

## Lost Nation Lake – 2015 Survey Results

Lost Nation Lake was sampled on October 5, 2015 using a DC electrofishing boat for a total sample time of 60 minutes. The air temperature was 60 degrees F and the surface water temperature was also 60 degrees. Dissolved oxygen readings were 9.2 and pH was 8.2. The lake was 2 feet lower than normal pool due to a draw down. Sampling efficiency was excellent. Common carp were removed following the collection but many carp were seen that were not collected, especially in the south end.

**Largemouth Bass:** A total of 103 largemouth bass were collected in 60 minutes for a CPUE (catch per unit of effort) of 1.7 bass/minute, better than the target of 1/minute. However, only 6 fish under 8" were collected, indicating very few young of the year fish. The Young/Adult ratio was very low (0.1), much below the target range of 1-10. Of the adult fish, 62% were of quality size (over 12"), which is slightly above the desired range of 40-60, and 36% were preferred size (over 15"). No largemouth bass over 20" were collected. The relative weights of these fish averaged over 105, indicating healthy, fat fish. Since the lake was drawn down prior to sampling, the young fish may have been forced from shore into deeper water, and therefore not collected. However, if a missing year class is noted on the next sample, a supplemental stocking may be necessary.

**Smallmouth Bass:** A total of 20 smallmouth bass were collected for a CPUE of .3 fish/minute. Of these, only 4 were less than 7" in total length indicating low reproduction. Of the adult fish, 12 were over 11" in length, but only 1 was over 14". The remaining fish were between 7" and 11". The relative weight of these fish averaged 96, near the target of 100, but a little on the slim side. With so few fish collected it is difficult to determine the status of the population, but overall it appears to be a limited resource. It is recommended that little to no harvest of smallmouth bass be allowed until the population reaches stability.

**Walleye:** Walleye are stocked into Lost Lake so the population is artificially created. Therefore it is not surprising that no fish under 10" were collected. A total of 82 fish were collected with 62 (76%) of Quality size, (over 15") which bodes well for fishermen! Of these 62 fish, there were 12 over 20" (14.6%), 3 over 25" (3.7%), and 1 over 30" (1.2%). The CPUE of 1fish/minute is also very good, especially for a daytime collection. The relative weights of these fish averaged 97, only slightly on the slim side. Overall the walleye population appears to be doing great but with the low numbers of prey species collected and few young of the year of other species, it might be recommended to reduce the stocking a bit until other species recover.

**Bluegill:** A total of 109 bluegill were collected in a 30 minute subsample for a total CPUE of 3.6 fish/minute (218 per hour). Of these only 45 were less than 3" in total length with a Young/Adult ratio of 1.4, a bit low. The proportional stock density was 59 which is near the high end of the range of 20-60 for a balanced population but the RSD1 was 0, indicating no fish over 7.9" were collected. The bluegill appear to have a higher than normal mortality, but the relative weights of these fish were near average. The large numbers of predators of large size in Lost Lake seems to be keeping the bluegill population lower than expected and in time may result in an unbalanced situation.

**Black Crappie:** A total of 37 black crappie were collected in 60 minutes of sample time for a CPUE of 0.6 fish/minute. Of these, 92% were over 8", which is considered quality size, but only 6 were over 10" (preferred size). None were over 12". With such limited numbers collected it is difficult to determine the overall structure of the population. However the relative weights of these fish were above average indicating good healthy fish.

**Other fish collected:** Also present in the collection were gizzard shad, common carp, golden shiners, white suckers, yellow bullhead, striped bass hybrids, white crappie, green sunfish, pumpkinseed sunfish, and yellow perch. All were collected in very low numbers (1-12 individuals) except gizzard shad which totaled 95 individuals. It should be noted that no gizzard shad less than 6" were collected which is surprising since they are usually quite prolific. Table 1 below shows the total number of fish of each species collected.

Total fish	635
Electrode minutes	60
Gizzard shad	95
Carp	9
Golden shiner	12
White sucker	10
Channel catfish	5
Yellow bullhead	3
Striped bass x White bass hybrid (Wiper)	1
Black crappie	37
White crappie	6
Largemouth bass	103
Smallmouth bass	20
Green sunfish	30
Bluegill x Green sunfish hybrid	2
Bluegill	218
Pumpkinseed	1
Walleye	82
Yellow perch	1

**Table 1: Total fish collected from Lost Lake in 2015.**

**Recommendations:** Continue to remove as many carp as possible, and try to get some vegetation established for bluegill cover and forage. Continue to monitor the bass population as well as the bluegill to ensure there is good reproduction and recruitment.

LMB- Largemouth Bass

YEAR	STOCK N	PSD (N)	RSD1 (N)	RSD2 (N)	RSD3 (N)
		20cm,7.9in 30cm,11.8in	38cm,15.0in	51cm,20.1in	63cm,24.8in
2015	97	61.9 (60)	36.1 (35)	0.0 (0)	0.0 (0)

SMB – Smallmouth Bass

YEAR	STOCK N	PSD (N)	RSD1 (N)	RSD2 (N)	RSD3 (N)
		18cm,7.1in 28cm,11.0in	35cm,13.8in	43cm,16.9in	51cm,20.1in
2015	16	75.0 (12)	6.2 (1)	0.0 (0)	0.0 (0)

WAE - Walleye

YEAR	STOCK N	PSD (N)	RSD1 (N)	RSD2 (N)	RSD3 (N)
		25cm,9.8in 38cm,15.0in	51cm,20.1in	63cm,24.8in	76cm,29.9in
2015	82	75.6 (62)	14.6 (12)	3.7 (3)	1.2 (1)

BLG - Bluegill

YEAR	STOCK N	PSD (N)	RSD1 (N)	RSD2 (N)	RSD3 (N)
		8cm,3.1in 15cm,5.9in	20cm,7.9in	25cm,9.8in	30cm,11.8in
2015	173	59.0 (102)	0.0 (0)	0.0 (0)	0.0 (0)

BLC – Black crappie

YEAR	STOCK N	PSD (N)	RSD1 (N)	RSD2 (N)	RSD3 (N)
		13cm,5.1in 20cm,7.9in	25cm,9.8in	30cm,11.8in	38cm,15.0in
2015	36	91.7 (33)	16.7 (6)	0.0 (0)	0.0 (0)

**Table 2: Stock Indices for Sport Fish Collected from Lost Nation Lake in 2015.**