



Summary of Fishery Survey Bass Lake (northeast of Bruce), Rusk County, 2012

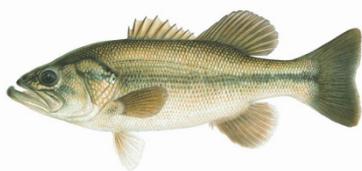
On May 14, 2012 WDNR’s Fisheries Management Team from Park Falls completed an electrofishing survey to assess the abundance and size structure of largemouth bass and bluegill populations in 27-acre Bass Lake, located about 6 miles northeast of Bruce, WI and one of four Rusk County lakes that share the name. With water temperature at 68°F, our survey was well-timed to represent target species during their spawning activities. However, warm weather in late March may have prompted early spawning in portions of both populations. We sampled all fish species in a complete shoreline circuit (0.78 mile) in 0.48 hour. Quality, preferred, and memorable sizes referenced in this summary are based on standard proportions of world record lengths developed for each species by the American Fisheries Society. “Keeper size” is based on known angler behavior.

Habitat Characteristics

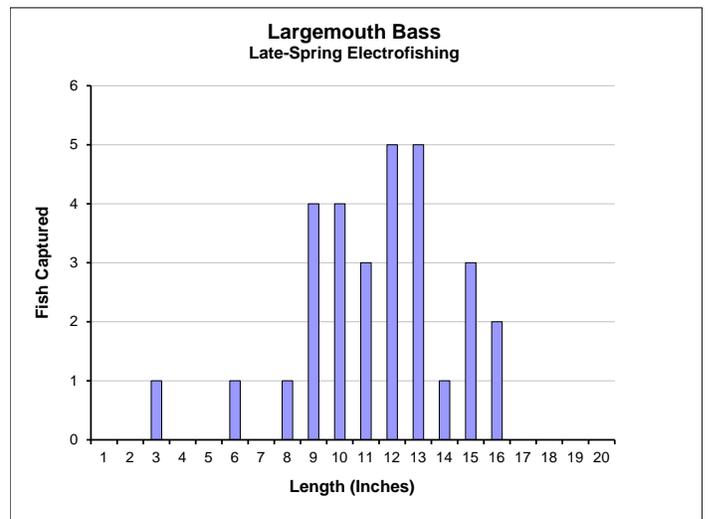
Bass Lake is a soft water, seepage lake with maximum depth of 18 feet and 11% of the surface area less than 3 feet deep. Riparian vegetation is primarily tamarack and spruce bogs with few areas of mixed hardwood. Bottom substrate is mostly muck (70%) with some sand (15%) and gravel (15%). Floating and emergent aquatic vegetation comprise a large percentage of the near-shore aquatic habitat. During high water, Bass Lake overflows into the Thornapple River.

Summary of Results

Largemouth Bass



Captured 36 per mile or 58 per hour $\geq 8"$	
Quality Size $\geq 12"$	57%
Preferred Size $\geq 15"$	18%

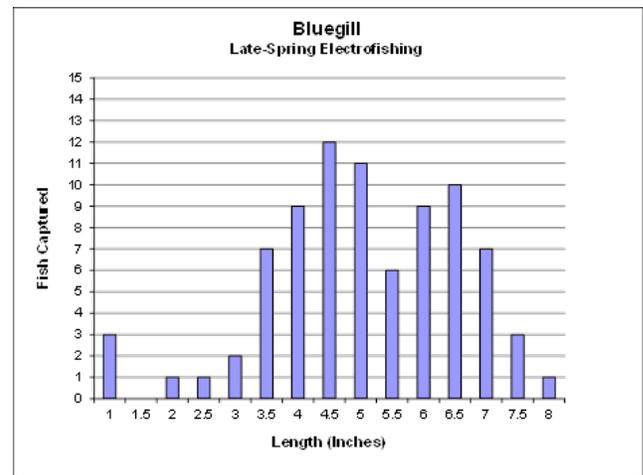


Our electrofishing survey results indicate moderate abundance and good size structure in the largemouth bass population. Proportions of quality- and preferred-size fish were within the ranges considered to reflect balance in largemouth bass populations (40-60% and 10-20%, respectively). Age analysis using scales revealed that largemouth bass in Bass Lake grew to 9.6 inches long in 4 years (range = 8.7 – 10.2; n = 7) and 13.2 inches in 7 years (range = 12.4 – 13.8; n = 8) – a slower growth rate (by 1.6 and 3.0 inches, respectively) than the regional average lengths at those ages. Largemouth bass 10 - 13 inches long at capture grew on average only 0.86 inch (range = 0.22 – 2.43; n = 35) in their previous growing season. Despite relatively slow annual growth, largemouth bass 8 inches and longer survive long enough to allow about one-fifth to attain legal and preferred sizes—presumably because little harvest occurs under a 14-inch minimum length limit and a strong angler catch-and-release ethic.

Bluegill



Captured 120 per mile or 194 per hour $\geq 3''$	
Quality Size $\geq 6''$	39%
Keeper Size $\geq 7''$	14%
Preferred Size $\geq 8''$	1%



Our electrofishing survey results indicate a bluegill population of moderate abundance but relatively few fish of preferred size. We did not take scales or other structures to determine age of bluegills in Bass Lake, but based on the high proportion of bluegills in the smaller length classes and Bass Lake's reputation for having slow-growing panfish, we suspect bluegill growth rate is below average. This can happen when largemouth bass fail to consume enough young bluegills to minimize competition among them for food. Thick aquatic vegetation provides escape cover for young sunfishes and reduces the effectiveness of predators to control bluegill abundance. Continually stocking large walleye fingerlings (effective predators of young bluegill), could serve to control abundance and improve the size structure of the bluegill population while providing a bonus fishery for walleye, but it's unlikely that a self-sustaining walleye population could become established in a fish community dominated by largemouth bass.

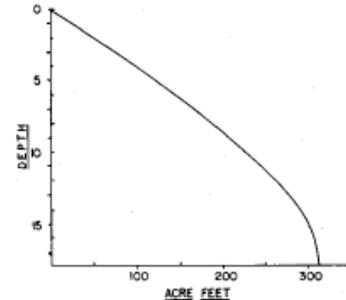
We also captured white sucker, golden shiner, yellow bullhead, black crappie, pumpkinseed, yellow perch, and central mudminnow. Though we cannot infer their population status from our electrofishing survey, the availability of so many species of fish that are suitable or even preferred food of largemouth bass may divert predatory pressure away from the bluegill population where more effective predation is needed.

Survey data collected and analyzed by: Kendal Patrie, Rebecca Pawlak, Greg Rublee, and Jeff Scheirer—
WDNR Fishery Team, Park Falls.

Written by: Jeff Scheirer—Fishery Biologist, December 19, 2012.

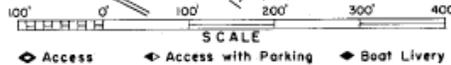
Edited by: Dave Neuswanger—Hayward Field Unit Supervisor, April 15, 2013.

Approved for web posting by: Steve Avellemant—Northern Administrative District Supervisor,
11/07/13



B.M. "X" is a railroad spike in the base of a double Trunked oak tree located 10' S. of $\frac{1}{2}$ of public access on west side of lake and 15' W. of water's edge. Assumed elevation = 100.00' Water level = 97.17'

EQUIPMENT	RECORDING	SONAR	MAPPED	JUNE	1977
TOPOGRAPHIC SYMBOLS			MONTH	YEAR	LAKE BOTTOM SYMBOLS
(B) Brush	() Steep slope	P. Peat			B Boulders
(PW) Partially wooded	(---) Indefinite shoreline	Mk. Muck			⚡ Stumps & Snags
(W) Wooded	(---) Marsh	C. Clay			⚡ Rock danger to navigation
(C) Cleared	(---) Spring	M. Marl			T Submergent vegetation
(P) Pastured	(---) Intermittent stream	Sd. Sand			L Emergent vegetation
(A) Agricultural	(---) Permanent inlet	St. Silt			△ Floating vegetation
B.M. Bench Mark	(---) Permanent outlet	Gr. Gravel			⚡ Brush shelters
(D) Dwelling	(---) Dam	R. Rubble			
(R) Resort	(---) D.N.R. State owned land	Bc. Bedrock			
(C) Camp					



Drawn by: R. Williams
Field work by: J. C. Busch, K. Cable, L. Sather

SPECIES OF FISH	Abundant	Common	Present
Muskie			X
N. Pike			X
Walleye			X
L. N. Bass	X		
S. W. Bass	X		
Pontfish	X		
Trout			

WATER AREA	27.0	ACRES
UNDER 3 FT.	11	%
OVER 20 FT.	0	%
MAX. DEPTH	18	FEET.
TOTAL ALK.	40	P.P.M.
VOLUME	314.7	ACRE FT.
MAIN SHORELINE	81	MI.
ISLAND SHORELINE	0	MI.