

SMALLMOUTH BASS REPORT: OGDEN, PARR AND PETE'S LAKES

Co-ordinates

44° 05' N

65° 54' W

Surface Area: 597 Ha

Max. Depth: 18 m

County: Yarmouth

Water Clarity: 27 TCU

Shoreline Length: N/A

Recreational traffic:
Moderate—Heavy



Summary

From 1995 to present, a total of 879 tournament-caught smallmouth bass were sampled. Mean length of tournament smallmouth was 31.6cm (12.4 in). Bass over 35.5cm (14 in) represented 20% of the sample while bass over 45.5cm (18 in) represented only 3% of the sample.

Mean yearly length from years 1995 to 1999 averaged 29.8 cm (11.7 in) and ranged only 1.1 cm (0.4 in) while from 2000 to 2006 mean yearly length was considerably longer averaging 32.8 cm (12.9 in) but with greater range (3.7 cm or 1.5 in). The trend of increasing length in recent years was significant.

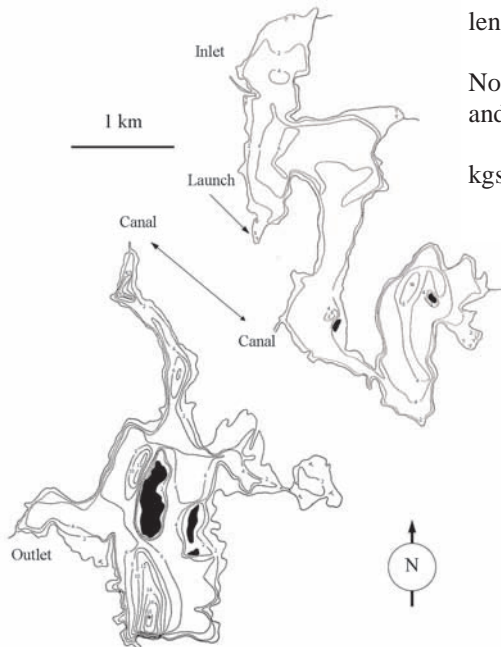
Mean condition ($W_r = 79$) and growth in OPP is similar to that of other Nova Scotian Lakes. Bass in OPP reach 25.4cm (10 in) and 35.5cm (14 in) after 4 and 8 to 9 years, respectively.

The average 5-bass bag limit required to win a tournament on OPP is 4.3 kgs (9.5 lbs) and the average tournament lunker is 1.8 kgs (3.9 lbs).



Photo: LSRC & Marlowe Hipson

An angler displays a large 2.15 kgs (4.74 lbs) OPP smallmouth bass.



General Information

The first official report of smallmouth bass from Ogden, Parr and Pete's Lakes occurred in 1989 (LeBlanc, 2008 *draft report*) though there is reason to believe bass were present much earlier. OPP, as it is called by many, is one of the premier bass fisheries in the southern end of the province and sustains heavy recreational angling.

Ogden Lake is an artificially impounded system connected to Parr and Pete's Lake via a slow flowing canal, navigable to all but the largest watercraft.

OPP is moderately developed with several homes and cottages situated along its shores. However public access is restricted to two areas. Anglers can launch a boat at the Forest Glen community center located on route #340. This location provides the best access while a secondary launch located near the K & L Annis bridge which crosses the canal between Parr and Ogden Lake.

The land surrounding the lake is dominated primarily by greywacke and schist overlain by thin, relatively nutrient-rich soils. Many glacial drumlins dot the landscape. The forest surrounding OPP is dominated primarily by red spruce, white pine and hemlock while the higher drumlins are dominated by sugar maple, white birch and red oak. This part of the province has one of the highest lake surface area to land surface area ratios.

Length of Ogden, Parr & Pete's Bass

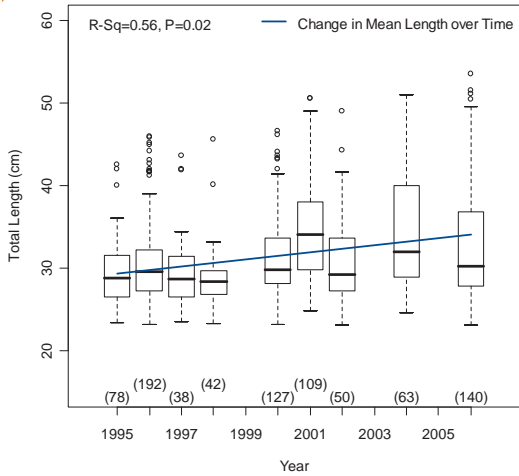


Figure 1—Length of tournament-caught smallmouth bass. Centre of boxes represent median values. Blue line indicates trend.

“Based on historical tournament data, 3% of all Smallmouth Bass weighed-in were longer than 45.5cm (18 inches)!”

The average length of OPP smallmouth bass brought to tournament weigh-in scales from 1995 to 2006 was 31.6 cm (12.4 in) (S.E. = 0.20) as calculated from 839 smallmouth over 23cm (9 in) – the minimum size permitted in many tournaments.

Similar to many Nova Scotian lakes, 56% of tournament bass were smaller than 30.5cm (12 in). Of all tournament caught bass sampled, 20% were longer than 35.5cm (14 in), 10% were longer than 40.5cm (16 in) and 3% were longer than 45.5cm (18 in). The proportion of bass >45.5 in the years 1995 to 2000 averaged 1% while the years 2001 to 2006 averaged 6%.

In any given year, the mean length of tournament angled bass varied from a low of 28.9 cm (11.4 in) in 1998 to a high of 34.6 cm (13.6 in) in 2001. Length of tournament bass varied significantly from year to year. For example, for the period of 1995 through 2000 the length of tournament caught bass did not generally

differ from one another (Tukey HSD, $P > 0.05$) and averaged 29.5 cm (11.6 in) and varied only 2.5 cm (1 in). Again from the year 2001 to 2006, yearly mean lengths did not significantly differ from one another but mean yearly length across these years was considerably longer averaging 33.2 cm (13.1 in) with slightly more variance (3.7 cm or 1.5 in).

Yearly mean lengths from these two time periods were however sig-

nificantly different from one another indicating a slight shift in population size structure. Mean length has increased significantly over time ($R^2 = 0.56$, $P = 0.02$) with recent years (2001, 2004 and 2006) having significantly longer bass than previous years (Figure 1).

Based on the length frequencies (Figure 2), it does not appear as though the movement of strong year classes through the population has contributed to this trend.

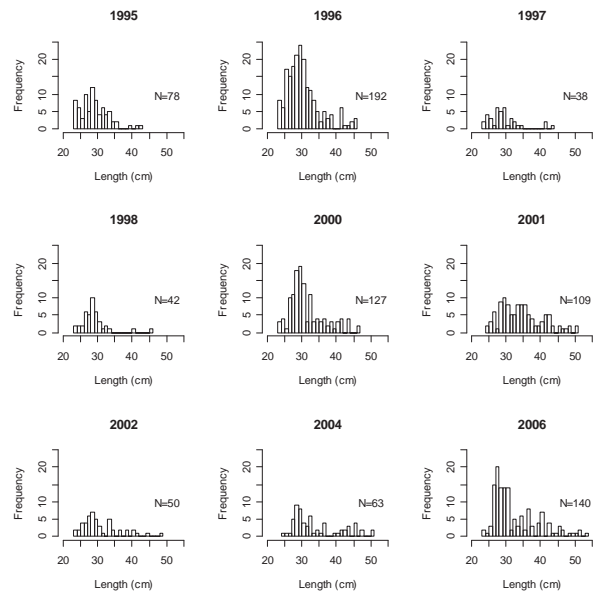


Figure 2—Length frequencies of tournament caught smallmouth bass.

Tournament Results

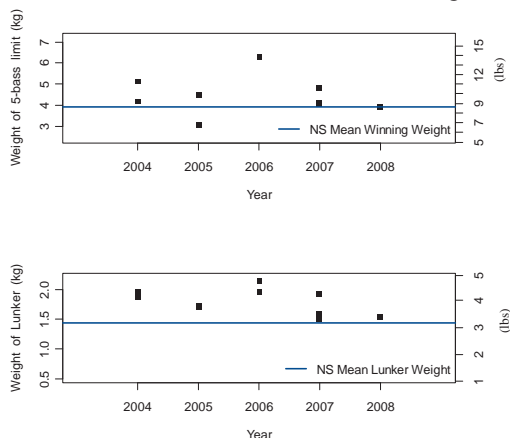


Figure 3— Weight of winning 5-bass tournament bag limits from 2005 to 2008. Each point represents a tournament winning weight.

Since comprehensive tournament reporting was initiated in 2004, the average weight of a 5-bass limit required to win a tournament on OPP was 4.30

kgs (9.5 lbs). The largest 5-bass bag was 6.26 kgs (13.8 lbs) (Figure 3). On average, the weight required to finish in the top 5 of any given tournament was 3.7 kgs (8.2 lbs) for 5 bass. A lunker is the single largest bass weighed in at a tournament. The mean size of tournament-winning lunker bass

was 1.79 kg (3.9 lbs) while the largest single lunker (out of 2111 bass) was 2.2 kgs (4.7 lbs). There does not appear to be a seasonal effect on the weight required to win a tournament on OPP (i.e. summer and fall tournaments exhibit the same winning weights).

Smallmouth Growth in Ogden, Parr & Pete's Lakes

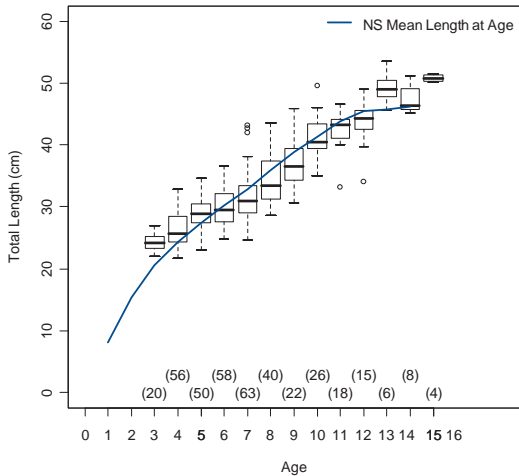


Figure 4 — Length at age for OPP Lakes bass. Centre of the boxes represents the median values. Sample size in ().

Nova Scotia lies at the Northern end of the smallmouth's range and thus bass exhibit slower growth than other parts of North America. Additionally, lakes in Nova Scotia tend to be less productive than elsewhere. In previous studies, MacMillan et al. (2002) indicated that OPP exhibited slightly slower growth when compared to the provincial average though recent data suggest that growth is near the provincial mean for larger bass while 3 and 4 year old bass appear to grow slightly faster than the provincial average (Figure 4).

Dunlop (2004) reported that OPP smallmouth not often captured in tournaments (ages 1, 2 and 3 years) exhibited growth rates similar to the North American average. Bass in OPP grow to 25.4cm (10 in) after 4 years, 30.5cm (12 in) after 6 years and to 35.5cm (14 in) after 8 to 9 years.

“It takes 5-6 years for an OPP Bass to reach 30cm (12”) while a 50cm (20”) bass may be 15 years of age or older !”

Relative Weight

The weight of bass increases with length. Using this relationship, the relative weight or “plumpness” of individual bass may be assessed. On average, the relative weight of smallmouth from OPP is 79.3 (S.E. = 0.26, N=819). Yearly mean relative weights ranged from a high of 85.7 in 2000 to a low of 73.7 in 1997 (Figure 5).

These values are close to the Nova Scotia mean of 77, yet low when compared to bass in New Brunswick and Maine or the North American average of 100.

The relative weight of OPP bass appears to have remained the same since the mid-1990's ($R^2=0.06, P=0.52$). Relative weight is affected by food supply and competition from other predators.



Photo: E. Halfyard

These values are close to

Common Prey and Competitor Species

Several fish species inhabit OPP including white perch, yellow perch, brown bullhead, American eel, lake whitefish, rainbow smelt, alewife (gaspereau), white sucker and banded killifish. The numerous small brooks and rivers entering the system carry nutrients and forage into the lakes and bass use these areas for feeding.

The fall migration of juvenile alewife through the system (although variable) presumably provides a large influx of baitfish.



Photo: J. LeBlanc

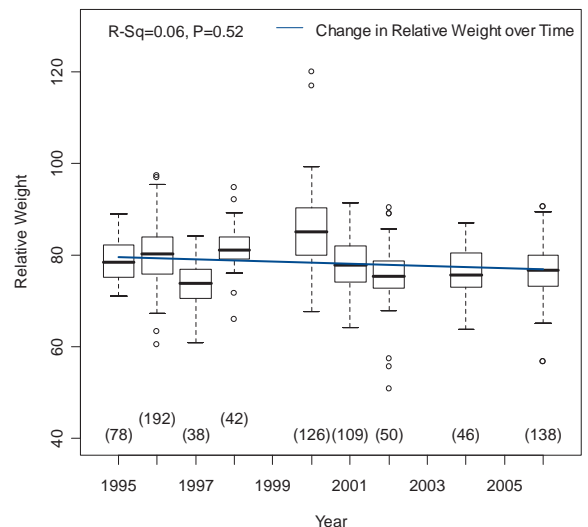
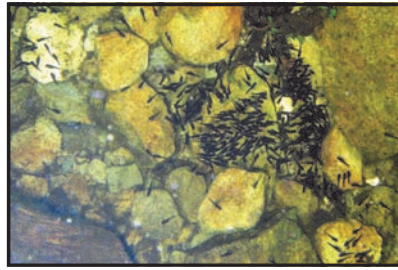


Figure 5 — Relative weight of tournament-caught smallmouth from 1995 to 2006. Blue line represents trend. Sample size in (). Centre of boxed represents median values.

Nesting

Nesting in OPP is not unlike that of other Nova Scotian lakes. However being situated on the relatively mild southern end of the province, spawning in OPP may commence and finish in excess of 3 weeks earlier than the more northern Nova Scotia lakes. Nest success rates in this region are expected to be approximately 30% based on work completed on Killams Lake.

Also, because the water in OPP is stained, this dark water absorbs more energy from the sun than clear water and often warms faster than clear lakes, reaching the 12.8 °C necessary for nest building even earlier in the spring (Scott and Crossman 1973). Furthermore, bass often build their nests shallow as this lack of water clarity offers protection from visual predators.



Photos: J. LeBlanc



Smallmouth bass fry atop a bass nest in Killams Lake (above), and a typical NS bass nest associated with woody debris (below).

Bass Fishing Tips

All three sections of OPP hold bass with productive areas spread out across the lake. The abundant rock and vegetation provide ideal bass cover.

Fishing in the spring is primarily associated with bass as they prepare to spawn. Smallmouth in this lake will often stage in the deepest available area adjacent to their preferred spawning site. Focus your efforts near running water. Soft plastic jerkbaits, tubes, topwater lures and spinnerbaits will all catch spring bass. As spawning activity finishes in late June topwater fishing becomes an effective and exciting method. While floating lures will attract bass all summer long at the appropriate times, soft plastic baits become the preferred lure. In particular, soft plastic "stick baits", jerkbaits, and tubes are effective. Bait color depends on the time of year though in general brown, black and red works well in the spring and green, purple and black are great summertime and fall baits.

Angling Regulations

Current regulations for smallmouth bass in Ogden, Parr and Pete's Lakes are designed for trophy management. As such, anglers are permitted to angle smallmouth bass from April 1st to December 31st. From

April 1st to June 30th, no smallmouth bass may be retained to protect spawning bass. From July 1st to the end of season, anglers are permitted to retain three (3) smallmouth bass with a maximum length of 35 cm (13.8 in). Additionally, night angling for smallmouth is permitted on these lakes. For additional information, please refer to the Angler's Handbook.



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References:

Davis, D. and S. Browne (eds). 1997. The natural history of Nova Scotia—Theme Regions. Nimbus—Nova Scotia Museum. Halifax, NS. 304 p.

Dunlop, E.S. and B.J. Shuter. 2004. Native and introduced populations of smallmouth bass differ in concordance between climate and somatic growth. *Trans. Amer. Fish. Soc.* **135**: 1175-1190.

LeBlanc, J.E. 2008. Geographic distribution of smallmouth bass in Nova Scotia. Draft report. Nova Scotia Department of Fisheries and Aquaculture Technical Report Series. 2008-01.

MacMillan, J. L., A.J. MacNeill, R.G. Heighton and M.S. Ridgeway. 2002. Life history characteristics of smallmouth bass populations in Nova Scotia based on tournament monitoring. **Black bass: ecology, conservation and assessment. American Fisheries Society symposium.** 31 pp. 535-544.

Scott, W.B. and E. J. Crossman. 1973. Freshwater fishes of Canada. Fisheries Research Board of Canada, Environment Canada. Bulletin 184. 966 p.

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