

Regulation Proposal Form

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Proposal Title Walleye Regulation Change – 15 inch minimum size limit, 5 fish bag	
Author Greg Matzke	Date 7/7/2011
Location Information:	
Affected water(s) Patten lake	
County Florence	WBIC(s) 0653700
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 <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Current Regulation No minimum size limit with only 1 fish over 14 inches
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Proposed Regulation 15 inch minimum size limit with a 5 fish daily bag limit
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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) Increase the abundance of adult walleye in Patten Lake to a level of 3-6 adults/acre by increasing the protection of young walleye. A 2011 survey of Patten Lake found the adult walleye population to be at its lowest point since the introduction of the species in 1974. Prior to the current no minimum length limit with only 1 fish over 14 inches regulation Patten Lake contained a high density walleye population under the statewide 15 inch minimum size limit. Since the regulation change in 1997 the walleye population has been assessed 3 times, each time showing a lower abundance of walleyes.
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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). Patten Lake covers 255 acres, is mesotrophic, and has a maximum depth of 52 feet. The lake is a drainage system having two inlets and one outlet that flows into Woods Creek. The lake is centrally located in Florence County between the towns of Florence and Fence. Shoreline development is moderate with plenty of shoreline left in its natural state. There is one public boat landing on Patten Lake providing adequate public access. The current fishery is comprised of 4 game fish species (northern pike, walleye, largemouth and smallmouth bass). Of the game fish northern pike are the most abundant species and appear to be of moderate density. Walleye (0.97 adults/acre), largemouth (1.13 adults/acre) and smallmouth bass (0.9 adults/acre) are all present in low densities (2011 estimates). There are also 6 pan fish species present in Patten Lake (black bullhead, bluegill, pumpkinseed, yellow perch, black crappie, rock bass). The only pan fish species of any real abundance are black bullheads and bluegills. Black bullheads have always been a background population but in the past 15 years there population has increased drastically in abundance with over 100 fish per net lift during summer sampling in 2004 (Young 2005). The resurgence of the black bullheads coincides with the decline of the walleye population. It is now thought that the bullheads are having adverse affects to the walleye population through competition with and direct predation on young walleyes. During 2011 a black bullhead removal plan was put in place to reduce the bullhead population.

Walleye Fishery:

Patten Lake has always been thought of as the best walleye fishery in Florence County. Patten is the only Lake in Florence County that is capable of maintaining a walleye population through natural reproduction (excluding impoundments).

Walleye were first introduced to Patten Lake in 1974 and were again stocked in 1976 and 1978. Since these three stocking events the walleye population has maintained itself through natural reproduction. Patten Lake quickly became a high density walleye lake with adult densities near 7 adults/acre by 1993 (a full timeline of adult walleye density can be seen in Table 1 below). It was this high walleye density and a few years of documented high recruitment which led to the current regulation which was applied in 1997.

After the new walleye regulation in 1997 the exploitation of walleyes increased (Table 3), however recruitment of walleyes has always been highly variable (Table 2 below). This lack of recruitment (especially after 2005) along with increased harvest has driven the walleye population to its current historically low level.

Table 1. Previous adult walleye population estimates for Patten Lake, Florence Co.

Year	1981	1993	2000	2004	2011
#/Ac	3.8	6.9	2.5	2.3	0.97

Introduced in 1974, size limit change to no minimum in 1997

Table 2. Previous levels of walleye recruitment in Patten Lake, Florence Co.

Year	91	92	93	98	2000	2001	2002	2004	2005	2007	2008	2010
YOY/mi	35.5	12	11.4 & 4.8	16.5	5.5	116.2	105.9	63.5 & 164.4	7.9	1.5	4.1	20

Table 3. Walleye creel data for Patten Lake, Florence Co.

Creel Yr.	Adult PE	Effort	Percent	Catch	Catch Rate	Total Harvest	Harvest Rate	Mean L
1993-94	6.99	5412	71.00%	1325	4.4	257	22.3	15.7
2000-01	2.55	4655	52.70%	431	10.8	332	14.0	14.5
2004-05	2.29	3463	41.27%	248	14.0	213	16.3	15.4

Walleye Abundance:

The current population estimate of 0.97 adults/acre is below what is widely accepted as a fishable population (1 adult/acre). The walleye population is also much lower than previous walleye populations and much lower than the potential given it's history of good natural reproduction.

Walleye Size Structure:

During the 2011 survey walleyes were captured from 11.2 to 29.9 inches in length. The walleye population is comprised of primarily large individuals due in part to poor recruitment in recent years. The artificially high size structure is not sustainable (Table 4).

Table 4. Size structure indexed using relative stock density for walleyes captured from Patten Lake during spring of 2011.

RSD15:	85.45455
RSD20:	38.18182
RSD25:	15.45455
RSD30:	0

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
Increase the current adult walleye population to a level of 3-6 fish/acre within 10 years.

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 lake has proven to be capable of maintaining walleye densities >3 adults/acre during all surveys under the former (proposed) size limit. By protecting the young walleyes to adulthood and working to remove an overabundant bullhead population the lake should be able to return to what is considered a normal density of walleyes for Patten Lake (>3/acre).

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.
After the new walleye regulation in 1997 the exploitation of walleyes increased (Table 3), however recruitment of walleyes has always been variable (Table 2). This lack of recruitment (especially after 2005) along with increased harvest has driven the walleye population to its current historically low level.

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Patten Lake has previously contained a high density walleye population since the introduction of walleyes up until the current regulation was applied. The current low population compared to populations under the statewide regulation demonstrate that the lake is not meeting the desired management objective.

The increased sized limit should provide better protection of juvenile walleyes to help increase survival to adulthood.

There is also a problem with an overabundant black bullhead population which has grown in abundance since the decline of the walleye population. Bullheads are thought to compete with and prey on young walleyes in Patten Lake. Reducing the bullhead population is also a major step in rehabilitating the walleye fishery. In 2011, bullhead removals began on Patten Lake removing a total of 5,999 black bullheads. Removal of over 2,500 lbs of black bullheads should provide a much easier first year of life for young-of-the-year walleye.

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...

The current no minimum length limit with only one fish over 14 inches has increased walleye exploitation to an unsustainable level. With the application of this size limit and other outside factors the walleye population in Patten Lake has gone from the highest density walleye lake in Florence County to a non-fishable population. The level of recruitment in recent years is not high enough to afford the no minimum length limit. Increasing the minimum size limit to the statewide 15 inch minimum size limit should provide adequate protection of young walleyes to adulthood. Increasing the adult density of walleyes in Patten Lake will also help control the large population of black bullheads.

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. Patten Lake will continue to be monitored at a minimum of every other year for walleye recruitment. Another adult population estimate will be conducted within the next 10 years to document the effect of the regulation change and black bullhead removals from Patten Lake. If our objective has not been met during this timeframe and the walleye population is continuing to reproduce naturally further black bullhead removals may be justified.

Previous Action

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

Patten Lake has been under the statewide walleye regulation until 1997 when the 15 inch minimum size limit was removed in favor of the current no minimum size limit with only one fish over 14 inches.

During the survey efforts of 2011 black bullheads were captured and removed from Patten Lake. A total of 5,999 bullheads weighing approximately 2,580 pounds were removed via fyke net. Certain members of the Patten Lake Association have volunteered to act as agents of the state to remove young bullheads as they huddle in large balls near shore in an attempt to slow down the recruitment of black bullheads. This removal of 23.5 bullheads/acre should aid in the natural reproduction of walleyes.

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...

The Patten Lake Association (Contact: Russ Cassens) is strongly in favor of this regulation change. The lake association along with many other local residents have come to my public input sessions requesting something be done about the decreasing walleye population on Patten Lake. This regulation change would greatly please the people of Florence County.

Small Business and Fiscal Effect

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

Restoring Patten Lake's walleye population to its historic levels will generate increased fishing activity in the area. Florence County is not as "lake-rich" as other parts of northern Wisconsin and Patten Lake is one of the only naturally reproducing walleye populations within the county. Currently many residents purchase out-of-state fishing licenses and strictly fish in the waters of the Upper Peninsula looking for better walleye fishing. The rehabilitation of this walleye fishery will help keep fishermen within the state.

Draft Question: for inclusion in Spring Hearing questionnaire

This proposal would (insert proposed regulation): 15 inch minimum size limit and 5 fish daily bag limit
The Management Goal is: Increase adult walleye abundance to a level of 3-6 adults/acre.

This regulation proposal is one tool to help meet the management goal because: The current no minimum size limit does not offer adequate protection of juvenile walleyes in Patten Lake. It is recommended that the walleye regulation on this lake be changed to a 15 inch minimum length limit. The walleye population is now at its historic low level, and this regulation should provide increased protection to juvenile walleyes and increase the adult population providing additional angler opportunity.

Do you favor : increasing the minimum length limit from no minimum length with only one fish over 14 inches to a 15 inch minimum length limit and a 5 fish daily bag limit?

Fish Team Supervisor Regulation Proposal Review Checklist

Proposal Title 15" minimum, 5 daily bag for Walleye in Patten Lake		
Author Greg Matzke	Reviewer Mike Vogelsang	Date 7/8/11
Location Information		
Affected waterbody(ies)? Patten Lake		
County Florence County	WBIC(s) 0653700	
Fish Team Supervisor Reviewer Notes: This reg proposal has been discussed thoroughly with Patten Lake association over the past several years and they highly support. This is a change I wish we could have entertained more timely, however there was a biologist position vacancy - I recommend this be considered one of the higher priority proposals for Headwaters, since it has been on the "back burner" for some time. Tough to tell if bullhead are to blame for impacting walleye recruitment, but at current levels, not helping walleye any. Being one of the few decent walleye lakes in the area, it gets it's share of pressure and I would agree that a 15" min is probably the regulation to go with for the long haul. A short-term bullhead removal plan already in place will also help create a positive response for this reg.		

Recommended Action by Fish Team Supervisor

Approve Reject

Regional Fish Supervisor Regulation Proposal Review Checklist

Proposal Title Walleye 15" minimum (from 1>14'), Patten Lake, Florence County		
Author Greg Matzke	Reviewer Steve AveLallemant	Date 07/18/11
Location Information		
Affected waterbody(ies)? Patten Lake		
Management Objective		
Is there a temporal component?		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Regional Fish Supervisor Reviewer Notes: The lowest adult walleye population estimate in 2011 since 1981; a consistent downward trend to now being less than 1/acre. Recruitment has been generally poor as well since 2005 (except one year class). A low density population with poor recruitment is clearly better managed under a minimum length limit rather than the current no minimum/1>14" regulation. This action would also simplify regulations by reverting to the statewide base regulation for walleye.		

Recommended Action by Regional Fish Supervisor

Approve Reject

Species Team Regulation Proposal Review Checklist

Proposal Title

Author	Reviewer Walleye Team	Date 12/14/11
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Species Team Reviewer Notes:

Patten Lake- change to 15" minimum. Team recommends advancement.

The team agrees that a 15" minimum is more consistent with population metrics observed in this lake. Although harvest does not appear to be a limiting factor, the more conservative regulation may provide some potential to mitigate wildly swinging year class strength.

Recommended Action by Species Team

Approve Reject