

# Grist Lake

## Fisheries Management Objectives

<b>Version Date:</b> October 2017	<b>Prepared by:</b> Alicia Pruden-Beniuk	<b>Reviewed by:</b> Dwayne Latty	<b>Approved by:</b> Kathy Hendren
<b>Waterbody ID:</b> 4751	<b>Surface Area:</b> 1,113 (Ha)	<b>Hydrologic Unit Code Name (HUC_8):</b> Winefred River	<b>Hydrologic Unit Code (HUC_8):</b> 17060105
<b>Sport Fish Species:</b> Lake Trout, Northern Pike, Lake Whitefish, Yellow Perch, Burbot, Arctic Grayling			
<b>Indigenous Fishery:</b> Yes			
<b>Environment and Parks Region:</b> Lower Athabasca Region (LAR)		<b>Fisheries Management Zone:</b> Northern Boreal 4 (NB4)	<b>Fisheries Management Office:</b> Lac La Biche

## Background

Grist Lake is located approximately 120km northeast of the Hamlet of Lac La Biche within the Winefred Lake Provincial Recreation Area. It has a surface area of 1,113 ha, a mean depth of 19.1 m, and a maximum depth of 42.7 m. Grist Lake is the only water body with Lake Trout in the Lac La Biche Management area. Access to Grist Lake is by gravel road and often requires the use of four-wheel drive vehicles. Grist Lake has a small campsite and an airstrip on its south shore. There is also a fly-in/boat –in fishing lodge on its north shore. There is growing heavy oil activity southwest of the lake

Grist Lake and York Creek was stocked with approximately 31,000 rainbow trout in 1967 in an attempt to create a self-sustaining rainbow trout population that would provide additional sportfishing opportunities. This stocking event was unsuccessful, as there are no records of the trout being caught. A summer creel was completed in 1983 and the results indicated that the effort was approximately 0.95hrs/ha. A summer creel conducted by the Alberta Conservation Association in 2009 estimated fishing pressure at 2.71 h/ha. This increase in pressure is likely due to improvement of the access road, the creation of the campsite, and increased industrial development in the area. A Summer Profundal Index Netting (SPIN) survey was completed in 2015 to assess the lake trout fishery.

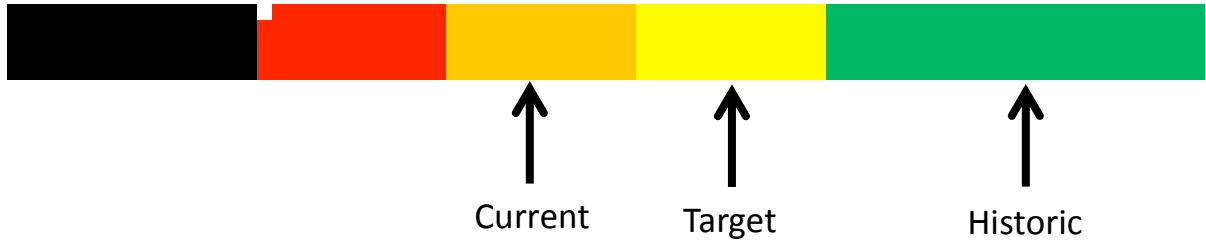
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## Section 1. Fish Population Status

### Lake Trout – Adult Abundance

#### Fish Sustainable Index Adult Density Score

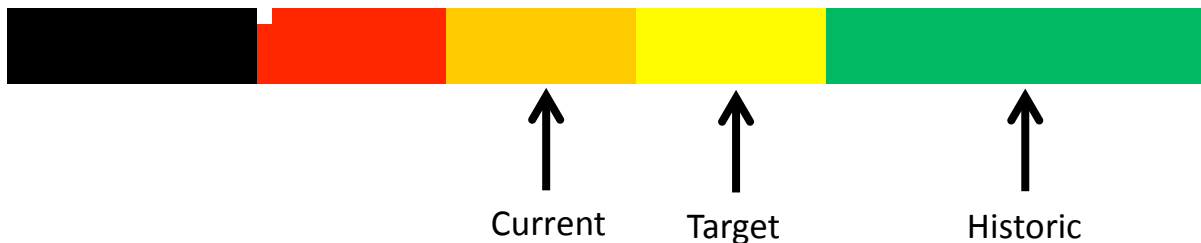
Functionally Extirpated (0)	Very High Risk (1)	High Risk (2)	Moderate Risk (3)	Low Risk (4 and 5)
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### Northern Pike – Adult Abundance

#### Fish Sustainable Index Adult Density Score

Functionally Extirpated (0)	Very High Risk (1)	High Risk (2)	Moderate Risk (3)	Low Risk (4 and 5)
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Lake Whitefish – Adult Abundance – Undetermined  
Yellow Perch – Adult Abundance – Undetermined  
Burbot – Adult Abundance – Undetermined

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

The **focal species** for recreational management is **Lake Trout**. The secondary species managed for recreational objectives are Northern Pike, Lake Whitefish, Yellow Perch, and Burbot. These sport-fisheries are directly assessed at regular intervals, and therefore are actively managed. The **Overharvest Protection Need** is assessed as **Low (4)**.

**Lake Trout** – The recreational fishery management objective for Lake Trout is **Sustainable Harvest**. The corresponding FSI score for the current mature density of Lake Trout was assessed at (2) **High Risk** to sustainability. The current management action is a Harvest Regulation of **1 Lake Trout between 60 and 70 cm**.

**Northern Pike** – The recreational fishery management objective for Northern Pike is **Sustainable Harvest**. The corresponding FSI score for the current mature density of Northern Pike was assessed at (2) **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 current management action is a harvest regulation of 1 Northern Pike over 63 cm. The required recovery action will be a **Zero Harvest** regulation for **Northern Pike**.

**Lake Whitefish** – The recreational fishery management objective being applied is the provincial default (**Sustainable Harvest**). The status of the Lake Whitefish population has been assessed, but no provincial framework is available. The current management action is a regulation of 10 Lake Whitefish, any size.

**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.

**Burbot** – The recreational fishery management objective being applied is the provincial default (**Sustainable Harvest**). The status of the Burbot population has not been assessed. The current management action is a regulation of 10 Burbot, any size.

### Management Summary

Management Priority	Species	Overharvest Protection Need	Management Action	Sport Fishing Harvest Regulation
1	Lake Trout	Low	Recovery – Sustainable Harvest	1 between 60 and 70 cm
2	Northern Pike	Low	Recovery – Sustainable Harvest	<ul style="list-style-type: none"> <li>1 &gt; 63 cm (2017-18)</li> <li><b>Catch &amp; Release (Implementation April 1<sup>st</sup>, 2018)</b></li> </ul>
3	Lake Whitefish	Low	Maintenance – Sustainable Harvest	10 any size
4	Yellow Perch	Low	Maintenance – Sustainable Harvest	15 any size
5	Burbot	Low	Maintenance – Sustainable Harvest	10 any size

*\*Recreational management objectives for Lake Whitefish and Yellow Perch 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.*