Regulation Proposal Form

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Proposal Title	
Liberalized largemouth and smallmouth bass regulations for Balsam Lake, Polk County	
Author	**Date**
Terry Margenau/Heath Benike	10/13/2011

Location Information:

Affected water(s)	
Balsam Lake	
County	**WBIC(s)**
Polk	2624200

Upstream/downstream boundaries, if applicable—Law Enforcement should be consulted
n/a

Will this regulation affect Ceded Territory water and are there any anticipated impacts to tribal fisheries?
Yes ☒ **No** ☐

Current Regulation

No minimum length limit on largemouth or smallmouth bass, but only 1 fish less than 14 inches allowed*.
(*Note: This regulation will sunset in 2012 and returns to statewide 14 inch minimum/5 bag limit.)

Proposed Regulation

No minimum length limit on largemouth or smallmouth bass and a daily bag limit of 5 fish. [Note: Smallmouth bass are a small component of the Balsam Lake fishery, but are included in this proposal because at this time there is not separation of the two species for regulation purposes).

Management Goal

Summary statement that characterizes the desired fishery (e.g. provide a naturally reproducing harvest-oriented walleye fishery; provide a bass fishery dominated by large adults that maximizes predation on smaller fishes)

Improve growth rates and size structure of largemouth and smallmouth bass, while allowing harvest of abundant small (< 14 inches) bass.

Description of the Water(s) and Fishery

Provide a brief description of the water(s), past regulations and other management actions. Summarize all applicable fisheries data, particularly from surveys meeting protocols (Table 1).

Balsam Lake is a 2,054 acre drainage lake located in central Polk County. A dam is present on the outlet of Balsam Lake which artificially raises water levels approximately 29 feet. The maximum water depth of Balsam Lake is 37 feet. Balsam Lake has a diverse fishery consisting of walleye, northern pike, largemouth bass, smallmouth bass, as well as bluegill, black crappie, pumpkinseed, yellow perch, green sunfish, warmouth, white sucker, and bullheads.

Fisheries management activities for Balsam Lake have included fish stocking, various regulations, and surveys. Fish stocking since 1990 has been limited to walleye. Bass (smallmouth and largemouth) regulations have changed 3 times since 1989. Prior to 1989, a no minimum length limit with daily bag of 5 bass was present. In 1989, a 14 inch minimum length limit was enacted; the daily bag limit remained at 5 bass. In 2002, an experimental regulation was enacted for bass due to concerns that largemouth bass size structure was poor and bass growth rates were declining. The regulation allows anglers to keep one bass less than 14 inches, however the remainder must be larger than 14 in. The bass daily bag still remained at 5 bass in total. The goal of this regulation was to reduce abundance of small largemouth bass less than 14 inches and improve largemouth bass growth rates. This regulation sunsets in March of 2012 and reverts back to a 14 inch minimum length limit.

Balsam Lake was sampled during 2008-2009 following the Wisconsin Department of Natural Resources treaty assessment protocol. Data collected during the 2008-2009 survey were compared with previous survey data on Balsam Lake in 2005-2006, 2002-2003, 1998-1999, and 1994-1995. Balsam Lake was also surveyed in 2011 (walleye assessment and creel survey) but no electrofishing runs were made for assessing bass because of staff shortages.

Largemouth bass were abundant in the 2008 survey. Spring electrofishing CPE was 223 fish/hr. CPE8 was 89.6 fish/mile, greater than 99% of similar waterbodies in the state (FACT model). This is a 156% and

355% increase compared to similar surveys in 1998 (87 fish/hr) and 1989 (49 fish/hr), respectively (Figure 1). The largest increase in largemouth bass abundance was for fish less than 13.0 in. More specifically, largemouth bass abundance for fish less than 13 in increased by 427% and 400% compared to 1998 and 1988, respectively. Size structure indices also showed a downward trend. Proportional stock density values were 44 in 1988, increased to 76 in 1998, then decreased to 31 in 2008. RSD-14 values in 2008 were 8.8, ranking in the bottom 3% of similar waterbodies statewide (FACT model).

Along with higher abundance, largemouth bass in Balsam Lake experienced decreased growth rates since 1988, and by 2008 were less than northern region means (Table 1). In 2008, largemouth bass reached 14 in somewhere between their 7-8th year of growth. In comparison in 1988 largemouth bass were reaching 14 in by their 5th year of growth.

Open water creel surveys in Balsam Lake from 1994 through 2011 suggested a high catch but low harvest of largemouth bass. In the five creel surveys completed (1994, 1998, 2002, 2008, and 2011) an average of 3.4% of the catch was harvested (Figure 2). Of specific interest is the recently completed 2011 creel survey in which an estimated 142,045 largemouth bass were caught and only 4,064 harvested (2.9%).

Smallmouth bass were not a major component of the Balsam Lake fish community in 2008. Spring smallmouth bass electrofishing CPE was low at 2 fish/hr, however several age classes of smallmouth bass were present. Projected angler catch for smallmouth bass in Balsam Lake in 2008-2009 was 170 fish. No projected harvest occurred.

Table 1. Largemouth bass mean length (in) at age, Balsam Lake 2008, 1998 and 1988, and regional mean. Wisconsin. Local and regional mean length information is from the WDNR Fisheries and Habitat database.

Age	Balsam Lake Mean 2008	Balsam Lake Mean 1998	Balsam Lake Mean 1988	Northern Region (Regional Mean)
4	9.9	10.4	11.8	11.0
5	11.4	12.4	14.2	12.7
6	12.6	13.8	15.9	14.6
7	13.9	15.4	16.8	16.0

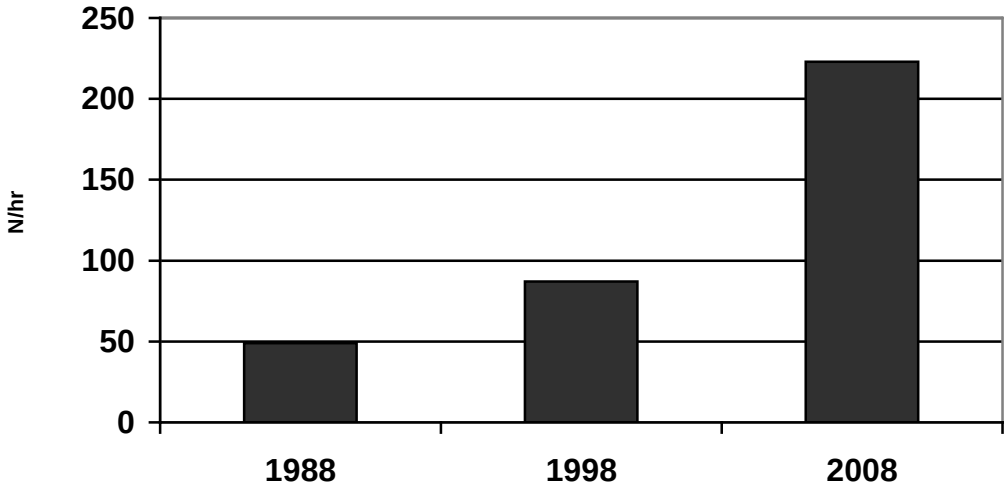


Figure 1. Largemouth bass relative abundance, 1988-2008, Balsam Lake, Polk County, Wisconsin.

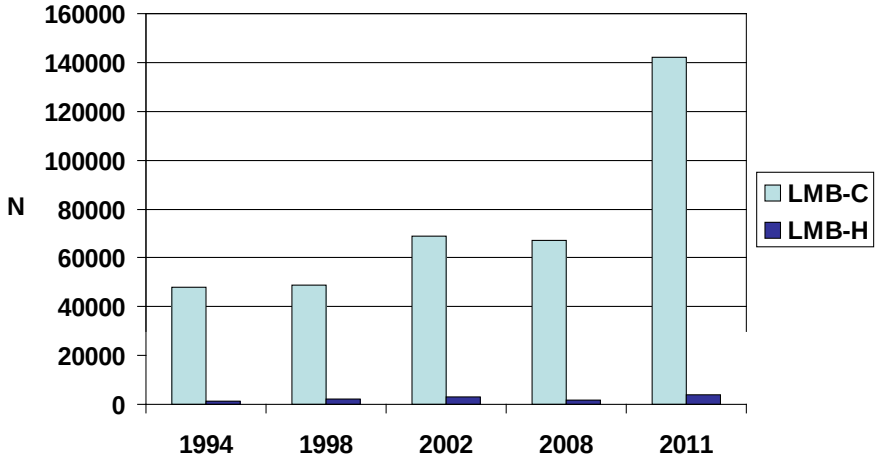


Figure 2. Open water creel catch (LMB-C) and harvest (LMB-H) for largemouth bass in Balsam Lake, Polk County, 1994-2011.

Management Objective(s)

a) Goals are general, objectives are specific. Objectives are used to evaluate the effectiveness of your action and determine if you have achieved your goal. Provide a management objective that is specific, measurable, able to be achieved, related to the goal, and has a temporal component (e.g. increase walleye harvest rate to 0.1 fish/hour while maintaining recruitment at or above 10 YOY/mile within 5 years; increase largemouth bass RSD14 to 35 and bluegill RSD8 to 15 within 5 years

Largemouth bass relative abundance should be reduced to 80 fish/hr, RSD-15 should be increased to 10 (approximate 1998 values), and mean growth rates for age 6 fish should be greater than 14 inches by 2023.

b) Describe how the management objective and associated target levels for metrics were developed (e.g. lake management plan, stakeholder meeting, comparison to other water(s)).

This regulation should increase harvest opportunities for surplus bass less than 13 inches. It his hoped by reducing bass densities, growth and size structure will improve to historic conditions. The bass fishery should be carefully monitored considering the high use by bass and tournament anglers to ensure a moderate density fishery is present with an improved size structure when compared to current conditions. This regulation change would affect both largemouth and smallmouth bass as the two species are currently grouped for regulation purposes. If in the future the two species are separated, a different management option may be considered for smallmouth bass.

Current Problem

Use survey data or provide context for a similar water or group of waters (e.g. lake type, watershed) to demonstrate how the fishery is not meeting the desired management objective. Identify hypothesized problem(s) you hope to address.

A high density largemouth bass population has resulted in a fishery characterized by slow growth and poor size structure.

Proposed Regulation Justification

How is the regulation change expected to meet your objective(s)? Demonstrate expected results of the regulation using tools such as modeling, comparisons to other waters, peer-reviewed literature, etc...

Comparisons to other waterbodies were calculated using the Fisheries Assessment Classification Tool (FACT). Largemouth bass growth rates do not meet the criteria for growth established in NR 20.35 (14 inches by age 6), size structure is in the lower 3% for similar waterbodies statewide, and relative abundance (CPE/mile) of 8+ inch largemouth bass is in the upper 1% statewide.

Evaluation Plan

Provide a suggested plan and timeline for evaluating whether the objectives are met in response to the regulation change. Indicate potential courses of action if objectives are not being met. If proposed regulation is not part of the "toolbox" (Table 2) the evaluation plan needs to be additionally detailed with an explanation of how the costs of evaluation will be covered.

Balsam Lake is a high priority fishery and treaty assessment lake and is on a three-year sampling rotation. As such, Balsam Lake would be sampled in 2023. We have selected 2023 to reach our management objectives to allow several cohorts to cycle through the fishery, thus not making management decisions on short-term fluctuations such as a single strong or weak year class.

Previous Action

Include details on previous regulation proposals that were intended to address the current problem, if applicable.

In 2002 an experimental bass regulation was promulgated because of poor bass size structure and declining growth rates. This regulation is scheduled to sunset in 2012 and has been considered ineffective in improving size structure and growth.

Public Participation in Developing Proposed Regulation

Was input solicited from stakeholders when developing the proposed regulation change? Include documented comments from affected user groups (positive and negative), contacts made with local Conservation Congress Representatives, lake associations, angler groups, etc. H. Benike attended the 2009 annual lake district meeting and provided the lake district members with data from the 2008 fish survey. Lake district members voted in favor (50-2) in support of removing the 14 inch mimimum length limit and implementing a no minimum length limit with a daily bag of 5 bass in total (0/5). In addition, fisheries staff have received several emails and phone calls supporting efforts to liberalize bass regulations on Balsam Lake.

Small Business and Fiscal Effect

Explain who is likely to be economically impacted and in what way. If possible, provide estimates.

Balsam Lake is the largest lake in Polk County and has a very popular sport fishery with both local anglers and nonresident anglers from the nearby Minneapolis/St. Paul metropolitan area. In addition, Balsam Lake hosts up to 10 bass tournaments each year. It is expected that improving the bass fishery will also improve angler interest, thus bringing in greater tourism dollars to the local economy.

Draft Question: **for inclusion in Spring Hearing questionnaire**

This proposal would (insert proposed regulation): change the largemouth and smallmouth bass regulation on Balsam Lake from a minimum length of 14 inches and 5 fish daily bag to no minimum length limit and 5 fish daily bag.

The Management Goal is: to reduce numbers of over-abundant small (<14 inch) largemouth bass thus improving largemouth bass growth and population size structure.

This regulation proposal is one tool to help meet the management goal because: it would allow anglers to harvest some largemouth bass < 14 inches which are currently unavailable for harvest.

Do you favor : replacing the current minimum length limit for largemouth and smallmouth bass from 14 inches and a daily bag of 5 fish to no minimum length limit and a daily bag of 5 fish?

Fish Team Supervisor Regulation Proposal Review Checklist

Proposal Title		
Liberalized largemouth and smallmouth bass regulations for Balsam Lake, Polk County		
Author	**Reviewer**	**Date**
Terry Margenau/Heath Benike	Terry Margenau	10/17/2011

Location Information

Affected waterbody(ies)?	
Balsam Lake	
County	**WBIC(s)**
Polk County	2624200

Fish Team Supervisor Reviewer Notes:
This proposal is supported with extensive data due to the frequency of sampling in Balsam Lake, and from citizens in the Lake District. While the most summarized data (2008) is reported here, it is recommended that data from the 2011 survey be used to update the proposal during winter 2011/2012.

Recommended Action by Fish Team Supervisor Approve ☒ Reject ☐

Regional Fish Supervisor Regulation Proposal Review Checklist

Proposal Title		
Liberalized largemouth and smallmouth bass angling regulation for Balsam lake, Polk Co		
Author	**Reviewer**	**Date**
Benike/Margenau	Steve AveLallemant	11/15/11

Location Information

Affected waterbody(ies)?	
Balsam Lake	
County	**WBIC(s)**
Polk Co.	2624200

Regional Fish Supervisor Reviewer Notes:
Include 2011 data if time frame allows Approve

Species Team Regulation Proposal Review Checklist

Proposal Title		
Liberalized largemouth and smallmouth bass regulations for Balsam Lake, Polk County		
Author	**Reviewer**	**Date**
Heath Benike	Bass Team	12/14/2011

Location Information

Affected waterbody(ies)?	
Balsam Lake	
County	**WBIC(s)**
Polk	2624200

Species Team Reviewer Notes:
After thorough discussion regarding the implications and potential for no minumum size limits and protected slot limits to improve size structure and growth in bass fisheries the Bass Team does support this proposal. Inititial questions were raised as to whether there is a problem given that the number of larger fish in the population have not changed. Thus if growth rates are low for smaller fish a slot limit would be more appropriate but is unviable because of tournament interests. The presence of previous creels and potential for more that are scheduled make this an inviting regulation evaluation opportunity to determine whether or not enough harvest is possible to alter growth rates. The Bass Team would like to see this followed up and more imporantly like to see more creels on waters that have substantial bass fisheries.
From Heath Benike to species team in November 2012:
Here is the size structure data that John requested.

Largemouth Bass Relative Abundance (#/hr) by Inch Group, Balsam Lake, Polk Co, WI.

Inch Group	1988	1998	2008
4.0-9.9	13	4	81
10.0-12.9	25	32	109
13.0-14.9	8	42	26
15.0-16.9	3	8	5
17.0 +	2	1	2

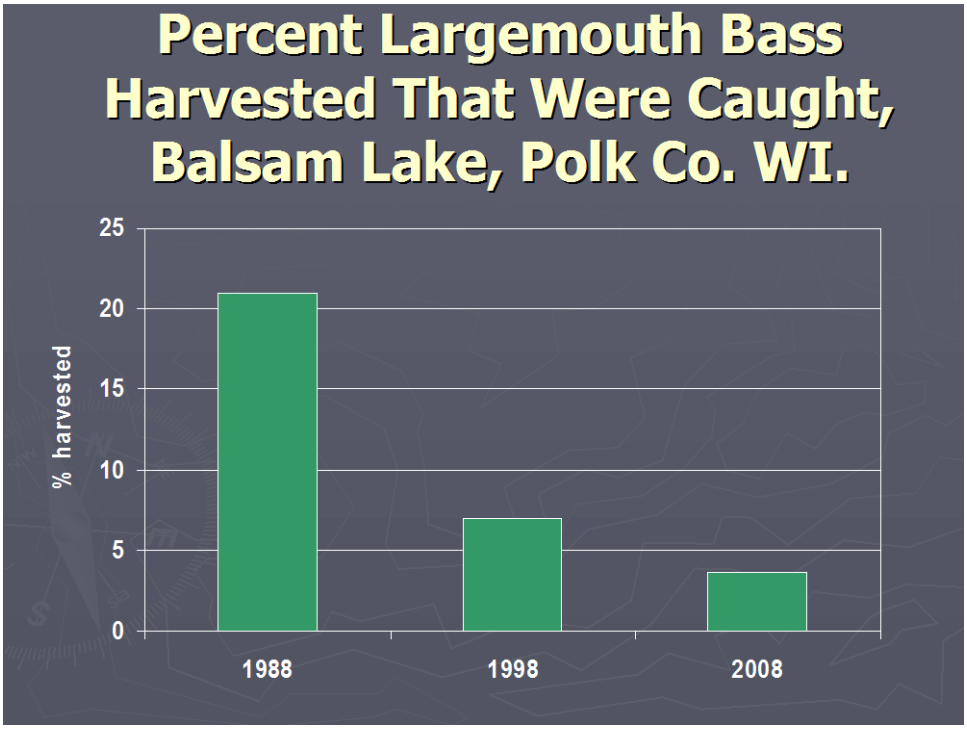
Basically, large bass (15+) abundance has remained relatively the same over time under three different regs (0/5 in 1988, 14 min in 1998 and 1 under 14 in 2008). The 14 inch minimum length limit has not increased the number of top end bass when compared to the 0/5 in 1988.

I agree with Dennis that a slot would be more desirable in an effort to try and enhance mid-size bass size structure and focus harvest where needed.

I/we would have chosen the slot option however, this is a high use bass tournament water and unless we can exempt bass tournaments (which we currently can't) from the regulation this would not fly on Balsam Lake from a PR standpoint. That basically leaves us with a 0/5 or keeping things the way they are with a 14 min. Locals and even bass guys want changes and I believe the data supports the 0/5 given the options available to me.

I do not think we need to worry about anglers collapsing the fishery with excessive bass harvest. 95% of the bass caught statewide are released (its 97% in Barron and Polk County see second slide). People just are not keeping bass like they once did when we put the 14 inch length limit in place in 1988. The creel data we have on Balsam below shows this change. Even though abundance was increasing during the time period and we liberalized regs with the one under in 2002, the number of bass harvested actually decreased. The 2008 creel on Balsam Lake showed that 69,000 bass were caught and only 2300 some were kept with a one under 14 reg only. This will get worse in 2012 when it reverts back to the 14 inch min. I need your support on this.

I should also mention that Balsam Lake is also a treaty trend lake (creel and fish survey every 3 years) and going to the no minimum could provide us a lot of good information as to what happens when we go to a no minimum lake on a high density/slow growth bass lake. I think this type of information is lacking and we would be able to learn something if we did this and that could help us address this high density slow growth bass issue going forward.



Recent Largemouth Bass Catch and Harvest Data. Barron and Polk County Creels

Lake	Year	LMB C	LMB H	% H
Silver	2009	4,147	125	3.0%
Balsam	2008	68,993	2369	3.4%
Wapo	2007	36,990	810	2.2%
Bear Trap	2007	10,412	195	1.9%
½ Moon	2006	17,472	459	2.6%
Hemlock	2005	15,032	280	1.9%
Red Cedar	2005	5,582	133	2.4%
L. Turtle	2004	1,489	92	6.2%
	Totals	160,117	4,463	2.8%

Recommended Action by Species Team Approve x☐ Reject ☐