the Menominee and Brule Rivers, no winter spearing for pike has been allowed in Wisconsin, with the exception of ice spearing on Lake Superior. Spearing can be selective for the largest pike in the population. There is also

concern with spearers mistaking Muskellunge for Northern Pike on waterbodies where both congeners reside.

Question 41. Panfish Daily Bag Limit on Pelican Lake, Oneida County

Would you support a daily bag limit of 10 panfish for Pelican Lake, Oneida County?

Recent data from 2022 does not indicate that Pelican Lake's panfish are in low abundance, however their size structure could be improved. The current panfish regulation on Pelican Lake is a no minimum length with a 25-fish daily bag limit. The proposed 10-fish daily bag limit will reduce but not eliminate harvest with the added benefit of possibly improving size structure. We will continue to monitor the Panfish Team's experimental panfish regulations results and may make additional regulations recommendations in the future.

Question 42. Bass Size and Bag Limit on Pelican Lake, Oneida County

Would you support a 14-18'' protected slot size for bass on Pelican Lake, Oneida Cty? Only large and Smallmouth Bass less than 14'' maybe kept except for 1 fish over 18'' with a daily bag limit of 5 Total.

In May of 2016 DNR staff conducted a single round electrofishing survey resulting in an estimate of 8.4 Largemouth per mile and 9.6 Smallmouth per mile. In June of 2022 we conducted a similar single round of electrofishing resulting in an estimate of 2.7 Smallmouth per mile and 3.7 Largemouth per mile. These numbers do not suggest an overabundance of bass in the lake. However, if bass were overabundant the regulation of no minimum with a protected slot of 14-18 inches would be appropriate.

There is no evidence currently that suggests bass populations are negatively impacting the panfish community.

Question 43. Reducing the Panfish Daily Bag Limit on the Wisconsin River's Rainbow Flowage

Would you support lowering panfish daily bag limits on the Rainbow Flowage from 25 to a 10 fish per day limit?

The author of this resolution suggests a concern about fishing pressure and angler harvest on the Rainbow Flowage. The 2013 creel data shows that overall fishing pressure on the Rainbow Flowage of 26.5 hours per acre was below the Oneida County average of 37.2 hours per acre. Only 9% of directed effort was for Black Crappie with an average harvest length of just over 10 inches. DNR staff did conduct a creel survey in 2021 but those results have not yet been finalized. Early findings do suggest an increase in overall fishing pressure and an increase in directed harvest of Black Crappie. Crappie length at harvest appears to have increased to above 11 inches. Overall, the panfish population, specifically Black Crappie, appear to be functioning as expected in system like the Rainbow Flowage. Although not in high abundance the fish appear to be of good quality.

Question 44. Panfish Protection on Marl Lake, Waushara County

Would you support a daily panfish bag limit of 10 in aggregate on Marl Lake, Waushara County?

Marl lake has a history of an overabundant stunted panfishery. However, the last bass/panfish electrofishing survey conducted in 2015 indicated lower abundance with 85 Bluegill captured at 171/hour. Size structure was good and growth was above the statewide average for fish over 4 years old. Water levels have risen since the 2015 survey and flooded nearshore habitat, thus the panfish community may have changed since 2015. Marl Lake will be coming up on the survey rotation soon, thus it would be best to evaluate the potential need for panfish protection based on updated survey information.

Question 45. Reduce Panfish Bag Limit on Norrie Lake (Marathon County) to 10 Fish

Would you support reducing the daily bag limit on panfish to 10 fish in aggregate on Norrie Lake?

Although there are no data to support that angler harvest is having an impact on the fishery, the public has expressed significant concerns that high angling pressure and harvest observed on Norrie Lake may be impacting the abundance and size structure of the panfish populations under the current regulation (daily bag of 25 and no minimum size limit).

Late spring bass and panfish electrofishing data in 2019 show that mean and maximum length of Bluegill and Black Crappie fall far beyond the 100th percentile lake class standard for similar complex warm clear lakes in Wisconsin. However, catch-per-effort (#/mile) of Bluegill was very low and was far below the 50th percentile lake class standard. Bluegill catch-per-effort was also lower than the catch-per-effort on two other local lakes under the same lake classification that have been recently surveyed. Decreasing the daily bag limit to 10 panfish in aggregate would potentially decrease harvest and increase abundance in Norrie Lake.



Question 46. Reducing Panfish Bag Limit to 10 on the Spirit River Flowage

Would you support reducing the panfish daily bag limit to 10 in aggregate on the Spirit River Flowage?

The Spirit River Flowage has the ability to grow nice-sized panfish, primarily perch, Crappie, Bluegill, and Pumpkinseed sunfish. In scale aging analyses in the 2005 survey, the various panfish species and size ranges were growing near, at, and above regional averages. We have not done any panfish age and growth analyses since 2005 and may have to get those data to evaluate the potential for a panfish regulation change.

With corroborating growth data, a reduced daily panfish bag limit on the Spirit River Flowage could be supported. However, the only panfish experimental regulation which is currently showing signs of improving panfish size quality is the year around 15 panfish per day, with only 5 of any one species (15/5).

Question 47. Change Forest County Trolling Regulations to Align with Northern Most Counties (one hook, bait or lure per person: three lines maximum per boat)

Would you support adding Forest County to the list of counties with the trolling regulation "one hook, bait, or lure per person, three lines maximum per boat"?

In the opinion of the Muskellunge Standing Team (MT), this issue is not a biological one. DNR Creel Survey data has been used to analyze trolling data compared to non-trolling data. This analysis showed that angler catch and harvest of Muskellunge and Walleye does not differ between trolling and casting methods. Furthermore, of the 72 counties in Wisconsin, only 4 currently have the rule proposed in this resolution.

Trolling was illegal in Forest and Florence counties and then it became legal in these two counties. Currently Forest County can be trolled with 3 lines per angler, and Florence County with 1 line per angler. Prior to the current regulation, every water over 500 acres in these two counties allowed trolling with 3 lines per person, and every water under 500 acres had no trolling. The major issue would end up being more of a "spacing issue" on these waters where some people would troll with the maximum number of lines allowed and using planer boards, which take up a lot more space on the smaller lakes, making it at a minimum a social issue for anglers and other recreational lake users. On Crane Lake, the Lake District, Mole Lake Chippewa Community, and DNR have partnered in a major Walleye rehabilitation project, and their concerns are that Walleye are being overexploited via 3-line trolling with planer boards. It is hard to actually evaluate the impact of trolling on most of these waters because Walleye and musky densities are already very low on most of these waters. Data shows that motor trolling is likely not making much of a difference; catch and harvest rates are quite similar for both trollers and other traditional means of fishing. However, a 1-line per person regulation would minimize angler and recreational user conflicts, and it would be more of a cautionary approach to trolling in these two counties which have many smaller lakes with lower density Walleye and musky populations.

Question 48. Fishing with Hook and Line in a Sturgeon Hole

Would you support bringing back the opportunity to fish with a hook and line in a sturgeon hole?

Around 1992, it was brought to the DNR's attention that individuals during the spearing season were angling for sturgeon using lines set out overnight and spearing sturgeon that were hooked and on the end of a line to make them appear to be legally speared fish. This was already illegal but hard to enforce. This was the driving factor in forming the Winnebago Sturgeon Advisory Committee which quickly voted to recommend banning fishing in the sturgeon spearing hole and the DNR responding with a rule change to do so. This required all angling equipment to be banned from the sturgeon shack which was more enforceable and helped address this past illegal activity. With that, there is a strictly managed quota on Lake Sturgeon during the spearing season on Lake Winnebago. Due to this quota, we do not foresee any biological impact to Lake Sturgeon in allowing individuals to fish for other species while spearing, though the law enforcement concerns would still apply.

Question 49. Panfish Limits on Delta Lake, Bayfield County

Would you support the DNR in lowering the daily bag limit on Delta Lake, Bayfield County to 10 per day?

Delta Lake, located in Bayfield County, is a simple-cool-clear 180-acre lake with panfish, Largemouth Bass, and Northern Pike comprising the fish assemblage. Public stakeholders have expressed concern of angler pressure and potential panfish overharvest in recent years. Stakeholders conducted angler counts to quantify fishing pressure. For both weekdays and weekends in January, February, July and August of 2021, estimated angler hours (mean number of anglers observed daily * daylight hours * days in that stratum (i.e. weekend or weekday)) per acre on Delta Lake were higher than estimated angler hours per acre on nearby Eagle and Flynn Lakes generated from a DNR treaty creel survey conducted in 2020/2021.

Growth of Bluegill and Black Crappie in Delta Lake appears to be similar to the regional lake class average from scale age data. However, sample sizes were low particularly for older Bluegills and only three ages of Black Crappie were sampled with only one fish aged to 6 years.

Delta Lake may be experiencing higher fishing pressure than other bass-panfish lakes in the area, however, there are not sufficient data to indicate the population is being overfished. More age data across a larger size range and size structure information from an SE2 survey would be beneficial to better understand if overharvest is occurring on Delta Lake and if the quality of the fishery would benefit from a reduced bag limit.



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Figure 1. Growth curve (blue line) fit to scale age estimates (blue circles) at length of capture for Bluegill sampled from Simple-Cool-Clear lakes in northern WI with mean length at age of Bluegill caught in Delta Lake in March 2021 (green diamonds) overlayed for comparison.



Figure 2. Growth curve (black line) fit to scale age estimates (gray circles) at length of capture for Black Crappie sampled from Simple-Cool-Clear lakes in northern WI with mean length at age of Black Crappie caught in Delta Lake in March 2021 (green diamonds) overlayed for comparison.

Question 50. Chippewa River/Lake Wissota Daily Panfish/ Crappie Bag Limit Decrease

Would you support a decreased daily bag limit and implementation of a minimum size limit on panfish for the Lake Wissota section of the Chippewa River and its tributaries?

According to recent fisheries survey information, Bluegill and Black Crappie populations have been stable or increasing in Lake Wissota over the past decade and are at healthy levels. Black Crappie catch rates have increased from around 14/mile in 2011 and 2015, to 19.2/mile in 2019. Bluegill catch rates have been variable but show an increasing trend. Catch rates from the past three fisheries surveys are: 23.6/mile in 2011; 16.8/mile in 2015; and 40.8/mile in 2019. The Eau Claire fisheries team will continue to monitor panfish populations on Lake Wissota and make regulation changes in the future if necessary.

Question 51. Mead Lake (Clark County) Panfish Bag Limit Initiative

Would you support a year-round daily panfish limit of 25 fish with only 10 of any one species per day on Mead Lake in Clark County?

The assessment of the panfish population suggests that restricting harvest to a bag limit lower than the current 25 daily panfish bag limit would not increase Yellow Perch or Black Crappie growth rates or size structures but would most likely further decrease both, due to the high abundance and densities of panfish. High abundance and density impede growth rates of panfish due to increased competition for resources to support the higher number of fish.

A comprehensive fisheries survey was performed by DNR on Mead Lake in 2021. Yellow Perch are above the 90th percentile for abundance and Black Crappie are above the 95th percentile for abundance in Mead Lake, which indicates a high abundance of both species. Bluegill abundance was documented to be between the 40th and 50th percentiles, which indicates a near average abundance across the Complex-Warm-Dark lake class. The growth rate of Black Crappie in Mead Lake is below both the statewide & Complex-Warm-Dark lake class averages, suggesting that the high abundance of Black Crappie may be hindering growth due to density-dependence. The growth rate of Yellow Perch up to age-6 varies from below to above average in comparison to the statewide and Complex-Warm-Dark lake class averages. However, Yellow Perch growth rate after age-6 is below average, likely due to their high abundance and density dependance. Bluegill growth rate in Mead Lake is near or above average up until age-8.

Question 54. Restrict Lead Fishing Tackle in Wisconsin

Do you support the WCC working with the DNR, the Natural Resources Board and our state legislature to implement a statewide ban on lead jigs and sinkers weighing 1oz or less?

While the accumulation of lead tackle in Wisconsin waters poses environmental and wildlife health concerns, non-lead alternatives are not available in the quantities needed to completely replace statewide use of lead tackle. In addition, the non-lead alternative tackles available are often more costly and may be less effective for catching fish depending on the types of fish the angler is targeting. Under a lead tackle prohibition, the cost and limited availability of non-lead fishing tackle at the current time could pose barriers to angler participation in fishing.

Question 59. Wanton Waste (requires legislation)

Do you support the Conservation Congress work with the DNR and the Legislature to develop language to strengthen Wis Waste of Resources 23.095 (1M) to prohibit the waste of game animals and fish in Wisconsin?

S. 23.095, Stats., prohibits damage of natural resources within the state, and "damage" means committing a physical act that unreasonably destroys, molests, defaces, removes or wastes. This section of statutes does not specify the exact forms of disposition of wild animals, including fish, that would be considered "wanton waste." However, other states more specifically delineate wanton waste rules, namely by requiring retention of the edible parts of the animal (with some exceptions for diseased animals or those in inedible condition). The Legislature would have to propose a bill to make this statute more specific.

Question 74. "Vets on the Lake" Veterans Free Fishing Weekend (requires legislation)

Would you Support Legislation Creating a Free Fishing Weekend Specifically for Veterans "Vets on the Lake" for All Waters in Wisconsin?

The Legislature would have to propose a bill to designate a veterans free fishing weekend. Legislation was proposed in 2021 (2021 AB 694), but was not enacted. A free fishing weekend for veterans would not preclude other anglers from fishing during the specified weekend. However, only veterans would receive the license and stamp waiver at that time. Participants in the veterans' free fishing weekend would still be required to follow all regulations on the waters they are fishing.

This proposal is not likely to affect fish populations because size and bag limits, gear restrictions, and other regulations will remain in place to regulate harvest. In addition, the level of participation by veterans, while uncertain at this time, will not likely result in significantly increased harvest. However, a mechanism for proving veteran status would be needed so that only veterans would be exempt from the license and stamp requirement.

The proposed free fishing weekend could result in a loss of license revenue for any angler that does not purchase a license during that weekend. Additionally, the department would not receive federal Sport Fish Restoration match money for each veteran angler that may have otherwise purchased a license. Because license and stamp sales provide funding for fisheries management and conservation, any reduction in these sales could impact the Bureau of Fisheries Management's conservation and management work.

Question 75. Designate a 12" Size Limit for Trout on the Entire Class I Portions of the Onion River in Sheboygan County

Would you support a consistent 12-inch size limit for trout on all Class I waters of the Onion River?

Current data suggests that the current regulation structure is working well. On average, fish in Mill Creek are much smaller than other sites on the Onion. This is not entirely unexpected, as Mill Creek is a headwater tributary and likely provides great nursery habitat for smaller fish, but doesn't necessarily support many larger fish. In comparison, the Onion River site at CTH E has greater numbers of larger fish present, though the majority of fish still fall below the 12" minimum length limit. Finally, the Onion River site at Blueberry Lane typically has very similar size fish to the CTH E site, including many fish over the current 8" minimum length limit. If harvest was having a substantial negative effect on the population, this would likely result in a truncated size structure with few fish over the 8" minimum length limit at this location, which is not the case. A more restrictive regulation downstream from CTH E would exclude anglers who prefer to harvest 8-12" fish.



Figure 4. Length frequency histogram of brown trout sampled in Mill Creek from 2015-2020. Dashed vertical line represents the current 12" minimum length limit.



Figure 5. Length frequency histogram of brown trout sampled in the Onion River upstream of CTH E from 2014-2019. Dashed vertical line represents the current 12" minimum length limit.



Figure 6. Length frequency histogram of brown trout sampled in the Onion River upstream of Blueberry Lane from 2013-2019. Note this site was not sampled in 2017. Dashed vertical line represents the current 8" minimum length limit.