

Natural. Valued. Protected.

Lake Fact Sheet – Parry Sound District

Kawagama Lake

Location	
Official Name:..... Kawagama Lake	Local Names:.....Hollow Lake
County/District:.....Haliburton	Geographic Twp:..... McClintock, Sherborne
Municipality:..... Township of Algonquin Highlands	MNR Admin. Area:..... Bracebridge
Lat./Long: 45.401 N 78.746 W	UTM (NAD83):.....17 676656 5018377
Topographic Map (1:50,000):31E07	Drainage Basin:.....Muskoka River – Hollow River

Physical Features		
Surface Area (ha):..... 3150	Maximum Depth (m):.....73	Mean Depth (m):..... 22
Elevation (m asl):..... 383	Perimeter (km):..... 109	Island Shoreline (km):..... 24
Volume (10 ⁴ m ³):..... 59,400	Watershed (km ²):363 (excludes area of lake)	Water Clarity:7.9

Land Use and Development	
Crown Land (%):.....60	Provincial Parks:.....none
Shoreline Development:Moderate; shoreline residential, commercial, recreation camp
Access: Public launches at Kawagama L Road, Bear L Road, McClintock Road;private launches at marinas
Water Level Management: Regulated; water level is controlled by MNR-owned and operated dam. Flows and levels are governed by the Muskoka River Water Management Plan.

Fish Species	
Major Fish Species:brook trout (R), lake trout, lake whitefish, cisco (lake herring), round whitefish,rainbow smelt (I), burbot, rock bass (I), smallmouth bass (I), yellow perch (I?), walleye (? I 2015), northern pike (? I 2015)
Other Fish Species: lake chub, northern redbelly dace, pumpkinseed, finescale dace, ninespine stickleback, brook stickleback, brown bullhead, white sucker, Iowa darter, common shiner, bluntnose minnow, blacknose dace, longnose dace, creek chub
Other Species: spiny water flea (I 2000)

Lake Fact Sheet – Parry Sound District

Kawagama Lake

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

Fisheries Management

Fisheries Management Zone: 15

Designation for Lake Trout Management: designated; natural reproduction;
..... not at development capacity

Fishing Regulation Only one line may be used when angling through the ice. (2009)
Exceptions: Lake trout- none between 40-55 cm (15.7-21.7 in) (2009)

Current Stocking: None

Historic Stocking (last year stocked): rainbow trout (1967), brook trout (1965), lake trout (1977)

Contaminants (species tested): lake trout, smallmouth bass

Assessment: Completed Projects:

1972	Lake survey summary
1977	Contaminant monitoring
1973	Winter creel survey
1978	Winter creel survey
1989	Winter creel survey
1991	Spring Littoral Index Netting (lake trout)
1993	Lake trout spawning observations
1994	Winter creel survey
2001	Winter creel survey
2003-2004	Lake trout spawning and egg mortality study
2006	Lake trout spawning and egg deposition study
2004-2011	Summer Profundal Index Netting (lake trout)
2007	Summer angling effort survey
2008	Winter creel survey
2009-	Summer Profundal Index Netting annual surveys
2010	Broad-scale Monitoring
2015	Broad-scale Monitoring

Synopsis

Kawagama Lake has excellent water quality for lake trout. All but one of the measures of oxygen concentration of deep water lake trout habitat is in excess of the minimum required for lake trout. The water is clear, with transparency measured to 7 metres. The lake does not appear to be acidic, with surface water pH of 7.5. The lake trout population is native and naturally reproducing. Lake trout, brook trout and rainbow trout were stocked between 1939 and 1977. However, fish stocking was stopped to allow the natural lake trout population to flourish on their own. The first evidence of smelt in Kawagama Lake was during the mid 1980's. The maintenance of a strong top predator population, i.e. lake trout, seems to have kept smelt at a low abundance.

Kawagama Lake is considered to be a significant fisheries resource for the Bracebridge area, given its large size and allowable harvest (approx. 1000 kg of lake trout per year). Despite a historic winter draw down of almost 2 m, natural recruitment has been sufficient to maintain a moderate lake trout population. Concern by anglers of low success for lake trout and the Muskoka Water Management Planning process

Lake Fact Sheet – Parry Sound District

Kawagama Lake

sparked an interest in monitoring the lake trout population in recent years. A number of studies were done to assess the lake trout population status and the impact of water level fluctuation

Kawagama Lake is currently being managed as a self-sustaining lake trout fishery with a standard open season. Special regulations were implemented in 1996 including a 40-55 cm slot limit and the limitation of one line only when angling through the ice.

High harvest by anglers appeared to be a significant threat to the maintenance of a healthy lake trout population on Kawagama until restrictive regulation was implemented in the 1990's. The estimated winter harvest of lake trout in 1989 and 1994 ranged from 1,044 to 1,470 fish and exceeded the estimated annual allowable yield. The implementation of harvest controls in the form of a 40 - 55 cm slot limit and one line through the ice has resulted in reduced angling effort and harvest levels. The estimated winter harvest level of 189 fish in 2001 and only 61 fish in 2008 is down drastically. Summer harvest has not been measured but effort is substantial and has probably stayed relatively stable.

Spawning observations have been conducted since 1959. Detailed surveys of spawning areas occurred in 1999 and in 2003 that mapped all existing and potential lake trout spawning shoals. Only a few key shoals were being used during this survey even though there are 7 active and 26 potential sites documented.

As part of the Muskoka River Water Management Plan, the Kawagama Lake water level regime was reviewed to determine the potential impact to lake trout spawning success. The primary spawning shoal was investigated in detail to determine egg abundance and potential egg mortality due to water level manipulation. It was estimated that approximately 30% of lake trout eggs were being desiccated as a result of the winter drawdown. The water management plan was approved in 2006. Winter drawdown is now reduced so that egg mortality is reduced to about 5%. This rate of egg mortality is similar to that of Lake of Bay that currently supports a large, sustainable lake trout fishery.

In 2014 and 2015, single reports of a walleye and a northern pike being caught by anglers were received. It is assumed that both were introduced illegally by anglers. At the time it was uncertain whether either species would establish a self-sustaining population and how abundant they may become. The probability of becoming established may be fairly low given the large size of the lake. The lake does not provide a large amount of good quality habitat for either species, so even if they a population became established, the overall abundance will be low, though they may be more common in preferred habitats.

2016 Broad-scale Monitoring

Kawagama Lake was sampled in 2015 as a “trend” lake for Cycle 2 of the provincial Broad-scale Monitoring program. Results will be reported through that program. No new species were captured during the netting project.

Updated: 2018

Refer to Lake Fact Sheet Interpretation document for explanation of content.

This information is supplied without expressed or implied warranty of any kind, including warranty of fitness for a particular purpose. In no event will the Ministry of Natural Resources be liable for any damages, whether incidental, consequential or direct in conjunction with, or arising from the furnishing or use of this information.