PARRY SOUND AREA LAKE SUMMARIES

Brought to you compliments of:
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Wahwashkesh Lake

Created: November 03
Revised:

Location:

MNR District:…….. Parry Sound
Geographic Township: …… McKenzie & Burton
Municipal Township: …… Whitestone
Watershed: …….. Magnetawan River
Angling Division: …… 15

Basin and Terrain Characteristics:

Lake Survey Year: ……. 1973
Surface Area:…….……. 1,721.3 hectares
Maximum Depth: ……. 45.5 meters
Mean Depth: ……. 12.1 meters
Perimeter: ……. 106.2 km
Island shoreline: …… 17.7 km
Littoral Zone: …… 46%
Thermal Regime: ……... Cool
Shoreline Development: ..…… 175 Cottages, 5 Resorts
Access Points: …… Road (Public)
Water Level: …….. Not Regulated
Crown Land: ……. 30% Shoreline

Water Quality:

(Parameters pertain to fisheries habitat only. For information on potability of water or contaminates, contact Min. of Health and Min. of Environment.)

Secchi reading: 3.7 meters; 5 meters (1996)
Colour: Yellow/Brown

Dissolved Oxygen:
Alkalinity: 13.7 ug/l – Level 3 Moderately Sensitive (MoE, 1989)
pH: 7.0
Total Phosphorus: 9.5 ug/l – North Basin; 6.5 ug/l South Basin (1994)
M.E.I.: 2.2

"Guide to eating fish": Restrictions for smallmouth bass refer to the current "Guide to Eating Ontario Sport Fish"

Fisheries:

Game Fish Species: Walleye (2002), Smallmouth Bass (2002), Lake Trout (2002), Rainbow Trout (1964), Northern Pike (2002), Largemouth Bass (1955), Yellow Perch (2002), Sauger (1955), Black Crappie (2002)

Other species present: Lake Whitefish (2000), Cisco (2001), Brown Bullhead (2001), Burbot (2000), Rock Bass (2002), Pumpkinseed (2000), Spottail Shiner (1955), Common Shiner (2000), Rainbow Smelt (2000), White Sucker (2000)

Exotic Species: Spiny Water Flea (2001)

Stocking Record: 1975 Lake Trout 8,000 15 month LP clip
1974 Lake Trout 10,000 15 month LV clip
1971 Lake Trout 9,000 yearling RP clip
1968 Lake Trout 10,000 yearling AD clip
1967 Lake Trout 5,000 yearling
1965 Lake Trout 1,000 yearling
1964 Rainbow Trout 2,000 yearling
1963 Lake Trout 1,000 yearling
1962 Kamloops Trout 2,000 yearling
1961 Lake Trout 1,000 17 weeks
1961 Kamloops Trout 2,000 yearling
1959 Kamloops Trout 2,000 yearling
1958 Kamloops Trout 2,000 yearling
1957 Lake Trout 1,000 fingerling
1957 Kamloops Trout 2,500 yearling
1955 Smallmouth Bass 300 10 inch
1955 Smallmouth Bass 300 adult
1955 Lake Trout 2,000 3 month
1955 Smallmouth Bass 45 adult
1950 Smallmouth Bass 400 fingerling
1950 Walleye 200,000 eggs
1949 Lake Trout 2,000 fingerling
1949 Smallmouth Bass 600 fingerling
1948 Smallmouth Bass 500 fingerling
1947 Walleye 300,000 eggs
1947 Smallmouth Bass (?)
1945 Smallmouth Bass 500 fingerling
1944 Smallmouth Bass 5,000 fry
1942 Smallmouth Bass 800 fingerling
1942 Walleye 250,000 fry
1941 Smallmouth Bass 1,000 fingerling
1940 Walleye 1,000,000 fry

1939 Smallmouth Bass 100 5 – 8 inch
1939 Walleye 1,500,000 fry
1938 Walleye 250,000 fry
1938 Smallmouth Bass 500 fingerling
1937 Walleye 250,000 fry
1937 Walleye 1,500,000 fry
1937 Smallmouth Bass 500 fingerling
1937 Smallmouth Bass 5,000 fry
1936 Walleye 300,000 fry
1935 Smallmouth Bass 10,000 fry
1935 Smallmouth Bass 1,000 fingerling
1935 Walleye 300,000 fry
1932 Walleye 200,000 fry
1931 Walleye 100,000 fry
1927 Walleye 100,000 fry

Stress Type: Water Level Fluctuations, Exploitation, Limited lake trout spawning habitat

Use Type: Snowmobile Trail, Recreation, Recreational Fishing, Canoe Route, Tourism Based Industry

Summary of Fisheries Studies / Reports:

McIntyre, E. 2003 Wahwashkesh Lake Summer 2002, **Intensive Creel Survey** Report

- An intensive, roving creel survey was conducted on Wahwashkesh Lake from June 26 to September 2, 2003.
- Total fishing effort was estimated at approximately 5,909 angler hours.
- Observed effort : Walleye – 47.4%, Smallmouth Bass – 37.5%, Northern Pike – 9.2%, Lake Trout - 4.0% & Largemouth Bass - 1.9%
- Catch estimate : Walleye – 556, Smallmouth Bass – 2,035, Northern Pike - 239, Lake Trout - 11 & Largemouth Bass – 23
- Catch estimate : Walleye – 489 (371 kg), Smallmouth Bass – 491 (289 kg), Northern Pike - 23, Lake Trout - 0 & Largemouth Bass – 7
- Effort per Unit Catch (EUC) Angler hours : Walleye – 4.7, Smallmouth Bass – 1.1, Northern Pike – 2.2, Lake Trout – 28.2 & Largemouth Bass – 6.7
- Effort per Unit Harvest (EUH) Angler hours : Walleye – 5.3, Smallmouth Bass – 4.6, Northern Pike – 21.7 & Largemouth Bass – 13.2
- We compared our results with creel surveys conducted on Wahwashkesh Lake in 1980 and 1983 for a similar time period (July and August). Our survey estimated approximately a 50% reduction in total fishing effort. Consequently, in actual numbers, there was less fishing effort direct at all species in 2002 relative to previous surveys.
- The lake trout fishery has diminished in all aspects (effort, catch, harvest, fishing quality).
- Walleye fishing quality (EUC and EUH) was better in 2002, but lower effort resulted in the estimated catch and harvest being comparable to previous surveys.
- Smallmouth bass fishing quality (EUC) was also better in 2002 but due to an exceptionally high release rate (76%), EUH was similar to previous surveys.

McIntyre, E. 2003 Wahwashkesh Lake 2001 Victoria Holiday Weekend - **Volunteer Creel**

Survey report.

- A volunteer, creel survey was conducted on Wahwashkesh Lake during the Victoria Holiday weekend (May 19 – 21) of 2001. Approximately 265 hours of angling effort was surveyed with a resultant catch of 62 walleye, 10 smallmouth bass, 7 northern pike, 2 lake whitefish, 1 lake trout, 30 rock bass, 6 brown bullhead, 4 yellow perch and 1 cisco. The harvest consisted of 50 walleye, 2 northern pike, 2 lake whitefish and 1 lake trout.
- We make comparisons of our results with those observed from similar surveys conducted in 1987, 1988 and 2000. Perhaps most notable and significant has been the apparent decrease in fishing effort, catch, harvest and fishing quality for lake trout. The Effort-per-Unit-Catch (EUC) for walleye anglers (i.e. 'species anglers') was 2.5 angler hours, the best (i.e. lowest) for the four surveys. The northern pike fishery is very small relative to walleye and we believe it is largely incidental to the walleye fishery. Catch and harvest has remained consistently low for pike.

McIntyre, E. 2002 Wahwashkesh Lake **synoptic trapnet survey** report Summer, 2002.

- During the summer of 2002, a synoptic trapnet survey (STNS) was conducted on Wahwashkesh Lake to assess the status of the near-shore fish community and in particular the walleye and smallmouth bass populations therein.
- We compared results with other lakes similarly and recently (since 1994) surveyed in the Parry Sound Area. 'Over-all fish productivity' as measured by Catch-Per-Unit-Effort (by weight) (CUE-wt) for all species combined was below the Area average. Indices of abundance and population status for walleye, smallmouth bass and northern pike populations indicate these populations are "approximately average" for the Parry Sound Area.
- Perhaps more revealing were comparisons made with the last trapnet survey conducted on Wahwashkesh Lake in 1987. Indices indicate walleye abundance has decreased significantly, smallmouth bass have decreased somewhat and northern pike have increased significantly between surveys.
- This survey confirmed the recent introduction of black crappie in Wahwashkesh Lake. Although crappie is a much sought after game fish, we consider its introduction a negative development. We anticipate the population will expand considerably throughout the lake in future years negatively impacting a number of near-shore fish populations including walleye.

McIntyre, E 2001 **Walleye Spawning Bed Enhancement Site Inspection Gooseneck Creek Inlet into Wahwashkesh Lake**

- The site where these two creeks enter the embayment of Wahwashkesh Lake offers excellent potential for walleye spawning. These sites form a natural delta where spawning rubble could be placed. Furthermore, spawning shoals created at this site would remain submerged (at Wahwashkesh Lake water level) during the walleye incubation period when freshet waters diminish thereby ensuring a minimal loss due to exposure and desiccation.
- Author recommends dumping rock at the bridge site and then load it into a steel boat to be taken upstream to the spawning site where it would then be deposited by hand.

McIntyre, E. 2003 Note to File: **Smelt Spawning population Investigation** – CFIP project, Spring 2001

- five possible smelt spawning sites were investigated
- no smelt were observed in netting activities conducted between 9 pm and 12 am

McIntyre, E. 2000. **Spring littoral index netting** (SLIN) survey report for Wahwashkesh Lake – North Basin ("The Top Lake") McKenzie Geographic Township, Spring 2000.

- Only one lake trout caught; CUE (number) 0.03 ± 0.03 (S.E.) lake trout per net set
- Lake trout probability of capture 3.3%
- No reproduction or recruitment of lake trout evident. Little if any migration between basins.
- These indices point to a negligible size, almost extinct population of lake trout in this basin.
- Walleye and northern pike populations appeared healthy: walleye CUE 1.1 ± 0.27 (S.E.); northern pike 0.9 ±0.19 (S.E.); wide size range captured for both species

McIntyre, E. 2000 **Post-spawning observations at potential lake trout spawning sites** on Wahwashkesh Lake, McKenzie Geographic Township, during the fall of 2000.

- Six sites in the south basin and three in the north basin were investigated to determine the presence/absence of lake trout eggs.
- Using an "Acu-View" underwater camera (remote viewing from a boat on the surface), eggs were observed at the one confirmed lake trout spawning site in the south basin.
- Two other sites in the south basin appeared to have eggs present in highly suitable lake trout spawning habitat. Egg presence could not be 100% confirmed however.
- Other sites were deemed unsuitable habitat with no indication of lake trout spawning activity or presence of eggs.

McIntyre, E. 2000 Wahwashkesh Lake Victoria Day weekend, 2000 – **Voluntary Creel Summary** report.

- 206 anglers hours of fishing effort observed
- 90% of angling activity directed at walleye or 'walleye and pike'
- Observed catch: 35 walleye, 19 northern pike, 8 smallmouth (released) & 1 lake whitefish.
- No lake trout observed in the catch and only one party reported them as their target species.

McIntyre, E. 2000 Wahwashkesh Lake (McKenzie Geographic Township) walleye spawners, **index trapnetting survey**, Spring 2000

- 8' trapnet set during walleye spawning period at mouth of (Whitestone) Chutes Bay
- from seven nights of netting effort – walleye CUE: 13.3 2.9 (S.E.)
- Mean size of walleye captured: 57.9cm. & 2.3 kg.
- Very few small walleye in the catch were small fish (<40 cm.) suggesting poor recruitment in recent years.

McIntyre, E. 2000 **Lake Trout egg bioassay study** conducted on Wahwashkesh Lake, October 1999 to May 2000.

- Naturally fertilized lake trout eggs were incubated in Scotty-Jordan Salmonid incubators on natural spawning beds over the 2000 winter.
- Sixty-one percent (61%) hatch rate (incubators inspected May 9, 2000)
- Conclude that successful natural fertilization of lake trout eggs is occurring and environmental conditions are satisfactory for successful egg incubation

MNR 2000 **MVWHDO Calculations**

- Optimal lake trout habitat as % of lake volume (temp. ≥ 10 °C.; D.O. ≥ 6.0 ppm.)
- North Basin: 26.4% (MOE, 1993); 31.9% (MNR, 1996); 22.2 – 34.4% depending on basin (MNR, 2000)
- South Basin: 40.6% (MOE, 1992); 54.1% (MNR, 1996), 40.8% (MNR, 2000)

McIntyre, E. 1998 **Spring littoral index netting** report for Wahwashkesh Lake, McKenzie Twp. 1997.

- Total biomass caught: 132 kg. (lake trout 56%, n. pike 21%, coregonids 17%, other 5%)
- Lake trout C.U.E. - 0.8 ± 0.41 lake trout per net ($P > 0.05$)
- Mean size of lake trout: 3.1 kg. ± 0.05 ($P > 0.05$)
- Size structure of catch indicates an aging population with recently poor levels of recruitment and/or reproduction
- Condition (length-weight relationship) appreciably better than 'provincial average'

McIntyre, E. 1997 Results of a **non-intensive, roving creel survey** conducted on Wahwashkesh Lake (McKenzie Township) during the summer of 1996.

- Nine sampling days
- Observed fishing pressure extremely low: North – 48.75 angler hours; South – 31.0
- Observed catch: north basin – 2 walleye, 1 northern pike, 15 smallmouth; harvest: 2 walleye and 7 smallmouth
- Observed catch: south basin – 1 northern pike, 12 smallmouth; harvest: 1 smallmouth

MNR, 1993. Note to File: **Volunteer Creel**

- A voluntary, angler creel 'survey' determined the effort per catch (EUC) to be 6.7 rod hours for smallmouth bass, 9.9 for northern pike, 6.0 for walleye and 44.2 for lake trout.

Visentin, L. 1990 **Assessment** of Wahwashkesh Lake (south end) McKenzie Township, for **lake trout spawning habitat.**

- 9 short duration, late night, gill net sets for spawning lake trout - none caught

Boudreau, T. A. 1988 Results of a **trap net survey** conducted on Wahwashkesh Lake

(McKenzie Township) during the period of July 28 to August 19, 1987.

- Synoptic trap net survey consisting of 89 sets:
- Walleye and smallmouth bass comprised 33 and 35% of the total catch (by number) respectively.
- Relative abundance indices for walleye and smallmouth were 6.9 and 5.l fish respectively per 8' trap net night. These indices indicate a 'good' abundance of walleye and smallmouth present at the time of survey (relative to numerous Parry Sound lakes similarly surveyed).
- Age class structure of walleye indicated good recruitment.
- Low catches for largemouth bass and northern pike were attributed to a scarcity of preferred habitat.
- Cold water fish species (lake trout, cisco, whitefish, and burbot) were not susceptible to the gear.

Black, R. 1987 Wahwashkesh **creel summary** - Victoria Day Weekend, 1987

- A voluntary, angler creel 'survey' was conducted during the Victoria Day Weekend. Data was collected from Ed Bennett, Bill Auld and Ken Webb.
- 796 rod hours of angling effort were logged with a catch of 56 lake trout, 7 northern pike and 28 walleye. All fish caught were harvested except lake trout for which 50 were harvested.

MacMillan, A. 1987 Results of an **intensive creel survey** on Wahwashkesh lake McKenzie Township, during the summer of 1983.

- Stratified, random, roving creel conducted from May 22 to October 14.
- The catch and harvest from an estimated "all anglers" effort of 17, 381 rod hours were: walleye - 997 caught, 936 (827 kg.) harvested; smallmouth - 2,257 caught, 1338 (456 kg.); northern pike - 574 caught, 848 (378 kg.) harvested & lake trout - 551 caught, 475 (408 kg.) harvested
- (Potential yield calculations according to Ryder's Morphoedaphic Index (MEI) and species partitioning in accordance with SPOF report 12: walleye: 802 kg; smallmouth & largemouth bass: 516 kg; northern pike: 688 kg; lake trout: 716 kg & cisco and Lake whitefish: 716 kg)
- This indicates that harvest in 1983 was very much in line with the predicted sustained yield.
- Effort-per-unit-catch and effort-per-unit-harvest were respectively: walleye - 11.4 and 12.5 rod hrs; smallmouth - 2.7 and 4.3; n. pike - 6.8 and 8.3 & lake trout - 6.3 and 8.8.
- Mean age of samples collected were 4.3 years for walleye, 4.5 for smallmouth bass, 2.4 for northern pike and 5.0 for lake trout.

Thurston, L. 1981 Results of an **intensive creel census** conducted on Wahwashkesh lake (McKenzie Twp.) during the summer of 1980.

- Survey dates: May 3 to October 13.
- Estimated effort: 21,882 rod hours
- Estimated harvest: walleye 1,030 (797 kg.); smallmouth bass 1,469 (824 kg.); northern pike 261 (204 kg.) and lake trout 207 (145 kg.)
- Effort-per-unit-catch and effort-per-unit-harvest respectively:
- walleye: 7.8 and 9.l rod hours
- smallmouth bass: 2.5 and 4.5
- northern pike: 6.9 and 10.1
- lake trout: 5.6 and 7.l.

MOE 1980 **Environmental Study**

- Dissolved Oxygen favourable throughout sampling period - June to Oct.
- Spring-time phosphorus - 9 ppm
- Summer chlorophyll a - low end of moderate range (2.5-5 ug/l)

MNR 1978 Summary of 1978 **winter creel census** on lake trout lakes by Ministry of Natural Resources Personnel

- checked 3 times having 7 anglers for a total of 32.5 man/hours catching 3 lake trout for a CUE of .092
- Fish caught were not fin clipped

Thurston, L. 1976. **Assessment of lake trout plantings**, Parry Sound District.

- 18 sets of 350', standard lake survey gill nets caught 14 natural lake trout.

Management Prescription:

- Fish sanctuary - no fishing from Jan. 1 - May 18 (Fri. before 3rd Sat.).
- Lake trout catch and possession limit of two (2), zero (0) between 40 - 55 cm (15.7 - 21.6 in).
- Conservation license limit of one (1), zero (0) between 40 - 55 cm (15.7 - 21.6 in)