Kuwasda (Lung) Lake Assessment
2012

File Report

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Kuwasda Lake (locally known as Lung Lake), is a small (24 ha) body of water located northeast of South River in Ballantyne Township. The lake is accessed by taking Tyne Lake Road which leads to the south end of the lake. Kuwasda Lake is just outside of Algonquin Park; the outlet flows directly east into the park via Kakasamic Creek thence to Kakasamic Lake and Manitou Lake, both of which support native brook trout populations. A campsite on the east shoreline of the lake suggests is it frequently used for fishing and recreational camping.

The lake has been stocked with brook trout regularly since 1948. It is currently stocked every second year with approximately 1,500 yearling trout.

The last assessment was done in the fall of 2006. In that year both Dickson Lake and Lake Nipigon x Hills Lake strain fish were stocked. A follow up assessment was done the same fall to compare the growth and return rate for the two strains (file data). Most notably, the 2006 netting captured a number of walleye that had been illegally stocked. It was believed that the walleye, which appeared to be all of a single year class, would not successfully reproduce.

In 2012, an anecdotal report was received that largemouth bass had been observed in the lake. An assessment was conducted in the spring of 2012 to verify the presence of bass.

Methods

A variety of gears were used to document which fish species occurred in the lake including small mesh and large mesh Broad-scale Monitoring (BsM) nets (Sandstrom et al. 2010) and Summer Profundal Index Netting (SPIN) nets (Sandstrom and Lester 2009).

Small-mesh BsM nets were comprised of five, 2.5 m panels of gillnet, with mesh sizes of 13, 19, 25, 32, and 38 mm mesh. Large-mesh BsM nets were comprised of eight, 3.1 m panels with mesh sizes of 38, 51, 64, 76, 89, 102, 114 and 127 mm. SPIN nets consisted of two gangs of eight, 8.0 m long panels of mesh sizes 57, 64, 70, 76, 89, 102, 114, 127 mm. In all nets, meshes were randomly arranged and were 1.8 m high.

All nets were set for three hours during the day.

Two wire mesh minnows traps baited with kibble dog food were set for 1.5 hr.

A temperature and dissolved oxygen profile was also collected.

Results

The assessment was completed on June 26 2012. The surface temperature was 21^{o}C. Kuwasda Lake was thermally stratified with a thermocline ranging from 3 to 6 meters (Table 1).

Two small-mesh BsM, one large-mesh BsM and two SPIN nets were set. Net set depths ranged from 1.5 to 8. 2 m deep. Three brook trout, six largemouth bass, two white sucker and four common shiners were caught.

The brook trout were 213, 295 and 371 mm FL. The smallest was noted to not have any fin clips and may have resulted from natural reproduction. The presence of fin clips was not recorded for the other two. Based on their size, the smaller may have been stocked in 2011 and the other in 2009. A small proportion of unclipped fish was also observed in the 2006 assessment, suggesting a low level of natural reproduction is occurring in the lake.

Table 1 Temperature and dissolved oxygen profile, Kuwasda Lake, June 26, 2012.

Depth (m)	D.O. (ppm)	Temp. (c)
0.5	8.5	21.9
1	8.4	21.8
2	8.6	21.5
3	8.8	21.2
4	12.4	15.0
5	12.0	12.1
6	11.9	9.7
7	10.6	8.3
8	10.5	7.3
9	9.5	6.6
10	8.5	6.2
11	7.8	6.0
12	6.9	5.8
13	6.3	5.7
14	6.4	5.6
15	5.2	5.6

The largemouth bass ranged from 139 to 162 mm FL. Being of a similar size they appeared to be all of a single cohort, indicative of a recently introduced population; either all stocked fish or the initial offspring of a small founding population. The netting crew observed several active nests in 2012 confirming that reproduction was occurring.

Table 2 Catch summary, Kuwasda Lake, 2012.

Species	Fork Length (mm)	Total Length (mm)	Weight (g)	Additional Info
Brook Trout	213	222	88	No Clip
Brook Trout	295	310	280	
Brook Trout	371	388	725	
Largemouth Bass				Escaped
Largemouth Bass	139	143		
Largemouth Bass	140	145	34	
Largemouth Bass	152	155	44	
Largemouth Bass	152	157	42	
Largemouth Bass	162	166	60	

No walleye were caught; however, without setting nets overnight, it would be premature to conclude that they were no longer present in detectable numbers.

One minnow trap was set in front of a beaver lodge located north-west of the access, and the other in the creek mouth towards Keewaydin Lake. No fish were caught.

The assessment confirmed the presence of illegally stocked largemouth bass within the lake and that reproduction is occurring. The amount of netting effort and the fish sample size was limited but it appears that the population is newly established as a robust size structure was not yet present. If control efforts are not undertaken it is likely that bass will come to dominate the fish community of the lake with severe impact to the success of the brook trout stocking program and the survival of any naturally reproduced trout. Brook stocking should be discontinued as long as bass are present in the lake. Further, the ban on the use of live bait fish, intended to reduce the possibility of species introductions that may impact brook trout, no longer serves a useful purpose and could be rescinded.

The outlet from Kuwasda Lake flows into Algonquin Park. Park staff should be notified to discuss the feasibility of action being taken to prevent the expansion of largemouth bass from Kuwasda into Algonquin Park and endangering more fisheries.

References

Sandstrom, S.J. and N. Lester. 2009. Summer Profundal Index Netting Protocol: a Lake Trout assessment Tool. Ontario Ministry of Natural Resources. Peterborough, Ontario. Version 2009.1. 200 p. + appendices.

Sandstrom, S, M. Rawson and N. Lester. 2010. Manual of Instructions for Broad-scale Fish Community Monitoring; using Large Mesh Gillnets and Small Mesh Gillnets. Ontario Ministry of Natural Resources. Peterborough, Ontario. Version 2010.1 34 p. + appendices.