

Summary Information

Version Date: July 2018	Prepared by: Jason Cooper	Reviewed by: John Tchir	Approved by: John Tchir - Resource Manager
Waterbody ID: 3493	Surface Area: 496 ha	Hydrologic Unit Code Name (HUC_8): Berry Creek	Hydrologic Unit Code (HUC_8): 08030301
Sport Fish Species: Northern Pike			
Indigenous Fishery: No			
Fisheries Management Area: Red Deer North Saskatchewan River (RDNSR)	Fisheries Management Zone: Prairie Parkland 2 (PP2)	Fisheries Management Office: Red Deer	

Background

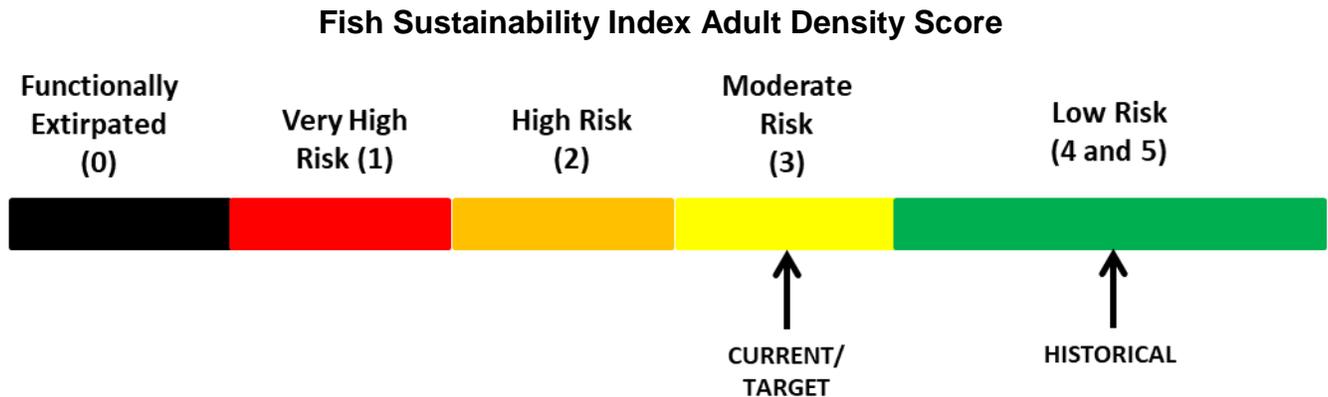
Berry Creek Reservoir, or locally known as Carolside Reservoir is located approximately 160 km east of the city of Calgary, within Special Area No. 2 rural municipality. This reservoir was created by the damming of the Berry Creek in 1948 to create a water supply primarily for agricultural use. Water sources are from local ground runoff and secondary augmentation from the Sheerness Power Generating Station cooling ponds, where water originates from a diversion from the Red Deer River. In the surrounding watershed the main land-use is agricultural grazing along with irrigation of croplands.

In the fall 2012, construction upgrades were completed on the dam and spill gates. During these repairs the gates became accidentally stuck causing an estimated 2/3 of the reservoir water supply to drain. In response to this incident it was believed there was a high likelihood and risk of a complete winter fish kill given the low remaining water levels. Fisheries Management enacted a recreational fishery salvage opportunity to anglers starting in late October 2012 that lasted over the winter months. The following 2013-14 angling season management actions were taken where the sportfishing regulation for Berry Creek Reservoir was changed to catch-and-release (0 limit) for all sportfish species to support recovery efforts. Recent index netting assessments in 2015 and 2018 have shown positive signs in recovery of the northern pike population following the severe drawdown in 2012. Although, recent assessments have also identified presence of Prussian carp, an aquatic invasive fish species, within the reservoir. Time will tell how this invasive species will change and impact the sportfishery in Berry Creek Reservoir. Both summer and winter kills of fish have been documented over the years.

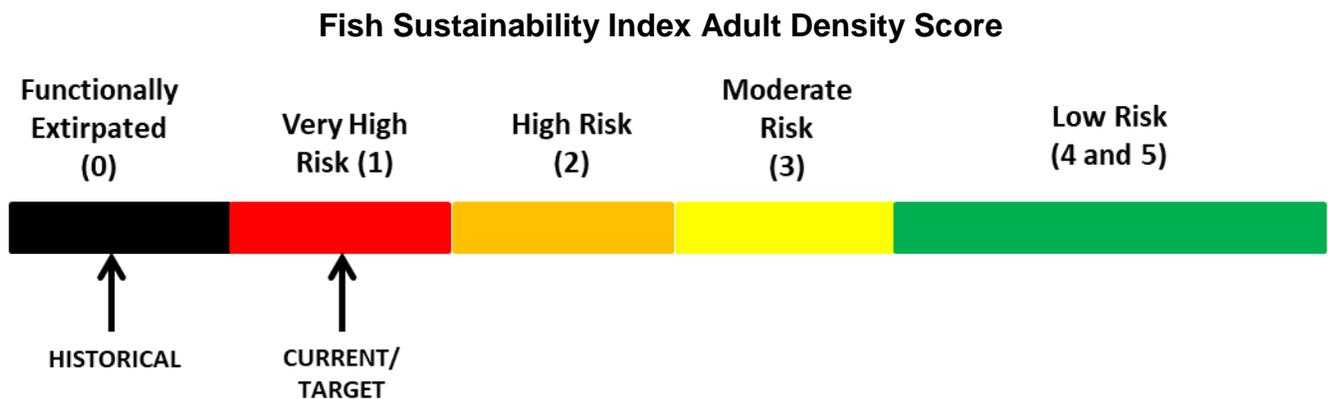
Berry Creek Reservoir provides an important local recreational fishing opportunity in an area of the province where fisheries resources are limited. This fall (2018), the Special Areas completed upgrades to the recreational access site at the reservoir, including new facilities and floating dock for the 2019 season. Berry Creek Reservoir is known as a fishery for northern pike, yet yellow perch were introduced in the 1960's, and then again in 1985, as an attempt to diversify the fishery and improve the northern pike fishery. Northern pike were also transferred into the reservoir in 1951, and recently again in 1990. Walleye have not been stocked into Berry Creek Reservoir, though over the years there have been infrequent anecdotal reports of anglers capturing the odd one. Test netting surveys conducted in 1994, 2002, and following a more thorough index netting assessment in 2015, kept reconfirming that both yellow perch and walleye were not present in any sustainable numbers within the reservoir as all these surveys failed to capture these two species. However, the most recent 2018 index netting assessment did confirm the presence of both walleye and yellow perch, although in relatively low numbers.

Fish Population Status

Northern Pike – Adult Abundance



Walleye – Adult Abundance



Yellow Perch – Adult Abundance – Undetermined:

Recreational Fishery Management Objectives

The current **focal species** for recreational management is **Northern Pike**. The secondary species managed for recreational objectives are yellow perch and walleye. These sport-fisheries are directly assessed at intervals, and therefore are actively managed. The **Overharvest Protection Need** is assessed as **Moderate Risk**.

Northern Pike – The current recreational fishery management objective for northern pike is **Preservation**. The corresponding FSI score for the current mature density of northern pike was assessed at (3) **Moderate Risk** to sustainability. The northern pike population has recovered and is currently meeting the status and criteria for the proposed objective of a **Sustainable Harvest**. The proposed management action is **Sustainable Harvest** with a regulation of **1 pike over 63 cm**.

Walleye - Currently, there was no recreational fishery management objective for walleye as previous surveys determined they were functionally extirpated. The corresponding FSI score for the current mature density of walleye was assessed at (1) or Very High Risk to sustainability. The walleye population currently meets the status and criteria for an objective of a Preservation fishery where the population would be managed with a catch-and-release only regulation, even though walleye are thought to be naturally limited in their ability to produce a sustainable population within the reservoir itself, and are likely migrant fish from upstream sources. During the 2018 index netting assessment, the catch rate was very low and there was no signs of annual recruitment.

However, walleye are now present in the reservoir, and could continue to survive at low abundance if the occasional spawning year is successful and migration from possible upstream sources occurs. Continuing with a Preservation objective has a higher chance of maintaining the walleye population, with catch rates varying from low to high over time depending on spawning and immigration success. The trade-off is that this would continue to be a catch-and-release walleye fishery with no opportunity for harvest.

A transition from Preservation to Liberal Harvest is another option for walleye management at Berry Creek (Carolside) Reservoir. Under Liberal Harvest, any future declines or loss would not be considered a conservation concern within this particular waterbody. This option would provide more harvest opportunities in the short term, but is likely unsustainable in maintaining the population and will eventually result in lower catch rates and few to no walleye. There is a chance that this option would lead to the entire loss of the walleye population from Berry Creek (Carolside) Reservoir.

Yellow Perch* - The recreational fishery management objective for yellow perch is the provincial default **Sustainable Harvest**. Provincially, the default sustainable harvest fishery maintenance regulation is 15 fish.

Management Summary

Management Priority	Species	Overharvest Protection Need	Management Action	Sport Fishing Harvest Regulation
1	Northern Pike	Moderate	Recovery - Sustainable Harvest (current) Maintenance- Sustainable Harvest (proposed)	<ul style="list-style-type: none"> Catch and Release (2018-19) 1 fish over 63 cm (Proposed for April 1st, 2019)
2	Walleye	Moderate	Maintenance – Preservation (proposed) Liberal (proposed)	<ul style="list-style-type: none"> Catch and Release (Proposed for April 1st, 2019) Or 1 fish no size limit (Proposed for April 1st, 2019)
3	Yellow Perch*	Moderate	Maintenance – Sustainable Harvest	<ul style="list-style-type: none"> 15 fish

**Recreational management objectives for 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 this species within the context of relative abundance, catch rates and trends associated with index netting assessments, in relation to the management of this species at a provincial level.*