



Summary of Late-Spring Electrofishing Survey Bass Lake near Timm's Hill, Price County, 2011

On May 23, 2011 WDNR's Fisheries Management Team from Park Falls completed an electrofishing survey to assess the fish community in Bass Lake near Timm's Hill County Park, Wisconsin's highest point. We directed our effort toward largemouth bass and bluegill, but our survey also gave us insight on the status of pumpkinseed, northern pike, black crappie, and yellow perch populations. We sampled the entire shoreline (0.82 mile) in 0.6 hour, including a half mile sub-sampled for panfish in 0.33 hour. Quality and preferred 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

Twenty-acre Bass Lake, the southern-most of five Price County lakes sharing the name, is a softwater lake whose water level is maintained by groundwater seepage and an intermittent discharge via wetlands to Alcohol Creek. Maximum depth is 33 feet, but records show pronounced thermal stratification with mid-summer dissolved oxygen levels below one part per million at depths greater 14 feet. Excellent water clarity allows rooted aquatic plants to grow in moderate abundance at depths exceeding 10 feet in the fine-grained substrate around most of the shoreline, and dense stands of watershield hinder navigation at the boat access. Maturing conifers and upland hardwoods on undeveloped shorelands held entirely in public ownership assure a reliable source of submerged woody structure—an essential component of healthy lake ecosystems.

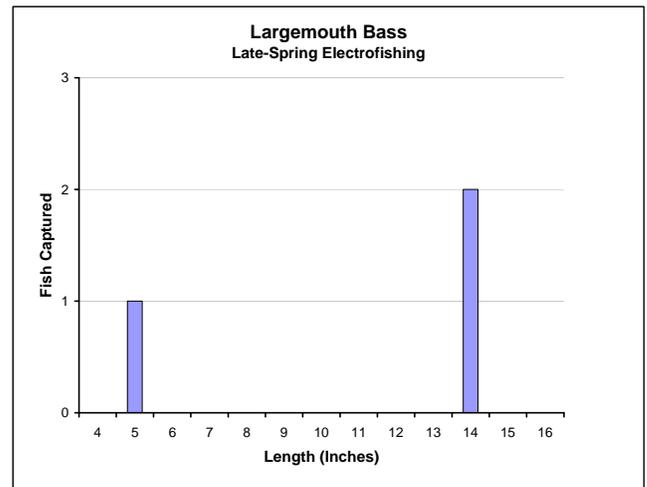
Summary of Results

With water temperature 63 – 64°F, our late May survey was well-timed to represent the relative abundance and size structure of largemouth bass and bluegill populations during their early spawning activities. Despite high water transparency, ample woody cover, and moderate plant density (conditions that should favor sight and ambush predators), our electrofishing capture rates portray an imbalanced predator-prey relationship in which largemouth bass and northern pike at very low population densities are ineffective in controlling panfish numbers by predation. Abundant, slow-growing (presumed) bluegill and pumpkinseeds compete for food in short supply and simply do not live long enough to attain desirable size—we found no bluegill longer than 6 inches. With low fishing pressure and negligible angler harvest (presumed), we suspect low nutrient concentrations (presumed) responsible for excellent water clarity limit algae and plankton production, which in turn affects growth in panfish populations. Bass Lake's susceptibility to overwinter oxygen depletion may explain why opportunistic bass and pike are scarce while suitable food is plentiful. Perch and crappie, often poorly represented in spring electrofishing samples, may be more common than indicated. Young walleye (if introduced and maintained by stocking fingerlings 2 – 2½ inches long) may eat enough panfish to reduce abundance and improve size structure of bluegill and pumpkinseed populations. However, walleye would probably not thrive in Bass Lake, given its clear water, muck-detritus substrate, summertime thermal stratification, and history of winterkill. An alternative strategy to resume stocking yearling rainbow trout for an annual put-and-take fishery could serve to diversify recreational opportunities at this tourist destination, though we have no indication of popular demand.

Largemouth Bass



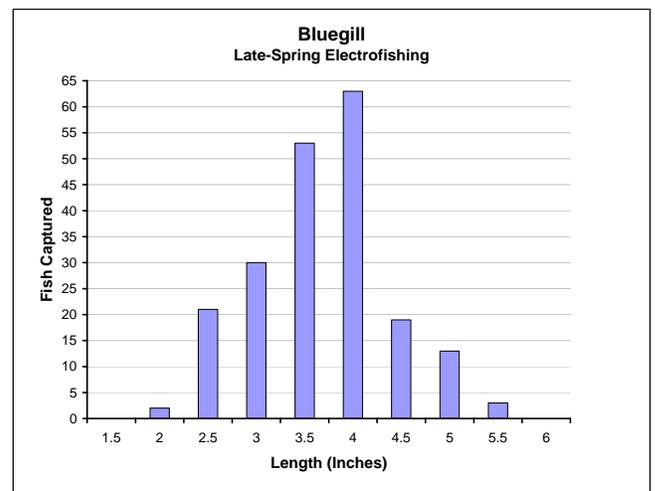
Captured 2.4 per mile or 3.3 per hour $\geq 8''$	
Quality Size $\geq 12''$	100%
Preferred Size $\geq 15''$	0%
Memorable Size $\geq 20''$	0%



Bluegill



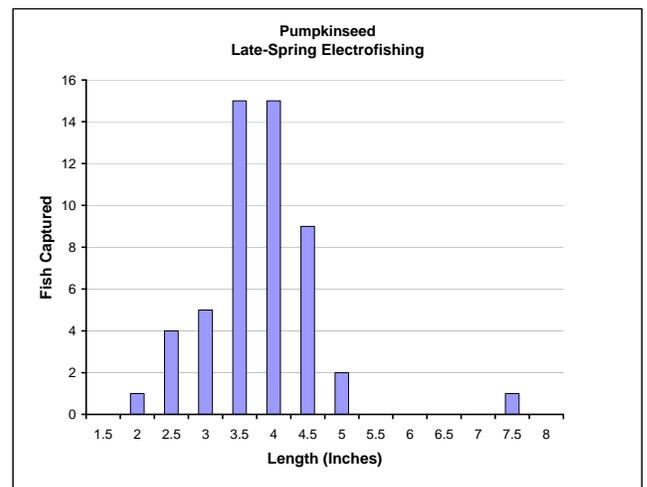
Captured 362 per mile or 548 per hour $\geq 3''$	
Quality Size $\geq 6''$	0%
Keeper Size $\geq 7''$	0%
Preferred Size $\geq 8''$	0%



Pumpkinseed



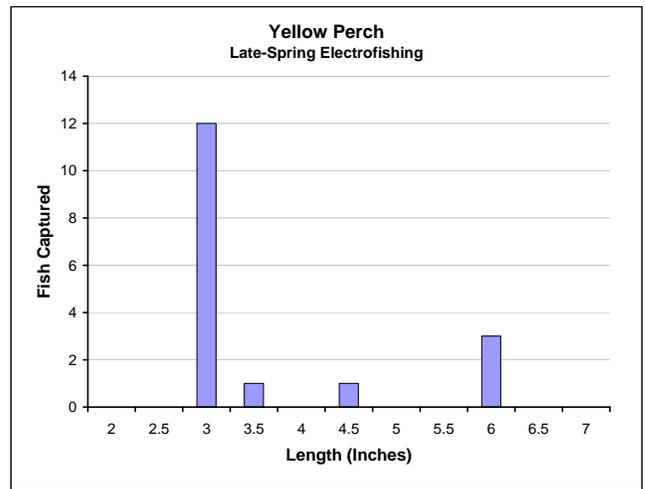
Captured 94 per mile or 142 per hour $\geq 3''$	
Quality Size $\geq 6''$	2%
Keeper Size $\geq 7''$	2%
Preferred Size $\geq 8''$	0%



Yellow Perch



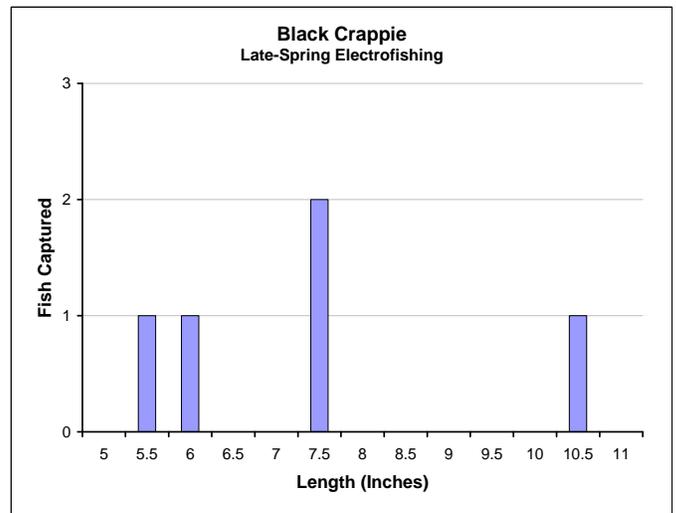
Captured 6.0 per mile or 9.1 per hour $\geq 5''$	
Quality Size $\geq 8''$	0%
Preferred Size $\geq 10''$	0%
Memorable Size $\geq 12''$	0%



Black Crappie



Captured 10 per mile or 15 per hour $\geq 5''$	
Quality Size $\geq 8''$	20%
Preferred Size $\geq 10''$	20%
Memorable Size $\geq 12''$	0%



Northern Pike



Captured 3.7 per mile or 5.0 per hour $\geq 14''$	
Quality Size $\geq 21''$	67%
Preferred Size $\geq 28''$	0%

