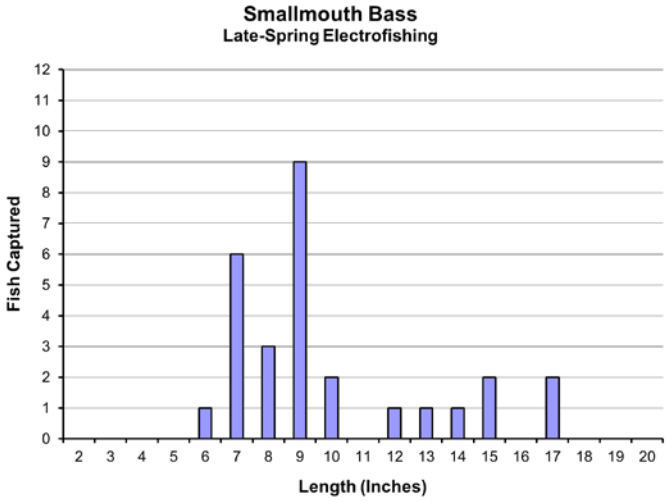
# Late-Spring Electrofishing Survey Summary
# Sand Lake, Sawyer County, 2012

The Hayward DNR Fisheries Management Team conducted an electrofishing survey on Sand Lake on June 5 as part of our baseline monitoring program. A total of 4 miles of shoreline was sampled (1 mile sub-sampled for panfish). Primary target species were smallmouth bass, largemouth bass, and bluegill. We also obtained useful data on the status of juvenile walleye. 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.

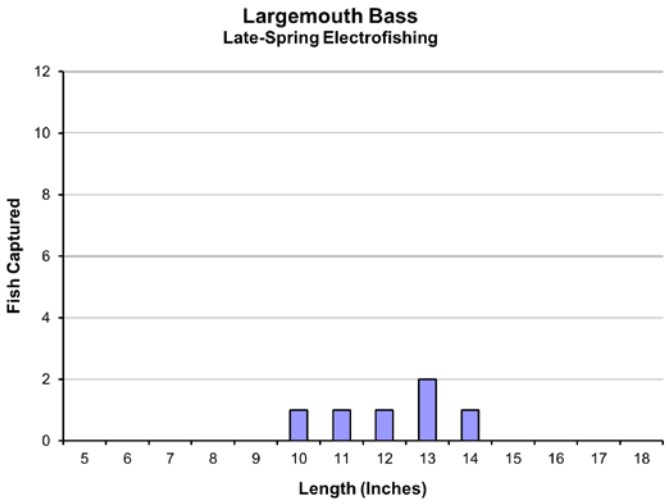
## Smallmouth Bass

| Captured 7 per mile ≥ 7” | |
|---|---|
| Quality Size ≥ 11” | 26% |
| Preferred Size ≥ 14” | 19% |
| Memorable Size ≥ 17” | 7% |



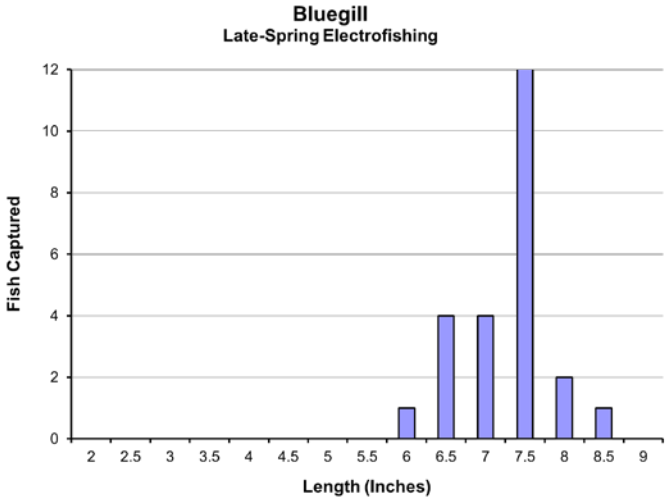

## Largemouth Bass

| Captured 2 per mile ≥ 8” | |
|---|---|
| Quality Size ≥ 12” | 67% |
| Preferred Size ≥ 15” | 0% |



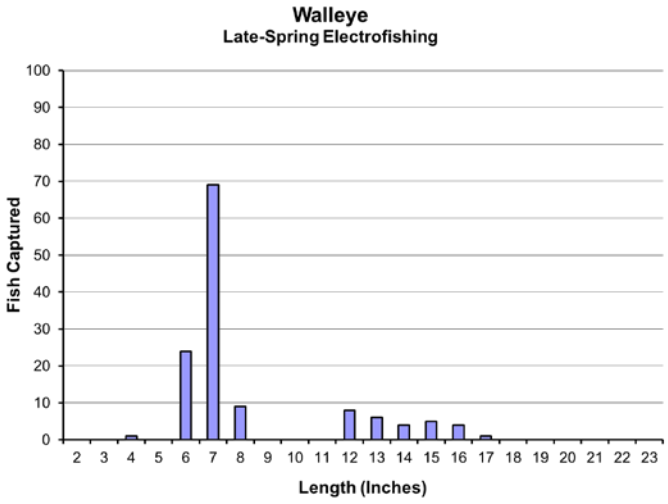
**Bluegill**

| Captured 25 per mile ≥ 3” | |
|---|---|
| “Keeper” Size ≥ 7” | 80% |
| Preferred Size ≥ 8” | 12% |




Walleye

| Captured 26 per mile <10 ” |
|---|




## Summary of Results

Water temperature at the time of this survey was 66°F, appropriate for sampling spawning bass and pre-spawn bluegill. Electrofishing effort was spread throughout the lake and covered a variety of habitat types. The north side of the lake had predominantly sandy substrate with little woody or vegetative cover; considerably fewer fish were sampled there than on the south side of the lake, which had more stumps and aquatic vegetation.

Smallmouth bass were found in relatively low numbers, possibly because predation by abundant walleye is very efficient in lakes with few areas of rock cobble where young smallmouth bass prefer to hide. The smallmouth population was dominated by smaller individuals. Growth rate and maximum size of smallmouth in Sand Lake are likely limited by the prey base. Smallmouth bass prefer to eat crayfish, which do not seem abundant in Sand Lake due to a scarcity of rocky substrate.

Largemouth bass were found in trace numbers. While many other lakes in the area have experienced a decrease in walleye abundance concurrent with an increase in largemouth bass abundance, Sand Lake has remained a walleye-dominant system. Because of their abundance and effectiveness as predators, walleye are likely limiting natural recruitment of both bass species as well as panfish – a pattern that has been observed in other area lakes with deep, clear water and few aquatic plants.

Bluegills were found in low numbers with a relatively high proportion of keeper-size fish. The fast growth that appears to be present in the population is likely made possible by the presence of a dense walleye population that continually thins the number of small bluegill, preventing "stunting" from occurring. The relatively low population of keeper-size fish renders this population vulnerable to angler over-harvest under a liberal daily bag limit of 25 panfish.

We also sampled many young walleyes 6 to 8 inches long. These fish were just over one year old, providing evidence of strong natural reproduction of walleye in 2011 at Sand Lake, which has not been stocked since the restoration project was completed.

Report by Max Wolter – Fisheries Biologist, Sawyer County
Data compiled by Scott Braden – LTE Fisheries Technician
Reviewed by Approved by Dave Neuswanger – Fisheries Supervisor, Hayward Field Unit