

# Barnes (Clear) Lake

## Recreational Fisheries Management Objectives

<b>Version Date:</b> October 2017	<b>Prepared by:</b> Owen Watkins	<b>Reviewed by:</b> Stephen Spencer	<b>Approved by:</b> John Tchir – Resource Manager
<b>Waterbody ID:</b> 7009	<b>Surface Area:</b> 92 (Ha)	<b>Hydrologic Unit Code Name (HUC_8):</b> Ribstone Creek	<b>Hydrologic Unit Code (HUC_8):</b> 09030201
<b>Sport Fish Species:</b> Walleye, Northern Pike, and Yellow Perch			
<b>Indigenous Fishery:</b> No			
<b>Environment and Parks Region:</b> Red Deer North Saskatchewan Region (RDNSR)		<b>Fisheries Management Zone:</b> Parkland Prairie 2 (PP2)	<b>Fisheries Management Office:</b> Spruce Grove

## Background

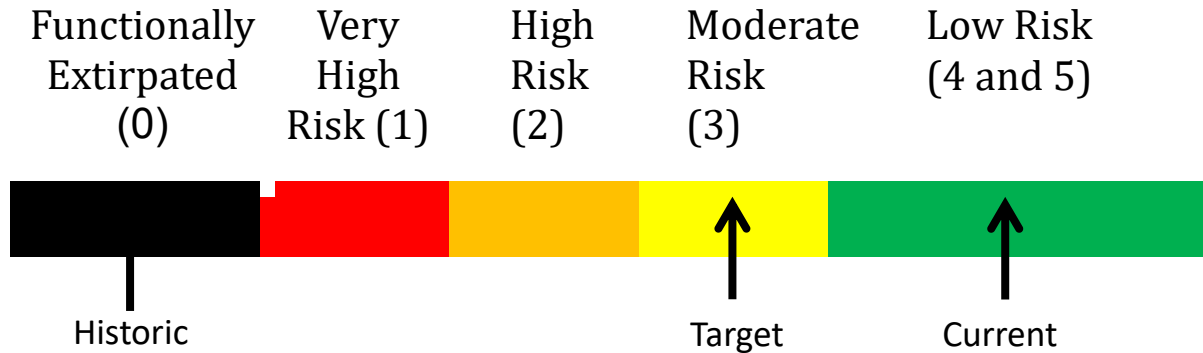
Barnes (Clear) Lake is located approximately 190 km southeast of the City of Edmonton. This 92 hectare, mesotrophic lake has a mean depth of 8.6 m and a maximum depth of 18.6 meters. Barnes (Clear) Lake supports a fish community that includes Walleye, Northern Pike, Yellow Perch, Burbot, and Spottail Shiners. The sportfish population had been introduced, with stockings of Northern Pike in 1938, and Walleyes in 1953. A test netting assessment performed in 1979 indicated predominant catches of Yellow Perch and Northern Pike. In 2014, the Walleye population had significantly improved. It was found that male Walleyes began maturing as early as age-3, and total maturity was reached by age-4, while female Walleyes began maturing at age-5. Growth of Walleyes is relatively slow, with individuals achieving a total length of 500 mm in 10 to 15 years. The Walleye population is supported by a wide range of age-classes, but shows numerous year class failures. The lake has no permanent inlets or outlets but an intermittent outlet on the west shore allowing water to flow downstream into Ribstone Creek (Battle River watershed) during high water events. The land surrounding Barnes (Clear) Lake is entirely private land, and the lake is ringed by cottages, with a boat launch operated by the County of Wainwright at the lakes' east end. Agricultural development in the form of cereal crops and cattle production takes place within the watershed. Due to its very small size and accessibility to anglers, Clear Lake has a high overharvest protection need.

With the historical stocking events of both Northern Pike and Walleyes into Barnes (Clear) Lake and the limited historical records of native fish presence in this lake, it is presently unknown whether or not there remains or even were pure genetic stocks of both these fish populations. Records do not indicate whether Northern Pike and Walleyes were present prior to 1938 or 1953, or if native stocks were extirpated earlier which necessitated the stockings, or if native stocks were merely depressed and stocking was seen as a way to boost both populations. Fisheries Management would like to accurately determine the genetic stocks of both northern pike and walleye as to determine if these are in fact populations related to stocks found within the Battle river watershed or if in fact they are from an unknown and unrelated source. Therefore due to Barnes (Clear) Lakes' high overharvest protection need and genetic concerns, a preservation recreational fishery management objective is required for both these species.

## Section 1. Fish Population Status

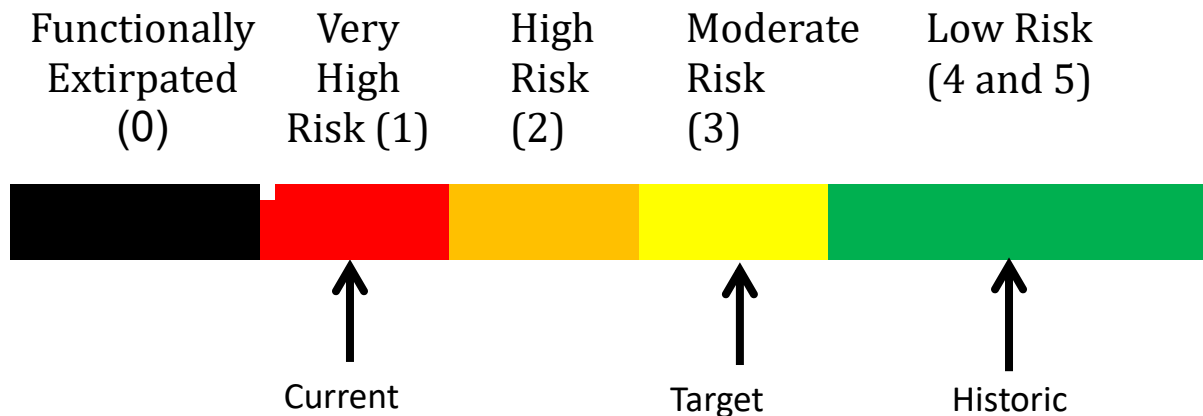
### Walleye – Adult Abundance

#### Fish Sustainable Index Adult Density Score



### Northern Pike – Adult Abundance

#### Fish Sustainable Index Adult Density Score



### Yellow Perch – Adult Abundance – Undetermined

## Section 2. Recreational Fishery Management Objectives and Management Summary

The **focal species** for recreational management is **Walleye**. The other species managed for recreational objectives are Northern Pike, and Yellow Perch. This sport-fishery is assessed at planned intervals, and is actively managed. The **Overharvest Protection Need** is assessed as **Very High Risk**.

**Walleye** – The recreational fishery management objective for Walleye is **Preservation**. The corresponding FSI score for the current mature density of Walleye was assessed as (4) or **Low Risk** to sustainability. Due to the **Preservation Objective**, the current management action is a **Catch and Release**.

**Northern Pike** – The recreational fishery management objective for Northern Pike is **Preservation**. The corresponding FSI score for the current mature density of Northern Pike was assessed at (1) **Very High Risk** to sustainability. The Northern Pike population is not currently meeting the status and criteria for the objective of a sustainable harvest fishery. The required management action is **Catch and Release**. This is a change from the current regulation of 3 pike over 63cm.

**Yellow Perch** – The recreational fishery management objective being applied is the provincial default (**Sustainable Harvest**). The status of the Yellow Perch population has not been assessed. The current management action is a regulation of 15 Yellow Perch, any size.

### Management Summary

Management Priority	Species	Overharvest Protection Need	Management Action	Sport Fishing Harvest Regulation
1	Walleye	Very High	Preservation	Catch and Release
2	Northern Pike	Very High	Preservation	<ul style="list-style-type: none"> <li>• 3 &gt; 63cm (2017-18)</li> <li>• <b>Catch and Release (Implementation April 1<sup>st</sup>, 2018-19)</b></li> </ul>
3	Yellow Perch*	Very High	Sustainable Harvest	15 any size

*\*Recreational management objectives for Lake Whitefish/Cisco, Yellow Perch, and Burbot have not been fully developed into management frameworks, and will be subject to change pending on-going work and development. However, general action statements have been listed for these species within the context of relative abundance, catch rates and trends associated with index netting assessments, in relation to the management of these species at a provincial level.*