

Regulation Proposal Form

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Proposal Title Park Lake predator fish minimum size limit increases	
Author David Rowe	Date 9/22/2011
Location Information:	
Affected water(s) Park Lake and the Fox River	
County Columbia	WBIC(s) 180300 and 117900
Upstream/downstream boundaries, if applicable—Law Enforcement should be consulted Fox River Upstream of Park Lake to Hwy 33 bridge.	
Will this regulation affect Ceded Territory water and are there any anticipated impacts to tribal fisheries? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Current Regulation The current regulations are statewide normals for walleye, northern pike and bass. <ul style="list-style-type: none">• Walleye- 15 inch minimum length limit 5 fish daily bag limit• Northern pike- 26 inch minimum length limit 2 fish daily bag limit• Bass- 14 inch minimum length limit 5 fish daily bag limit.
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Proposed Regulation Proposed Regulation The proposed regulation is to increase the minimum length limits and reduce daily bag limits to the recommended “memorable opportunity” categories. <ul style="list-style-type: none">• Walleye 18 inch minimum length limit 3 fish daily bag limit• Northern pike 32 inch minimum length limit 1 fish daily bag limit• Bass 18 inch minimum length limit 1 fish daily bag limit

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) The goal of this regulation change is to increase the abundance and biomass of predator gamefish in Park Lake and the Fox River as a bio-manipulation. The intent of increasing the abundance and biomass of the predator fish species is to maintain very low abundances of detrimental rough fish populations, specifically common carp and gizzard shad, through predation. This should help improve water clarity and conditions for sight feeding fish including northern pike, largemouth bass, and bluegill.

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). Park Lake is a 312 acre impoundment of the Fox River in Columbia County. Park Lake is the upstream most impoundment has a very large watershed (53.4 square miles) compared to the lake surface area, and has mostly agricultural land use. Prior to the aquatic vegetation disappearing and the subsequent decrease in water clarity and quality, Park Lake was a very good panfish, largemouth bass, and northern pike fishery. Between 1998 and 2001 the plant community was reduced from diverse and abundant (eleven aquatic plant species, most area of the lake shallower than 5 feet) to simple and sparse (six species including invasive Eurasian Water Milfoil and Curly-

leaf Pondweed). In surveys prior to 2001 CPUE of Largemouth bass varied between 23 and 52 fish per mile. Since 2002 the CPUE has not exceeded 10 per mile. In 2007 the CPUE of largemouth bass was 7 per mile. Walleye abundance has exceeded or been in the target range mostly because of elevated WDNR fish stockings from 1998-2006 where stocking rates sometimes exceeded 500 small fingerlings per acre. Northern pike relative abundance during fall electrofishing was between 3 and 5 fish per mile between 1998 and 2003 and was less than 1 fish per mile in 2005. Historical catch rates for panfish were very high. In 1996 bluegill CPUE was 458/net night and black crappie CPUE was 340/net night. These values decreased in 2007 to 62/net night for bluegills and 26/net night for black crappie. In the 2011 survey these values were 24/net night and 102/net night.

The current fish community that exists in Park Lake is dominated by gizzard shad and common carp. Both species have negative impacts to the water clarity through suspension of sediments and nutrients by disturbance of sediments through their feeding behaviors. Because of the poor water clarity the abundance of largemouth bass and bluegill are quite low. In a spring 2011 assessment the catch rate of largemouth bass was 8.2 per mile of fish larger than 8 inches and 3 per mile of fish larger than 14 inches. Bluegill catch rates were also poor at 68 per mile of fish larger than 3 inches and 12 per mile of fish larger than 6 inches. A mark recapture during SN1 and SE1 for walleye estimated the population at 1.17 fish per acre larger than 15 inches. No estimate of northern pike population density was completed because of low sample size; only 40 were captured during SN1. There was a strong 9 to 10 inch cohort of black crappies observed during SN1. Other fish of interest observed included channel catfish and yellow perch.

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 CPUE during spring electrofishing 2 of 30-50 bass >8 inches per mile and a size structure of RSD 14" >40.
- Northern pike PE of 3-5 fish >20 inches per acre and a size structure of RSD 30" >10.
- Walleye PE of 2-3 fish >15 inches per acre and a size structure of RSD 15" >50.

These objectives should be achieved within five years of implementation.

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)).

These objectives were developed by comparison to catch rates and size structure of other class three lakes in the FM database, and historical condition of Park Lake. They are also called for in the Park Lake Comprehensive Management Plan which was approved by the WDNR in January 2009.

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.

All three gamefish species, walleye, largemouth bass, and northern pike are less abundant than the management objectives. Because their abundances are low they are unable to impact the recruitment of carp and gizzard shad. There is a positive feed back loop occurring where increased abundances of these rough fish mean decreased water clarity thereby reducing the ability of sight feeding predators to effectively control the recruitment of gizzard shad and common carp. The department attempted to increase the abundance of walleye with only increases in stocking from 1998 through 2006. The increased stocking led to increases in the number of small walleye (<15") but did little to significantly increase the biomass of the walleye population. It was concluded that controlling the gizzard shad with increased stocking alone was not possible.

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 increase in predator fish minimum length limits and reduction in bag limits has been shown to increase predation on smaller planktivorous fish and detrimental rough fish species like bullhead, carp, and gizzard shad. There are several examples of successful bio-manipulations through fishing regulations including Lake Mendota, Dane County; Big Muskego Lake, Waukesha County; Yellowstone Lake, Lafayette County; and Silver Lake, Manitowoc County. Predation by game fish should control recruitment of detrimental rough fish and maintain water clarity. Increased minimum length limits and decreased daily bag limits of gamefish species should reduce harvest and increase both abundance and biomass of the predator fish, thereby increasing predation on detrimental rough fish.

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. Standard FM sampling protocols will be used for evaluation of these regulation changes. Specifically, this will be accomplished through a comprehensive survey as part of the baseline lakes monitoring rotation. The comprehensive survey includes SN1, SN2, SE1, SE2 and SN3, and will allow fish managers to assess panfish, predator gamefish, and detrimental rough fish recruitment, abundance, and biomass. Findings from the comprehensive survey will be compared to data collected prior to the bio-manipulation to determine its success.

Previous Action

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

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...

Increased predator minimum length limits are called for in the Park Lake comprehensive Management Plan developed by the Pardeeville Lakes Management District. There were ten public meetings held while drafting this plan from 2/15/2007 through 7/18/2007.

Small Business and Fiscal Effect

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

Small businesses should be positively impacted by fishing regulation changes which will lead to improved water clarity and quality, and a better overall fishery. These positive outcomes will increase angler and boater visits to Park Lake and the Pardeeville area.

Draft Question: for inclusion in Spring Hearing questionnaire

This proposal would (insert proposed regulation): Increase the minimum length limit on walleye to 18 inches and reduce the daily bag limit to three, increase the minimum length limit on bass to 18 inches and reduce the daily bag limit to one, and increase the minimum length limit on northern pike to 32 inches and reduce the daily bag limit to one on Park Lake and the Fox River upstream to the Hwy 33 bridge.

The Management Goal is: The goal of this regulation change is to increase the abundance and biomass of predator gamefish in Park Lake and the Fox River as a bio-manipulation.

This regulation proposal is one tool to help meet the management goal because: Increased stocking levels have not increased predator biomass sufficiently to control detrimental rough fish. Partial or total chemical treatment is expensive and not popular with residents and stakeholders. Contract removal of rough fish has not been effective and there is no market for gizzard shad.

Do you favor: Increasing the minimum length limit on walleye to 18 inches and reducing the daily bag limit to three, increasing the minimum length limit on bass to 18 inches and reducing the daily bag limit to one, and

increasing the minimum length limit on northern pike to 32 inches and reducing the daily bag limit to one on Park Lake and the Fox River upstream to the Hwy 33 bridge.

Fish Team Supervisor Regulation Proposal Review Checklist

Proposal Title Park Lake predator fish minimum size limit increases		
Author David Rowe	Reviewer Same	Date 9/22/2011
<p>Fish Team Supervisor Reviewer Notes: This regulation change was discussed with Paul Nadolski Conservation Warden for Columbia County and he is in favor of the proposal.</p> <p>In response to Scot Stewarts comments. I do not believe there should be a sunset because the lake restoration project is being done concurrently with the watershed BMPs. It will take a long time for the nutrient loading issue to be addressed in the watershed and the high abundance of predator fish will help keep the lake from reverting to a turbid lake system.</p> <p>Regarding the reduced panfish bag limit. No I do not think that we should reduce the panfish bag to ten. While there will hopefully be an increase in effort of sport angling I do not think that a reduced bag on panfish would increase panfish biomass. This should result from the increased water quality. Park Lake historically supported a robust bluegill fishery and should be able to again if the aquatic vegetation is re-established and water clarity maintained.</p>		

Recommended Action by Fish Team Supervisor

Approve Reject

Regional Fish Supervisor Regulation Proposal Review Checklist

Proposal Title Park Lake predator fish minimum size limit increases		
Author David Rowe	Reviewer Scot Stewart	Date
<p>Regional Fish Supervisor Reviewer Notes: Dave - would you please comment on whether this regulation should have a sunset and if so, how long it should be. Also, I would like to know your thoughts on whether we should also consider reducing panfish bag limits. Thanks. Scot</p> <p>from David Holmes, Warden Supervisor, 10/10/11: I would support the change with the recommendation that if it were implemented proper signage, press releases, and a public meetings were held to notify the public of the change. Enforcement of the rule change would be an educational approach for the first couple of years. I would like to see some other examples given on when this management approach has been successful in the past. Is there any interest in having an inland rough fish contract for this lake?</p>		

Recommended Action by Regional Fish Supervisor

Approve Reject

Species Team Regulation Proposal Review Checklist

Author	Reviewer Species teams	Date
<p>Species Team Reviewer Notes: Walleye Team, 12/14/11: Park Lake- approve as part of whole-lake restoration plan</p> <p>Bass Team, 12/16/11: The Bass Team supports this proposed regulation change for Black Bass species in Park Lake. The team feels that any restoration project on lakes with the intention of reclaiming from rough fish should be coupled with regulation changes to promote predator biomanipulation. The Bass Team knows it is of no concern to them but did not agree with the legitimacy of managing Park Lake as a walleye fishery.</p> <p>Pike Team, 12/27/11: (Cunningham-Lead Reviewer) Draft question needs a bit of work yet., Otherwise fine</p>		

Recommended Action by Species Team

Approve Reject