

# Fishing Regulation Proposal Form A – Special Regulation

## Proposed Regulation

Remove the minimum length limit for **largemouth** bass on five lakes that comprise two chains (Lac Courte Oreilles and Round) in Sawyer County; and concurrently apply a 18-inch minimum length limit with daily bag limit of 1 to **smallmouth** bass on those waters.

## Current Regulation

14-inch minimum length limit for black bass with a combined daily bag limit of 5

## Author

Dave Neuswanger, with input/concurrence from Max Wolter, after Steve Avelallemant requested that this 5-lake proposal (with 18" MLL for SMB) be separated from a 27-lake bass proposal submitted originally by Max and subsequently revised down to 22 lakes.

## Date

12/3/2013

## Location Information

### Affected Waters

**Sawyer County-** Lac Courte Oreilles Chain (Lac Courte Oreilles, Little Lac Courte Oreilles, and Billy Boy Flowage) and Round Lake Chain (Round Lake and Little Round Lake at T41N-R8W-S36)

### County

Sawyer

### WBICs

Lac Courte Oreilles Chain:

Lac Courte Oreilles- 2390800

Little Lac Courte Oreilles- 2390500

Billy Boy Flowage- 2389700

Round Lake Chain:

Round Lake- 2395600

Little Round Lake- 2395500

### Upstream/Downstream Boundaries

On the Lac Courte Oreilles Chain, the upstream boundary should be defined as "Grindstone Creek channel upstream of Lac Courte Oreilles to County Highway K" (this navigable, slough-like waterway contains numerous largemouth bass and connects LCO to Grindstone Lake); and the downstream boundary is the dam impounding Billy Boy Flowage. On the Round Lake Chain, it is not necessary to define an upstream boundary; and a small outlet structure at Little Round Lake comprises the downstream boundary. We will need new language defining these chains clearly in NR 20.20. (This should have been done decades ago when special musky regulations went into effect for LCO but not for connected waters.)

### Description of the Water and Fishery

The Lac Courte Oreilles and Round Lake chains both have one large, dominant waterbody (Lac Courte Oreilles is 5,039 acres and Round Lake is 3,054 acres) that is relatively deep (LCO mean depth = 34 feet and Round Lake mean depth = 32 feet) and clear (LCO Secchi = 10-16 feet and Round Lake Secchi = 11-32 feet) with few macrophytes and predominantly sand/gravel substrates conducive to successful spawning and natural recruitment of walleye and smallmouth bass. The small lakes and select embayments of the main lakes in these chains are much shallower, have softer substrates, and have far greater macrophyte density than the main lakes. On the Lac Courte Oreilles Chain, largemouth bass habitat is deemed excellent in Little Lac Courte Oreilles (240 acres), Billy Boy Flowage (74 acres), Musky Bay of Big LCO (255 acres), Stucky Bay of Big LCO (61 acres), and an expanding area of littoral zone area the eastern basin of Big LCO. On the Round Lake Chain, largemouth bass habitat is excellent in Little Round Lake (229 acres) and Richardson's Bay of Round Lake (167 acres), but is sparse elsewhere in the main basin of Round Lake.

Walleye is the primary species of interest to anglers in both Lac Courte Oreilles (LCO) and Round Lake, both of which contain suitable thermal-optical habitat area (see Lester et al. 2004) to sustain a walleye-dominated fish community. During the most recent TFAT creel surveys of LCO and Round, most angling effort was directed toward walleye, but smallmouth bass were important in both lakes (Tables 1 and 2). Specific catch rates were high for smallmouth bass in both lakes and low-moderate for largemouth bass in LCO. (Sample size was too low for us to report angler catch rate for largemouth bass in Round). Bass release rates were high in both lakes. These data are more than a decade old, but we believe they still characterize the nature of these fisheries; except that largemouth bass may have increased in abundance at LCO in recent years (4/mile in a 2010 late-spring electrofishing survey), and we sense a growing interest in fishing for big smallmouths.

Table 1. Results of a 2000-2001 angler creel survey at Lac Courte Oreilles.

Species	% of Total Angling Effort	Angler Catch Rate Hours per Fish (% Released)	Angler Harvest Total Number (Number per Acre)
Walleye	26	16.7 (39)	1127 (0.2)
Muskellunge	22	66.7 (100)	0 (0)
Northern Pike	20	2.3 (84)	2012 (0.4)
Smallmouth Bass	12	2.4 (95)	575 (0.1)
Largemouth Bass	5	5.6 (100)	0 (0)

Table 2. Results of a 1998-1999 angler creel survey at Round Lake.

Species	% of Total Angling Effort	Angler Catch Rate Hours per Fish (% Released)	Angler Harvest Total Number (Number per Acre)
Walleye	49	5.9 (50)	1247 (0.4)
Muskellunge	5	50 (100)	0 (0)
Northern pike	10	1.9 (93)	473 (0.2)
Smallmouth Bass	15	1.3 (97)	251 (0.1)
Largemouth Bass	< 1	1.5 (98)	69 (<0.1)

In a late-spring electrofishing survey at Lac Courte Oreilles in 2010, we captured smallmouth bass  $\geq 7$  inches at a rate of 16 per mile (below objective range) with an RSD-17 of only 6% (far below objective range). At Round Lake in 2013, we captured smallmouth bass  $\geq 7$  inches at a rate of 20 per mile (also below objective range) with an RSD-17 of 44% (within objective range). Both surveys were deliberately biased toward obtaining the best possible assessment of smallmouth bass along rocky/sandy shorelines, so weedy lakes and bays in the chain were under-represented. We captured largemouth bass  $\geq 8$  inches in these sub-optimal habitats at a rate of 3.4 per mile at Lac Courte Oreilles and 6.3 per mile at Round Lake (higher than our target maximum of 5/mile). Estimated mean length at age 5 for largemouth bass was below the regional average in both lakes and low enough at LCO (11.8 inches) to be exempted from the statewide minimum length limit under NR 20.35 if we chose to make our decision strictly on the basis of slow growth rate.

Neither species of black bass has been stocked into either of these chains for decades. Muskellunge must be stocked in order to maintain musky fisheries in LCO and Round. Walleyes have been stocked occasionally by the Lac Courte Oreilles Band of Lake Superior Chippewa, though we frequently negotiate with the LCO Conservation Department to maximize the extent to which recruitment is based on natural reproduction.

## Management Goals

Our goals (here) and objectives (later section) were developed for smallmouth bass in consultation with local stakeholders in the LCO and Round Lake fisheries in the mid-2000s. The complete LCO Fishery Management Plan (2006) is available online at <http://dnr.wi.gov/water/basin/upchip/>. The Round Lake Fishery Management Plan (*in prep*) is available in draft form upon request. Largemouth bass were relatively unimportant to local stakeholders in both fisheries due to angler preference for walleye (top priority in both systems) and smallmouth bass (#2 at LCO and #4 at Round); so our only aspiration for largemouth bass in these systems is to maintain densities low enough to avoid significant negative interactions with higher-priority species.

**Smallmouth Bass at LCO (from 2006 Fishery Management Plan)**

**Goal:** A population of high density with a high proportion of memorable-size fish.

**Smallmouth Bass at Round (from Management Plan DRAFT in prep 2013)**

**GOAL:** A population of moderate to high density with a high proportion of memorable-size fish.

**Largemouth Bass in Both Systems**

**GOAL:** Minimize predatory and competitive interactions with other angler-preferred species.

**Justification**

**Current Problem**

Our current bass harvest regulations are misaligned with our priority goals and objectives in these systems.

Under the current statewide 14-inch minimum length limit for black bass (both species), we are failing to meet our abundance objectives for smallmouth bass in either system; and we are falling far short of meeting ambitious but attainable size structure objectives for smallmouth bass in the LCO Chain. Though smallmouth bass harvest rate (as a proportion of total fish caught) is probably low, harvest of smallmouth bass 17-20 inches long is inconsistent with our desire to create and sustain high proportions of memorable-size fish in waters where local stakeholders have almost unanimously expressed a strong interest in such catch-and-release fisheries. Multiple accounts of a rogue area guide targeting large smallmouth bass for harvest are a legitimate concern, as it would not require more than a few skillfully-guided, harvest-oriented anglers to prevent us from achieving such ambitious objectives for numbers of memorable-size fish. We state this even with the early catch-and-release-only season still in effect for smallmouth bass, because large smallmouths are vulnerable to capture by anglers year-round, particularly in September (see timing of Master Angler fish entries in Wisconsin and Michigan).

Continued protection of all largemouth bass < 14 inches long would likely result in continued increases in largemouth bass density, possibly to the point of negative interaction with walleye and smallmouth bass – both species of greater interest to anglers in these systems. Removal of the early catch-and-release-only season on largemouth bass in the Northern Bass Zone effective May 3, 2014 should help to keep largemouth bass at low target levels, but only if anglers are allowed to harvest the most abundant size groups of those fish that currently are protected by the 14-inch minimum length limit. Harvest of some slower-growing largemouth bass < 14 inches is expected to increase the mean length of age-5 fish at LCO from 11.8 inches to the Northern District average of 12.7 inches.

Significant areas of LCO and Round lakes are not favorable habitats for largemouth bass; and on that basis one could argue that fears of intraguild predation are unfounded. However, we have reason to believe there are enough sources of largemouth bass recruitment in various parts of these systems that even the marginal habitats eventually will serve as a sink for fish that have emigrated from more favorable largemouth bass habitats (shallow, weedy basins or bays) where “carrying capacity” has been reached. We believe that is already happening in Lac Courte Oreilles based on monitoring surveys and angler reports. More than 10% of total surface area in both chains is deemed suitable habitat for largemouth bass (630 acres in the LCO Chain and 396 acres in the Round Lake Chain), which we believe constitutes a suitable source of recruitment that could eventually affect the rest of the system adversely. We suspect this source-sink mechanism has helped largemouth bass to displace walleye as the dominant predator in similar systems with which we are familiar, including Lake Owen and the Pike Lake Chain in Bayfield County. In Sawyer County, the sudden and unexpected appearance of high numbers of largemouth bass in Teal Lake (excellent walleye habitat and formerly a healthy NR walleye population) in spring of 2010 (38/mile  $\geq$  8” compared with trace numbers in 2004) was attributed to emigration from Lost Land Lake (shallow, clear, weedy, and full of largemouth bass) via a half-mile-long channel that connects the two waterbodies. By liberalizing and encouraging largemouth bass harvest in “source areas” within the LCO and Round Lake chains, we will be proactively maximizing the probability that predation by or competition with largemouth bass does not significantly reduce recruitment of stakeholder-preferred walleye and smallmouth bass.

### ***Basis for Special Regulation***

One aspect of the proposed regulation (no minimum length limit for largemouth bass) currently is an option in the bass regulation toolbox, though typically it is applied to both black bass species in any given waterbody. The basis for this regulation is to provide a consumptive opportunity for small largemouth bass in populations with slow growth rate. We would like to do this for largemouth bass only, as we seek to increase protection of angler-preferred smallmouth bass populations in these systems, which have great potential to sustain catch-and-release fisheries for memorable-size fish. To do this, we propose to utilize a regulation of “18-inch minimum length limit with daily bag limit of 1” for smallmouth bass only.

Our recommended species-specific approach to regulating black bass harvest has been trialed on the Chippewa Flowage since 2011. Capture rate of largemouth bass  $\geq$  8 inches during late-spring electrofishing surveys seems to have stopped increasing (14/mile in 2009 and 13/mile in 2013), while slight increases in RSD-12 (45% to 53%) and RSD-15 (14% to 21%) were observed. Concurrently, the smallmouth bass population has continued to thrive under the more protective statewide minimum length limit (RSD-14 = 40-50%); and there have been no documented cases of “mistaken identity” (sub-legal smallmouths errantly kept by anglers thinking they were legal largemouths) during the 2011 creel survey (four clerks on the water all summer) or various law enforcement patrols to date.

### **Management Objectives Established by Formal Fishery Management Planning Process**

#### ***Smallmouth Bass at LCO (from 2006 Fishery Management Plan)***

**Goal:** A population of high density with a high proportion of memorable-size fish.

**Objective 1:** Electrofishing capture rates for 7-inch and longer smallmouth bass of 40-60 per hour (20-30 per mile) during the bass spawning season.

**Objective 2:** Of all smallmouth bass 7 inches and longer captured by electrofishing during the bass spawning season, 30-50% should be 17 inches or longer (RSD-17 = 30-50%).

#### ***Smallmouth Bass at Round (from Management Plan DRAFT in prep 2013)***

**GOAL:** A population of moderate to high density with a high proportion of memorable-size fish.

**Objective 1:** Electrofishing capture rates for 7-inch and longer smallmouth bass of 25-40 per mile during the bass spawning season.

**Objective 2:** Of all smallmouth bass 7 inches and longer captured by electrofishing during the bass spawning season, 40-60% should be 17 inches or longer (RSD-17 = 40-60%).

#### ***Largemouth Bass in Both Systems***

**Objective:** Because the walleye fishery is top priority in both systems, we wish to maintain (via natural reproduction) adult walleye densities of 3-5 per acre in LCO and 4-6 per acre in Round. In order to maximize the odds of successful natural recruitment of walleyes to achieve these objectives, we believe the late-spring electrofishing capture rate of largemouth bass  $\geq$  8 inches must remain less than 10 per mile and preferably less than 5 per mile in both systems.

### **Evaluation**

Objectives listed above will be assessed by using the late-spring electrofishing survey protocol (SE2) under our baseline lake monitoring program (activity FHLC). Because of large lake size and overall significance to the area economy, fish communities are sampled every two years at Lac Courte Oreilles and every three years at Round Lake. Smaller lakes in these chains were scheduled for survey on a less frequent basis; but if this regulation change is approved, we plan to survey the smaller waters (potential sources of largemouth bass recruitment) with the same frequency as the larger lakes in order to better document source-sink dynamics that may influence the outcome of our actions. And now that we have the laboratory equipment and expertise needed to age fish accurately in the field, we will document smallmouth bass age structure in order to estimate mortality rate and learn how long these fish can be expected to live under a 18-inch minimum length limit.

**Will the proposed regulation affect Ceded Territory water?** Yes X

**If the water is usually declared and speared for tribal harvest, what is the typical bag limit adjustment for sport harvest regulations?**

These waters typically see a 2-bag limit for walleye. If we begin managing Round Lake and Little Round Lake as one defined regulatory unit under this proposal, perhaps it would be a positive step toward similar walleye bag limits for these waters (typically 2 in Big Round and 3 in Little Round).

**Are there any anticipated impacts to tribal fisheries?** Yes X

We anticipate positive impacts for tribal fisheries. Liberalization of largemouth bass harvest has been strongly supported by the Lac Courte Oreilles Conservation Department and LCO Tribal Governing Board.

**Are tournaments held on this water?** Yes X

Lac Courte Oreilles and Round Lake occasionally have tournament interest for bass and muskellunge (one or two permits annually). Our recommended split-species option will give bass tournament organizers the option to hold a weigh-in tournament for largemouth bass of any size or a catch-and-release-only tournament for smallmouth bass < 18 inches long.

**Other factors: When developing this proposal, did you consider:**

***Fish contaminant/consumption advice?*** Yes X

Mercury is not an issue on these clear-water lakes with low drainage areas. For this reason, the LCO Band focuses much of its walleye harvest effort on these waters.

***How the regulations would affect males and females differently?*** Yes X

We do not anticipate this regulation to impact males and females differently because male and female bass grow at approximately the same rates, and age and growth analyses included in this proposal represent a mix of both sexes.

***Predator – prey interactions?*** Yes X

Please see narrative in *Current Problem* sub-section of Justification section above.

***Habitat availability?*** Yes X

Please see narratives in Description of the Water and Fishery section and the *Current Problem* sub-section of the Justification section above. Only lakes capable of producing trophy-sized smallmouth bass are included in this 18-inch minimum length limit proposal for that species.

***Effects of hooking mortality?*** Yes X

Fewer largemouth bass will be wasted if small bass that are accidentally but critically injured become legal to harvest. Conversely, we anticipate minor losses of smallmouth bass to post-release mortality; but these may be offset by effectively eliminating weigh-in tournaments for smallmouth bass with the 18-inch minimum length limit. In a recent study of Dale Hollow Lake in Tennessee, Kaintz and Bettoli (2010; NAJFM 30:976-982) found that 19% (10 of 54) of tagged smallmouth bass that were caught, subjected to a simulated tournament weigh-in, and released alive subsequently died. That will not happen if a 18-inch minimum length limit is approved for LCO and Round lake chains. Additionally, great care will be taken in determining the timing and terms of any mid-summer tournament permits issued for smallmouth bass, even in a catch-and-release format.

***Attraction of additional angling pressure, if applicable?*** Yes X

Some resorts owners who lost business when Northern Bass Zone restrictions took effect in the 1990s are looking forward to restoration of a clientele who they believe will harvest largemouth bass if given the opportunity, particularly early in the season when business is otherwise slow due to the decline in walleye fisheries. The additional business generated by a high-quality catch-and-release fishery for smallmouth bass is expected to benefit the Hayward area and is not likely to cause crowding issues on such large lakes.

**Alteration of nutrient cycling, if applicable?** Yes X

We hope to see more energy routed through a pathway from overabundant young panfish to walleye, which are more effective than largemouth bass as predators upon juvenile panfish in our larger lakes.

### **Proposal Instigation**

The proposed regulation change was prompted by the fact that current bass regulations are inconsistent with priority goals and objectives in stakeholder-influenced management plans for Lac Courte Oreilles and Round Lake. The 18-inch minimum length limit for smallmouth bass was also requested by the Hayward Bass Club.

### **Public Participation**

Visioning sessions were held with local stakeholders who helped us to establish goals and objectives for the Lac Courte Oreilles (N = 21 participants in 2006) and Round Lake (N = 26 participants in 2005) fisheries. Additional meetings were held with Round Lake Association representatives; and feedback was solicited from the Courte Oreilles Lakes Association (COLA) by email. Local Conservation Congress representatives were made aware of this proposal and were supportive. The Hayward Bass Club was consulted prior to completion of this proposal; they were largely supportive of efforts to harvest small, slow-growing largemouth bass if quality smallmouth bass opportunities could be maintained and enhanced.

### **Draft Question**

This proposal would remove the minimum length limit for largemouth bass, keeping the daily bag limit at 5, while increasing the minimum length limit for smallmouth bass to 18 inches and reducing the daily bag limit to 1 in five lakes on two chains (Round and Lac Courte Oreilles) in Sawyer County.

The management goal for these waters is to create and sustain an extraordinary trophy fishery for smallmouth bass while maintaining largemouth bass in low numbers that will not interfere with higher-priority species such as walleye and smallmouth bass. Stakeholder-influenced goals for smallmouth bass in the Round Lake Chain and Lac Courte Oreilles Chain are more likely to be met and sustained under more restrictive harvest regulations, especially if smallmouth bass are not forced to compete with numerous largemouth bass.

The proposed regulation is one tool to help meet the management goal because it will allow the harvest of small, slow-growing largemouth bass, promoting faster growth of remaining fish and less competition with walleye and smallmouth bass; and it offers additional protection to sensitive, high-quality smallmouth bass populations.

**Do you favor removing the minimum length limit for largemouth bass, keeping the daily bag limit at 5, while applying a 18-inch minimum length limit with a daily bag limit of 1 for smallmouth bass on the Round Lake Chain (Round Lake and Little Round Lake at T41N-R8W-S36) and the Lac Courte Oreilles Chain (Lac Courte Oreilles, Little Lac Courte Oreilles, and the Billy Boy Flowage) in Sawyer County?**

# Regulation Proposal Checklist

## Fish Team Supervisor

<b>Reviewer</b> Dave Neuswanger	<b>Date</b> December 3, 2013
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Are adequate data presented to justify the regulation change?	Yes ✓ No
Is there adequate documentation that the proposed regulation will achieve the desired stated outcome?	Yes ✓ No
Are the management objectives clear and complete?	Yes ✓ No

**Reviewer Comments:**

At the request of the District Supervisor, this proposal has undergone extensive revision at the unit level and is now ready for district-level and Bass Team review. Differential treatment of largemouth and smallmouth bass, and the 18-inch length limit for smallmouth bass in select waters, has been proposed with the encouragement of Bass Team Chair, Jon Hansen. Much attention was paid to accurately describing the waterbodies to which these changes would apply, which will also require attention by our database coordinators in order to properly identify referenced lake chains in Administrative Code.

**Recommended Action:** Approve ✓ Reject

## District Fish Supervisor

<b>Reviewer</b>	<b>Date</b>
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Is the proposal necessary? -enforceable? -complete?	Yes	No
Does the proposal meet the district's goal for providing varied fishing opportunities?	Yes	No
Is the proposed regulation easy for anglers to comply with and understand?	Yes	No

**Reviewer Comments:** (Is there additional information you want the author to provide before approving the proposal?)

**Recommended Action:** Approve      Reject

**Species Team**

<b>Reviewers</b>	<b>Date</b>
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Are adequate data presented to justify the regulation change?	Yes	No
Does the proposal fit with statewide species management goals?	Yes	No
Does the proposal meet regional and statewide goals for varied fishing opportunities?	Yes	No
Are the management objectives clear and complete?	Yes	No

**Reviewer Comments:** (Is there additional information you want the author to provide before approving the proposal?)

**Recommended Action:**    Approve                  Reject

**Law Enforcement Comments:**

Please provide comments on enforceability of the reg proposal and other issues you think the Fisheries Management Board should consider.