Fish Community Assessment of Ridout Lake

File Report

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Ridout Lake, also known as Stony Lake (Figure 1), is a small (47 ha) and moderately deep (20 m) lake that is located within Ridout Township. Access to this lake can be found by taking Highway 117 and turn right onto Echo Lake Road. Turn right on North Ril Lake Road and continue on this road past the boat launch for Ril Lake and turn on the first logging road on the left located on a hill. Travel a short distance on logging road and take the first left, a single lane road, and continue down this road past a hunting camp to the launching area. A 12 ft boat was used due to the limited access to the lake.

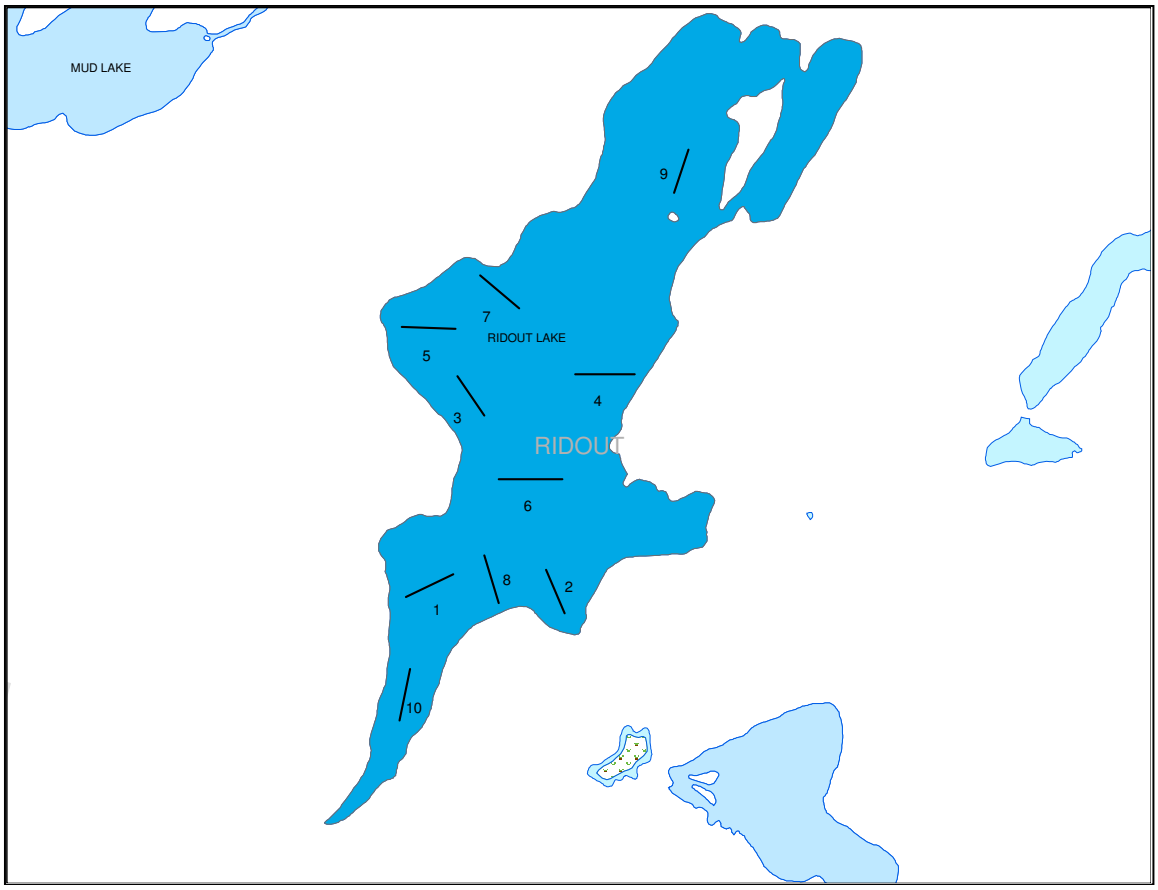


Figure 1 Map of Ridout Lake showing net set locations, 2010.

The native fish community of Ridout Lake appears to have included brook trout (*Salvelinus fontinalis)* and possibly yellow perch (*Perca flavescens*); both species were documented in the 1969 survey. A brook trout spawning area is documented at the outlet of the lake and an enhancement effort was undertaken in 1983.

In the past brook trout have been stocked into Ridout Lake. Each stocking event averaged about 1000 yearlings. Stocking began in 1951 and was stocked yearly until 1953, when they began

stocking biennially until 1969. Stocking then ceased until 1983 when another 1000 yearlings were stocked.

An anecdotal report was received in 2010 that largemouth bass had become established in the lake.

An assessment was conducted in July 2010 to determine the current status of the current brook trout population; specifically to determine if a natural population still occurred and the overall current status of the fish community.

METHODS

The gear used for this project consisted of two monofilament gillnets that were 90 m long by 2.4 m high, consisting of 6 panels each. One net had uniform 1.5 in mesh sizes throughout and the second net was uniform with 2.5 in mesh. Six nets were set for a period of 30 minutes focusing on depths ranging from 2 to 18 m. Two more nets were set overnight focusing on depths ranging from 3 to 15 m and two nets were set the following day for 1 hour periods with depths ranging from 3 to 8 m. Nets were set both perpendicular and parallel to shore in order to sample various depths.

Captured fish were measured for fork length and no age structures were taken. Secchi disc measurements were taken to determine water clarity and a temperature and dissolved oxygen profile was conducted to determine suitable habitats for net placement.

RESULTS and DISCUSSION

Netting was conducted between July 27 and 28, 2010. Weather conditions were partly cloudy with minimal precipitation. The surface water temperature was 25°C throughout the duration of the project and dissolved oxygen readings varied from 9.5 to 2.4 throughout the water column (Table 1). The Secchi disc measurement was 4.0 m.

Table 1 Temperature and dissolved oxygen profile of Ridout Lake, July 27, 2010.

Depth	Temp. (°C)	D.O. (mg/L)
0.5	25.8	8.4
1	24.8	8.4
2	24.5	8.4
4	22.6	9.5
6	12.2	7.5
8	7.7	4.3
10	5.6	4.8
12	5	5
14	4.8	3.6
16	4.7	2.4

Details on net set data can be found in the following Table 2.

Table 2 Net set details, Ridout Lake, 2010.

Effort #	Gear ID (in)	Date	Zone	Easting	Northing	Start Depth (m)	Emd Depth (m)	Set Time	Lift Time	Duraton (hrs)
1	2.5	27-Jul-10	17	658442	5003964	8.6	13.5	11:40	12:10	0.5
2	1.5	27-Jul-10	17	658731	5004045	2	4.5	11:55	12:25	0.5
3	2.5	27-Jul-10	17	658551	5004450	7.6	12.1	12:30	13:00	0.5
4	1.5	27-Jul-10	17	658855	5004485	14.3	17	12:45	13:15	0.5
5	2.5	27-Jul-10	17	658466	5004591	3.8	13.5	13:10	13:40	0.5
6	1.5	27-Jul-10	17	658668	5004306	18.7	18.2	13:30	14:00	0.5
7	2.5	27-Jul-10	17	658629	5004639	5.4	15.7	14:50	10:30	19.7
8	1.5	27-Jul-10	17	658637	5004073	3.5	14.5	15:00	11:00	20
9	1.5	28-Jul-10	17	658976	5004844	6.2	6.5	11:30	12:30	1
10	2.5	28-Jul-10	17	658454	5003870	3.9	8.5	11:45	13:00	1.25

A total of 10 net sets were completed. The first 6 sets produced one white sucker (*Catostomus commersoni*). Since the sets were unsuccessful in producing any brook trout, 2 overnight sets were set. Overnight sets produced 4 white sucker, 1 yellow perch and 1 largemouth bass (*Micropterus salmoides)*. Two net sets were then set during the second day for 1 hour and they produced 1 yellow perch and 9 white suckers. The total catch of fishing efforts can be found in Table 3.

Table 3 Catch summary, Ridout Lake, 2010.

Effort #	Mesh Size (in)	Species	Fish #	Fork Length
5	2.5	163	1	355
7	2.5	163	2	370
7	2.5	163	3	405
7	2.5	163	4	355
8	1.5	163	5	389
8	1.5	331	6	175
8	1.5	317	7	379
9	1.5	331	8	179
9	1.5	163	9	
9	1.5	163	10	420
9	1.5	163	11	401
9	1.5	163	12	421
9	1.5	163	13	421
10	2.5	163	14	420
10	2.5	163	15	
10	2.5	163	16	404
10	2.5	163	17	401

Ridout Lake no longer supports a significant brook trout population. It is possible that a small population persists but was not detected due to the limited amount of netting effort. We know very little of the status of the population before bass were introduced but the presence of bass has certainly marginalized, if not extirpated, the brook trout population. The origin of the bass population is not known. It is likely they were intentionally stocked by a private individual, but without authorization.

Ridout Lake should no longer be considered for active management for brook trout. The lake does provide a modest amount of cold water habitat though and could be considered for stocking with a different species that could survive adequately in the presence of bass. Fish species that could be considered for stocking are splake *(Salvelinus frontinalis x S. namaycush)* and rainbow trout (*Salmo gairdneri*).

Splake are widely used in Ontario to create put-grow-and-take angling opportunities in waters that are unsuitable for lake trout or brook trout (OMNR, 2002). Complications that may arise by stocking splake are that generally they shouldn't be stocked in lakes containing bass, which are present within Ridout Lake. Because of this resident competitor, they may fail to survive well within the lake. If splake are stocked, assessment should be conducted to determine if the stocking efforts were successful.

Rainbow trout are also used in Ontario to create put-grow-and-take angling opportunities. They could be considered for Ridout Lake because of their tolerance for yellow perch. Rainbow trout can be stocked in waters containing yellow perch and waters which are considered to be unsuitable for brook trout (OMNR, 2002). Rainbow trout may survive better than splake, in the presence of largemouth bass, because of their more pelagic behaviour. For both species, the stocked fish would have to be large enough to escape predation.

In conclusion, the native brook trout population in Ridout Lake has been marginalized or extirpated. The stocking of splake or rainbow trout on a put-grow-take basis should be considered due to the presence of some cold water habitat. If attempted, stocking should be followed up with assessment to determine the rate of survival in the presence of bass.

REFERENCES

OMNR, 2002. Guidelines for stocking fish in inland water of Ontario. Fish and Wildlife Branch, Ontario Ministry of Natural Resources, Peterborough, Ontario. 43 p.