

Natural. Valued. Protected.

Lake Fact Sheet – Parry Sound District

Bernard Lake

Location	
Official Name:	Bernard Lake Local Names:
County/District:	Parry Sound Geographic Twp:..... Strong
Municipality:.....	Township of Strong MNR Admin. Area:Bracebridge
Lat./Long.:.....	45.738 N 79.384 W UTM (NAD83):17 625706 5066214
Topographic Map (1:50,000):.....	31E11 Drainage Basin: Magnetawan River – Stirling Creek

Physical Features		
Surface Area (ha):	2050 Maximum Depth (m):.....48	Mean Depth (m):16
Elevation (m asl):.....	330 Perimeter (km):.....23	Island Shoreline (km):0
Volume (10 ⁴ m ³):.....	32,600 Watershed (km ²):.....79.9	Water Clarity (m):4.3
(excludes area of lake)		

Land Use and Development	
Crown Land (%):.....	0 Provincial Parks: none
Shoreline Development:	intense; urban, shoreline residential, commercial
Access:	public; launches at Sundridge, High Rock Drive, South Lake Bernard Road
Water Level Management:	regulated; water level is controlled by MNR-owned and operated dam

Fish Species	
Major Fish Species:	rainbow trout (I), brook trout, lake trout, lake whitefish, cisco (lake herring)
.....	rainbow smelt (I), burbot, smallmouth bass, yellow perch
Other Fish Species:	trout-perch, white sucker, brown bullhead, bluntnose minnow, golden shiner
.....	lake chub, pumpkinseed, rock bass, slimy sculpin
Other Species:	spiny water flea (I 1998)

Notes: E: extirpated, I: introduced – intentional or accidental, O: occasional, R: remnant, S: currently stocked, ?: status uncertain, 2009: year of first record or introduction if known, blank: presumed native

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Fisheries Management

Fisheries Management Zone:..... 15

Designation for Lake Trout Management:..... designated; natural reproduction; at development capacity

Fishing Regulation Exceptions:.....no lake-specific exceptions

Joly Creek (Inlet Creek) – from Bernard Lake upstream to Strong/Joly Twp. Boundary - fish Sanctuary - no fishing from April 1 to May 31

Current Stocking:.....none

Historic Stocking (last year stocked):.....lake herring (1927), walleye (1937), brook trout (1957),
..... rainbow trout (1968), lake trout (1996)

Contaminants (species tested):.....lake trout, smallmouth bass, yellow perch

Assessment:

Completed Projects:

1949	Assessment and Inventory
1968	Lake Survey Summary
1973	Rainbow Trout Spawning Run Observations
1985	Lake Trout Spawning Shoal Assessment
1987	Winter Voluntary Creel Survey
1989	Lake Trout Spawning Observations
1990	Lake Trout Spawning Shoal Enhancement Project
1993	Lake Trout Tagging Project
1993	Winter Creel Survey
1994	Lake Trout Spawning Observations
1993	Winter Creel Survey
1995	Spring Littoral Index Netting (SLIN)
2000	Spring Littoral Index Netting (SLIN)
2001	Winter Creel Survey
2006	Summer Profundal Index Netting
2009	Broad-scale Monitoring
2011	Winter Creel Survey
2015	Spring Littoral Index Netting (SLIN)

Dissolved oxygen profiles are collected on a regular basis

Synopsis

Bernard Lake is the largest lake in the Almaguin area. As such it has received considerable management attention.

The discontinuation of lake trout stocking has been very controversial. Supplemental stocking was last done in 1996, in response to finding a significant proportion of naturally reproduced fish in the 1995 SLIN. A SLIN in 2000 and SPIN in 2006 have documented the decline in abundance of stocked fish to the point where natural fish comprise 80% of the population. The population of naturally produced fish appears to be relatively healthy; therefore the current management is to not re-instate supplemental stocking. Regular assessment is planned to monitor this important fishery

Bernard Lake has an abundant lake whitefish population that supports what is probably the largest whitefish angling fishery in the District. The zone-wide catch limit was reduced from 25 to 12 fish,
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beginning in 2008. The impact on harvest will probably be minimal as few anglers catch that many whitefish in a day.

The 2001 winter creel survey estimated fishing effort at almost 20,000 ang/hr; a very high level of effort. Over 600 lake trout and 1,500 whitefish were estimated to be caught.

It is one of only two inland lakes in the District, and very few in the province, where rainbow trout have become naturalized and maintain a self-sustaining population. The Joly Creek sanctuary is intended to protect rainbow trout while they are spawning.

The lake has been chosen as a ‘fixed’ lake for the provincial Broad-scale Monitoring Program. Repeated sampling on a five year cycle is planned to monitor long-term trends in water quality, fish community and sport fish abundance in randomly selected lakes across the province. Sampling for the first cycle occurred in 2009. Results will be reported in FMZ 15 data and interpretive reports at the end of the five year cycle .

The long term average hypolimnetic oxygen concentration has been very close to the 7 mg/l criterion. In 2006, three profiles, spaced throughout the summer were collected to determine the rate of oxygen depletion. The depletion rate was used to correct the observed values to the recommended Sep 15 standard. The correction resulted in an average of well below 7 ppm. In addition, there are close to 100 existing vacant lots on the lake. Based on these results it was recommended to the municipality that no more planning approvals be granted on the lake.

A winter creel survey was completed from January 1 to March 31, 2011. Overall, total fishing effort was similar to the 1993 and 2001 surveys, but targeted effort has shifted away from lake trout and to lake whitefish. The estimated whitefish harvest was 2785 fish. The harvest of naturally reproduced lake trout has increased since stocking was suspended in 1996.

2013 Broad-scale Monitoring

Bernard Lake was sampled in 2013 as a “fixed” lake for the Cycle 2 of the Provincial Broad-scale Monitoring program. Results will be reported through that program. Three species not previously documented were captured; bluntnose minnow, pumpkinseed & rock bass. All are thought to be native to the lake.

In 2015 supplemental Lake Trout stocking was reinstated as a tool to assist in the protection of the Whitefish population, which is believed to have been negatively impacted by illegally introduced Smelt.

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Refer to Lake Fact Background Information document for explanation of content.

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