

SMALLMOUTH BASS REPORT:

TEN MILE LAKE

Co-ordinates

44° 10' N

65° 51' W

Surface Area: 497 Ha

Max. Depth: 3 m

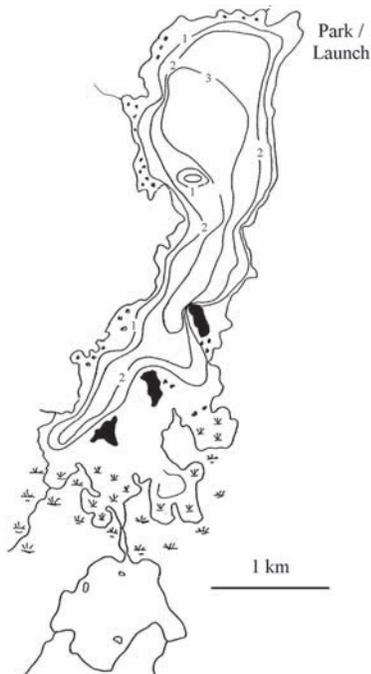
County: Queens

Water Clarity: 12 TCU

Shoreline Length: N/A

Recreational traffic:

Light—Moderate



Summary

From 1995 to present, a total of 391 tournament-caught smallmouth bass were sampled. Mean length of tournament smallmouth was 34.3 cm (13.5 in). Bass over 35.5cm (14 in) represented 41% of the sample which is extremely high compared to other NS tournament lakes. Bass over 45.5cm (18 in) represented only 2% of the sample.

Samples taken in 1996 and 1997 had very few fish over 41.4 cm (16.3 in) while the proportion of large fish greatly increased following 2001. The years of 2002 and 2003 exhibited the highest yearly mean length (37.4 cm and 36.0 cm, respectively). As a whole however, the mean length of tournament caught bass in Ten Mile Lake has not significantly changed.

Mean condition ($W_r = 72$) is slightly lower than that of other NS lakes while growth is similar. Bass in Ten Mile Lake reach 25.4cm (10 in) and 35.5cm (14 in) after 4 and 8 years, respectively.

The average 5-bass bag limit required to win a tournament on Ten Mile Lake is 3.8 kgs (8.4 lbs) and the average tournament lunker is 1.6 kgs (3.6 lbs).



Photo: South Shore Bassmasters

A group of boats at Ten Mile Lake tournament

General Information

The first official report of smallmouth bass from Ten Mile Lake occurred in 1989 (McNeill 1995). Ten Mile Lake is a favoured bass fishery on the South shore and sustains moderate to heavy recreational angling. Only one public launch exists, located in the Ten Mile Lake Provincial Park. This launch is in good shape and can accommodate most boats.

The lake does have several “dangerous” rocks and ledges just under the surface of the water and recreational boaters should use caution when navigating the lake. Navigation through the small channel to the back bay in the Southern end of the lake should only be attempted with small boats, especially in low water conditions.

There is little development along the shores of Ten Mile Lake providing a tranquil setting. The land surrounding the lake is dominated primarily by greywacke, schist with abundance quartzite overlain by thin, relatively nutrient-rich soils except in those areas where fire has occurred.

Though many lakes and rivers in the adjacent area are heavily stained with organics from peat bogs, Ten Mile Lake remains relatively clear and thus allows decent growth of aquatic vegetation.

The forest surrounding OPP is dominated primarily by white pine and red oak, aided by the past burn-regenerate cycle of the area.

Length of Ten Mile Lake Bass

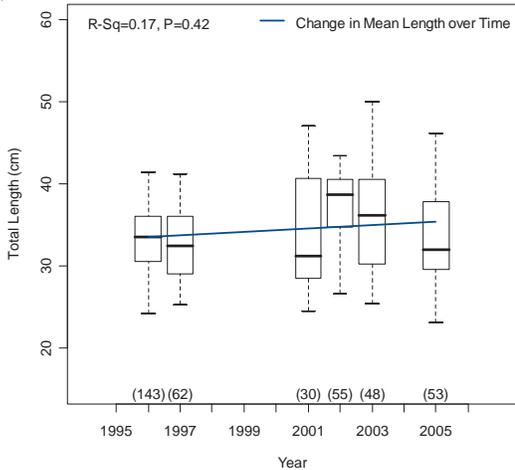


Figure 1—Length of tournament-caught smallmouth bass. Centre of boxes represent median values. Blue line indicates trend.

The average length of Ten Mile Lake smallmouth bass brought to tournament weigh-in scales from 1995 to 2005 was 34.3 cm (13.5 in) (S.E. = 0.27) as calculated from 391 smallmouth over 23cm (9 in) – the minimum size permitted in many tournaments.

The average length of Ten Mile Lake smallmouth bass brought to tournament weigh-in scales from 1995 to 2005 was 34.3 cm (13.5 in) (S.E. = 0.27) as calculated from 391 smallmouth over 23cm (9 in) – the minimum size permitted in many tournaments. Unlike most Nova Scotian lakes, only 28% of tournament bass were smaller than 30.5cm (12 in). This compares to 50% to 60% for most other tournament sampled lakes. Of all tournament caught bass sampled, 41% were longer than 35.5cm (14 in), 14% were longer than 40.5cm (16 in) and 2% were longer than 45.5cm (18 in). The proportion of bass >35.5 cm varied substantially across sampling years with apparent peaks in 2002 and 2003 (73% and 56%, respectively) while 1996 and 1997 were the two lowest years (31% and 27%, respectively).

through the population has contributed to this trend. However, with the knowledge of the approximate date of introduction, it seems probable that 2002 and 2003 years were heavily influenced by cohorts of the original colonizers. Thus as the population stabilizes, the cohort strength should become relatively homogenous and length frequencies should become more similar to other lakes in the province.

“Based on historical tournament data, 14% of all Smallmouth Bass weighed-in were longer than 40.5cm (16 inches)!”

Unlike most Nova Scotian lakes, only 28% of tournament bass were smaller than 30.5cm (12 in). This compares to 50% to 60% for most other tournament sampled lakes. Of all tournament caught bass sampled, 41% were longer than 35.5cm (14 in), 14% were longer than 40.5cm (16 in) and 2% were longer than 45.5cm (18 in). The proportion of bass >35.5 cm varied substantially across sampling years with apparent peaks in 2002 and 2003 (73% and 56%, respectively) while 1996 and 1997 were the two lowest years (31% and 27%, respectively).

In any given year, the mean length of tournament angled bass varied from a low of 32.9 cm (13.0

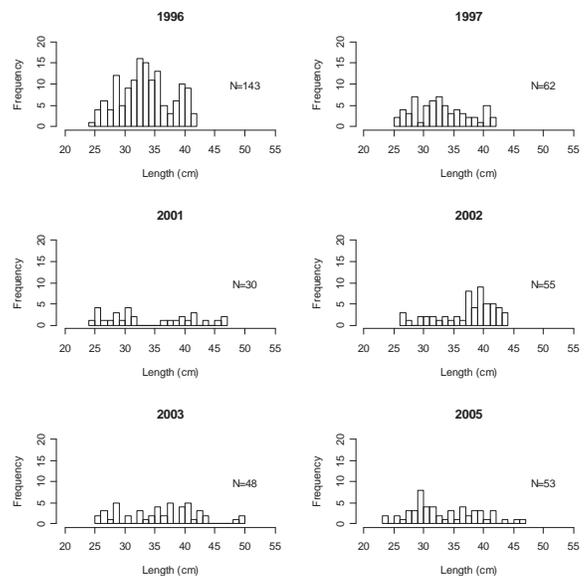


Figure 2—Length frequencies of tournament caught smallmouth

Tournament Results

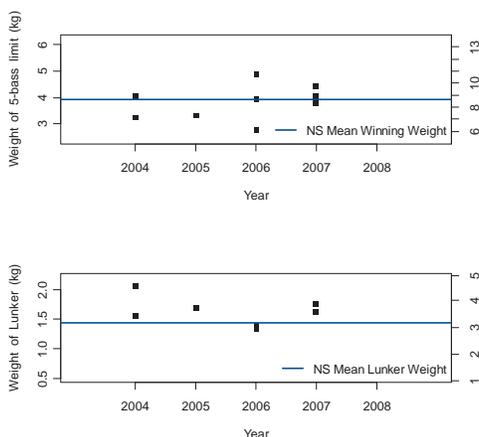


Figure 3— Weight of winning 5-bass tournament bag limits from 2005 to 2008. Each point represents a tournament winning weight. Right side y-axis represents weight in lbs.

Since comprehensive tournament reporting was initiated in 2004, the average weight of a 5-bass limit required to win a tournament on Ten Mile Lake was 3.82 kgs

(8.4 lbs). The largest 5-bass bag was 4.87 kgs (10.7 lbs) (Figure 3). On average, the weight required to finish in the top 5 of any given tournament was 2.82 kgs (6.2 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 1.62 kgs (3.57 lbs)

while the largest single lunker (out of 1729 bass) was 2.05 kgs (4.5 lbs). There does not appear to be a seasonal effect on the weight required to win a tournament on Ten Mile Lake (i.e. summer and fall tournaments exhibit similar winning weights).

Smallmouth Growth in Ten Mile Lake

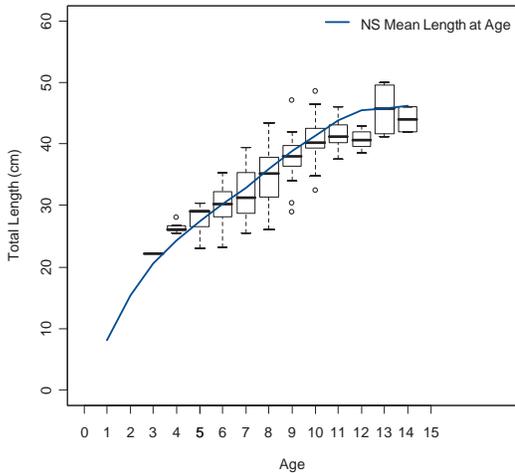


Figure 4 — Length at age for Ten Mile Lake bass. Centre of the boxes represents the median values. Sample size in ().

Nova Scotia lies at the Northerly end of the smallmouth’s range and thus NS bass exhibit slower growth than other parts of North America. Additionally, lakes in Nova Scotia tend to be less productive than elsewhere. Compared to the provincial average (using data from MacMillan et al. 2002), growth in Ten Mile Lake appears similar to other lakes (Figure 4). Bass in Ten Mile Lake grow to 25.4cm (10 in) after 4 years, 30.5cm (12 in) after 6 years and to 35.5cm (14 in) after 8 years. Large specimens are notoriously

difficult to age however bass as old as 14 years have been sampled in Ten Mile Lake. In the samples taken from 1996 and 1997, few old fish (> 10 years old) were detected while in the later years 2001 and more recent, many of the bass are of this older age.

“Samples taken in 2001 to 2005 contained many more bass 10+ year old bass than did the 1996 and 1997 samples”

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 Ten Mile Lake is 72.1 (S.E. = 0.52, N=338). Yearly mean relative weights ranged from a high of 77.3 in 2005 to a low of 66.2 in 2002 (Figure 5).

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

The relative weight of Ten Mile Lake bass appears to have remained the same since the mid-1990’s ($R^2=0.06$, $P=0.68$) though the years of

2002 and 2003 exhibited the lowest mean relative weight, coinciding with the highest mean length.



Photo: SSBM & Rhonda Brannen

Common Prey and Competitor Species

Several fish species inhabit Ten Mile Lake including white sucker, yellow perch, brown bullhead banded killifish and American eel. Ten Mile Lake is shallow with extensive aquatic plant cover (particularly lily pads) making it suitable to minnow production. Furthermore, dragonflies and damselflies frequently use the lily pads

and provide a substantial prey item for smallmouth bass. Yellow perch are also a favoured high energy prey item. Young yellow perch are often found in tight schools in the shallows while larger individuals are often



Banded Killifish

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especially near vegetation (Scott and Crossman 1973). Banded killifish can be seen schooling in shallow, warm water near shore.

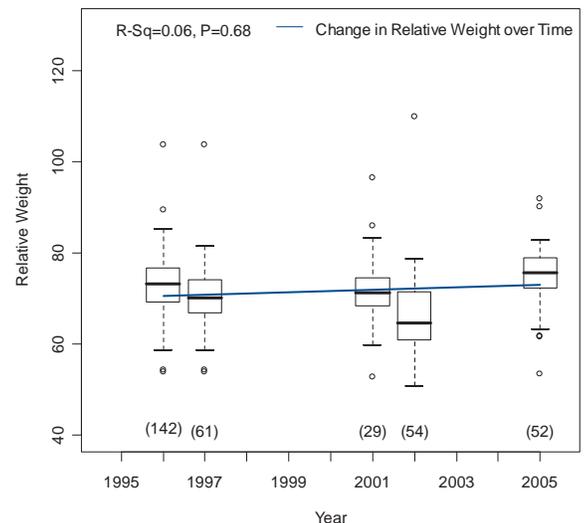
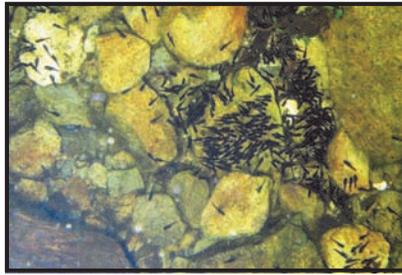


Figure 5 — Relative weight of tournament-caught smallmouth from 1996 to 2005. Blue line represents trend. Sample size in (). Centre of boxed represents median values.

Nesting

Nesting in Ten Mile Lake is similar to that of other Nova Scotian lakes. Because the climate in Queens County is heavily moderated by the ocean, spawning in Ten Mile may commence earlier than the more northern Nova Scotian lakes.

Bedrock covers a large portion of the bottom in Ten Mile Lake, and while some pockets of gravel exist, suitable nesting habitat may limit bass production in this lake. Nest building begins when the water temperature reaches a minimum of 13 °C however eggs are not often laid before the temperature reaches 16°C to 18°C (Scott and Crossman 1973). Nests in Ten Mile are often adjacent to lark boulders, woody debris and other forms of cover.



Photos: J. LeBlanc



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

Bass Fishing Tips

Bass can be caught from one end of Ten Mile Lake to the other, though as with any lake some spots are favoured. The ample boulder and vegetation cover offer the best ambush points. In the early spring, bass can be found in some of the deepest water in the lake, however as the water warms they move towards their preferred spawning locations. Soft plastic jerkbaits, hard jerkbaits and spinnerbaits will all catch spring bass.

The large beds of lily pads in 2-3m of water hold bass during the summer months and well into the fall. Again, soft plastics are the preferred baits though top-water lures, spinnerbaits and crankbaits will catch bass.

The small bay at the southern end of the lake does hold bass at certain times of the year though it is generally quite shallow and warms rapidly in the spring.



Angling Regulations

Current regulations for smallmouth bass in Ten Mile Lake 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). For additional information, please refer to the Angler's Handbook.

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