

2009 Phantom Lakes Summary Report.

In the spring of 2009, the WDNR started a ten-week comprehensive fisheries survey on Phantom Lakes. Our goals were to estimate abundance and size structure of gamefish, panfish and non-game species. The following is a preliminary summary of the results. The final report will be completed in the winter of '09-'10 after fish aging is completed, data is entered and analyzed, and final management recommendations are made. Also included in this summary is stocking information and sampling procedures.

Phantom Lakes are considered a "Public Access" water body under our current sampling protocols which allows us to perform a comprehensive survey once every eight years. Our comprehensive survey targeted spawning northern pike and walleye using fyke nets starting at ice out. After fyke netting was concluded, we continued to monitor bass, panfish and non-game species using an electrofishing boat called a boom shaker.

Gamefish - northern pike, walleye, largemouth bass. Very few northern pike were captured, indicating low abundance. Northern pike had an average size of 22.7 inches, well below the 26-inch size limit, indicating high angler harvest. Walleye size structure was very nice with an average length of 21.1 inches. Unfortunately, only one year class of walleye was observed, presumed to be from the 2002 stocking of 8-inch fall fingerlings, and overall abundance was very low. Largemouth bass are the dominant gamefish in the system. Largemouth bass captured had a large variety of year classes indicating good recruitment or spawning success. Body condition of the bass population indicates good growth rates and excellent overall health. Largemouth bass average length was 11.2 inches, with 15.7% of bass measuring greater than the 14-inch size minimum.

Panfish - yellow perch, bluegill, crappie, warmouth bass, pumpkinseed, green sunfish. Bluegill dominate the panfish catch with high abundance and an average length of 5.3 inches. Some 7 to 8 inch bluegills were captured, though the large majority were less than 6 inches. High abundance and slow growth rates of bluegills are indicative of shallow weedy lakes such as Lower Phantom Lake. A good diversity of warmouth bass, pumpkinseed, black crappie, and green sunfish were also present in the sample. Yellow perch are successfully reproducing in Upper Phantom Lake as many spawning adults and juveniles were captured during their spawning period.

Non-game species - bowfin, carp, lake chubsucker, bullheads. Phantom Lakes and the adjoining Mukwonago River continue to have the most diversity of fish species in southern Wisconsin. The lake chubsucker is a species of special concern; the starhead topminnow and slender madtom are endangered; and the longear sunfish is threatened. This unique diversity of fish species is due in part to a combination of coldwater and warmwater habitats, as well as both lake and stream habitat types. Non-game species observed during this sample included (in order of number captured) bowfin, lake chubsucker, yellow bullhead, common carp, and brown bullhead.

Stocking. The WDNR has been stocking walleye and northern pike for many years. Limited success with the northern pike has been attributed to the large abundance of largemouth bass preying upon small northern pike. In 2008, all Waukesha County northern pike quotas were changed from small fingerlings (3-4 inches) to large fingerlings (8-10 inches) in hopes of increasing survival. The abundance of one-year-old northern pike in our 2009 spring survey indicates good stocking success. Stocking of small fingerling walleyes will be discontinued in Phantom Lakes due to the lack of contribution to the fishery. Future management of walleye will hinge upon stocking expensive large fingerling walleyes in order to escape the plethora of largemouth bass that prey upon anything of edible size.

Preliminary Management Recommendations. Bass and bluegill fishing on Phantom Lakes has potential. Continued annual stocking of northern pike will help re-establish a self-sustaining northern pike population and, in turn, decrease bluegill abundance. Fewer bluegills will provide less competition for food and better panfish growth rates. With fewer, larger panfish, a net increase in zooplankton abundance should increase newly hatched northern pike survival, increase water clarity, and decrease Eurasian water milfoil. Habitat protection and enhancement is the key to maintaining species diversity and a balanced aquatic ecosystem.



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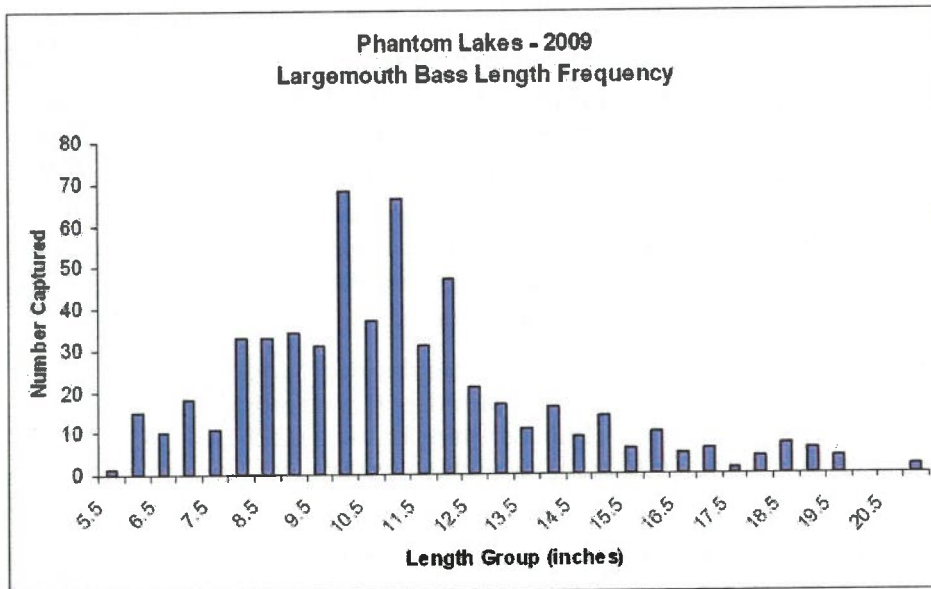


Figure 1. Length frequency of largemouth bass from Phantom Lakes during spring of 2009.

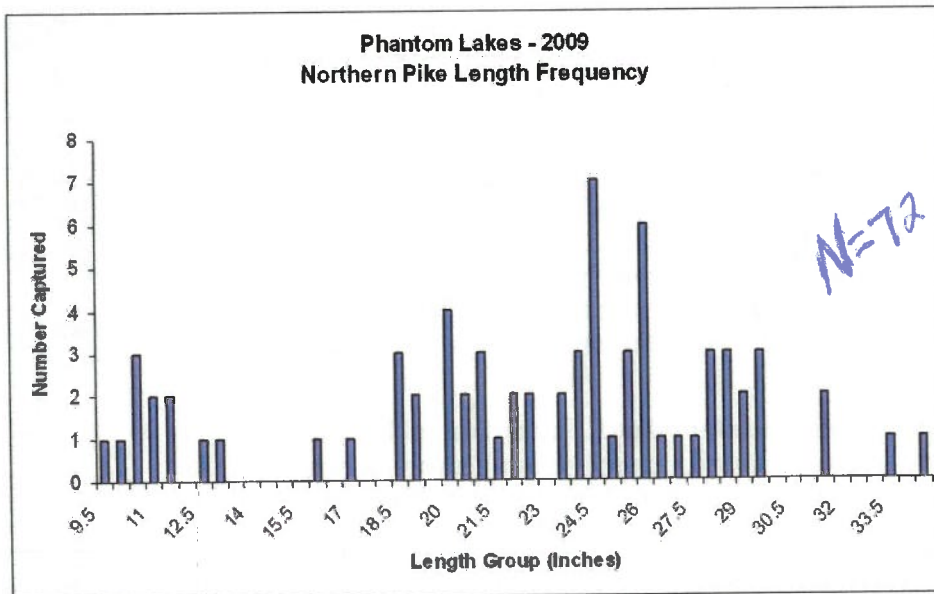


Figure 2. Length frequency of northern pike from Phantom Lakes during spring of 2009.

Table 1. Upper and Lower Phantom Lake Northern Pike Stocking History

Year	Age Class	Number
1998	Small Fingerling	2,166
1999	Small Fingerling	3,280
2000	Small Fingerling	2,300
2001	Small Fingerling	6,495
2002	Small Fingerling	1,100
2005	Small Fingerling	2,100
2006	Small Fingerling	2,535
2008	Large Fingerling	2,912
TOTAL		19,976

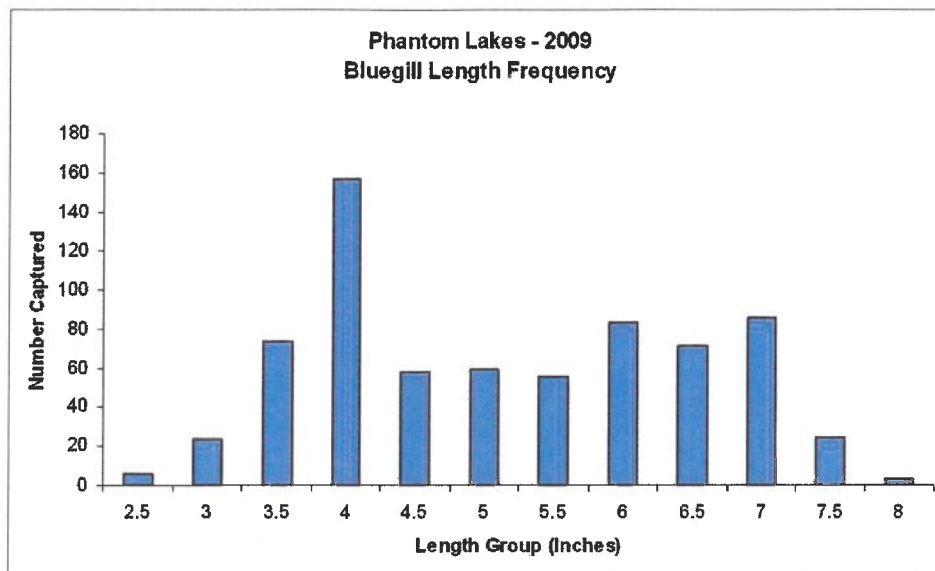


Figure 3. Length frequency of bluegill from Phantom Lakes during spring of 2009.

Table 2. Other species sampled by fyke net from Phantom Lakes during spring of 2009.

Species	Number Captured	Catch/Net Night	Mean Length	Std. Dev.
Black Crappie	145	0.86	7.99	2.50
Bowfin	156	0.93	-	-
Green Sunfish	17	0.10	5.85	1.36
Lake Chubsucker	1	0.01	-	-
Pumpkinseed	55	0.33	6.04	0.89
Rock Bass	154	0.92	6.25	1.50
Walleye	12	0.07	21.12	3.33
Warmouth	110	0.65	6.83	1.00
Yellow Perch	311	1.85	6.36	0.95

Table 3. Other species sampled by boom shocker from Phantom Lakes during spring of 2009.

Species	Number Captured	Catch/Hour	Mean Length	Std. Dev.
Bowfin	2	4.00	-	-
Brown Bullhead	1	2.00	-	-
Common Carp	1	2.00	-	-
Green Sunfish Hybrid	7	14.00	-	-
Lake Chubsucker	16	32.00	-	-
Pumpkinseed	8	16.00	5.50	0.64
Rock Bass	1	2.00	6.30	-
Warmouth	7	14.00	5.33	1.25
Yellow Bullhead	3	6.00	-	-
Yellow Perch	11	22.00	5.41	0.49

