

Largemouth Bass - *Micropterus salmoides*

(Primary Species in Your Pond)

Species Overview:

Largemouth bass are the most sought-after freshwater gamefish in the United States, and regularly reach trophy size (7 to 15 lbs.) Largemouth bass belong to a group of fish collectively called black bass. Other black bass found in North Carolina include the smallmouth and spotted bass. All black bass belong to the sunfish family, but are distinguished from other sunfish by their elongated bodies. The largemouth bass is a native species of North Carolina. Largemouth bass prefer temperatures between 77 and 86 degrees. Bass seldom feed at temperatures below 50 degrees and cannot survive for long at temperatures above 98 degrees.

The largemouth bass prefers habitat with lots of structure. This structure may be in the form of weed beds, sunken logs, rocks, brush and standing timber. It uses structure as cover for ambush sites and to hide from larger predators. Largemouth bass spawning begins when the water reaches 63 to 68 degrees and remains in this temperature range for several days. A female largemouth bass lays between 2,000 and 7,000 eggs per pound of body weight.

Fisheries Stock Assessment:

Hook and line sampling revealed the pond to be essentially a bass and bluegill fishery, with a few other species present in significant numbers. A total of 42 largemouth bass were collected. The expanded CPUE (Catch Per Unit of Effort) for largemouth bass was 12.5 bass/hr. The majority of the bass sampled were in the 8 to 14 inch range and the average weight of all the bass sampled was 1.6 pounds. Our survey shows possible stunting is occurring in your pond, coupled with a lack of adequate forage. The number of 3 to 5 inch bluegill and other forage was found to be low. Balance will best occur with a balanced natural aquatic ecosystem stocking should take place, providing more ideal-size food for the bass going into their next of growth and beyond. This often results in weight gains of up to 2 pounds for bass during the second year after stocking.

Recommendations:

Our recommendations to increase the size of bass and bluegill in the pond are as follows. An initial forage stocking consisting of fathead minnows and small bluegill. Triploid grass carp would also be a great species to stock since they act as a biological control agent and will significantly reduce the amount of nuisance/invasive vegetation. Installing a fish feeder and several artificial habitats to create an ideal habitat, provide forage cover, and improve fish growth.

- Stock 40 lb. Fathead Minnows
- Stock 10 Triploid Grass Carp
- Stock 2500 2"-3" Bluegill
- Install 10 Artificial Fish Habitats
- Install Fish Feeder

Sample Pond Profile



Sampling of Bass



Sampling of Bluegill

Your Species%

Largemouth Bass = 40%

Forage Bluegill = 10%

Large Bluegill = 50%

Crappie = 20%

Minnows = 30%

Catfish = 10%

% based on survey & and samplings done at the time of lake profile and are accurate to the best of our abilities, using the most efficient data collection methods we have available.



Sampling of Crappie

Sample Pond Profile

Water Chemistry

Water alkalinity is a measure of the concentration of bases in a solution or the ability to neutralize acids in water. It can also be referred to as the buffering capacity of water. Examples of bases are carbonates, bicarbonates, magnesium bicarbonate, ammonia, borates, phosphates, silicates, and organic bases. For all practical purposes, carbonates and bicarbonates are the main contributors to the alkalinity of water. Water that is called alkaline has a pH is greater than 7 and it is said to have high alkalinity if its base concentration is high. Ponds with acidic waters (water having a low pH value) are common in many areas of North Carolina. Fishing will be poor if the pH is below 6.0. A pH value between 6.5 and 9.0 is considered optimum for fish ponds.

Dissolved oxygen analysis measures the amount of gaseous oxygen (O₂) dissolved in an aqueous solution. Oxygen gets into water by diffusion from the surrounding air, by aeration (rapid movement), and as a waste product of photosynthesis. Adequate dissolved oxygen is necessary for good water quality. Oxygen is a necessary element to all forms of life. Natural stream purification processes require adequate oxygen levels in order to provide for aerobic life forms. As dissolved oxygen levels in water drop below 5.0 mg/l, aquatic life is put under stress. The lower the concentration, the greater the stress. Oxygen levels that remain below 1-2 mg/l for a few hours can result in large fish kills. 8 to 10 ppm dissolved oxygen is ideal for North Carolina ponds.

Recommendations

The results from our water chemistry panel show the pH level in your pond to be low and acidic, along with a slightly lower dissolved oxygen content. Having poor water quality in a fish pond means the overall fish production is slowed. Liming is an important method for correcting many of these water quality issues, as well as helping to improve fish productivity. Adding lime helps stabilize the pH of mud on the bottom and increases the phosphorus content, necessary for fish growth and reproduction. The best way to fix the problem of low dissolved oxygen is through aeration. Installing an aeration system or a fountain would increase the dissolved oxygen in the pond and implementing a beneficial bacteria program would help with the breakdown of organic materials.

- Lime Treatment
- Pond Maintenance Service
- Aeration System or Fountain
- Beneficial Bacteria Program

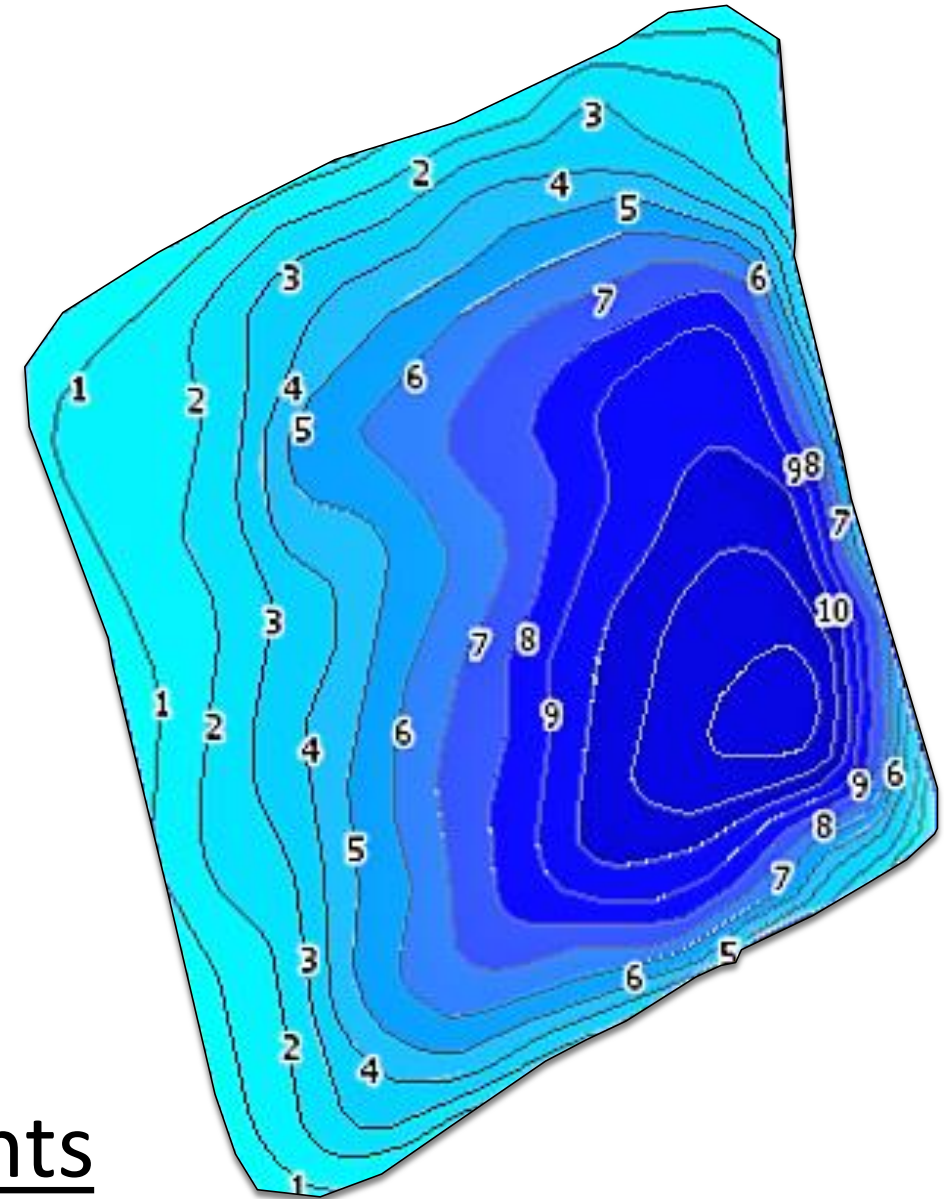
Your Levels

Ph Level = 6.4
Alkalinity Level = 20 ppm
Dissolved Oxygen Level = 7 ppm
Phosphate = 0.3 ppm
Nitrate = 0.15 ppm
Copper = 0.05 ppm
Water Temp = 46.8°F
Average Depth = 6.21'

Your Plants

Soft Rush = 5%
Willows = 10%
Bottom Filamentous Algae = 10%
Buttonbush = 2%

% reflect total coverage, all listed plants should be < 5% except Soft Rush which is a beneficial aquatic plant.
% based on average of sampling of at least 64 points on your pond at the time of profile

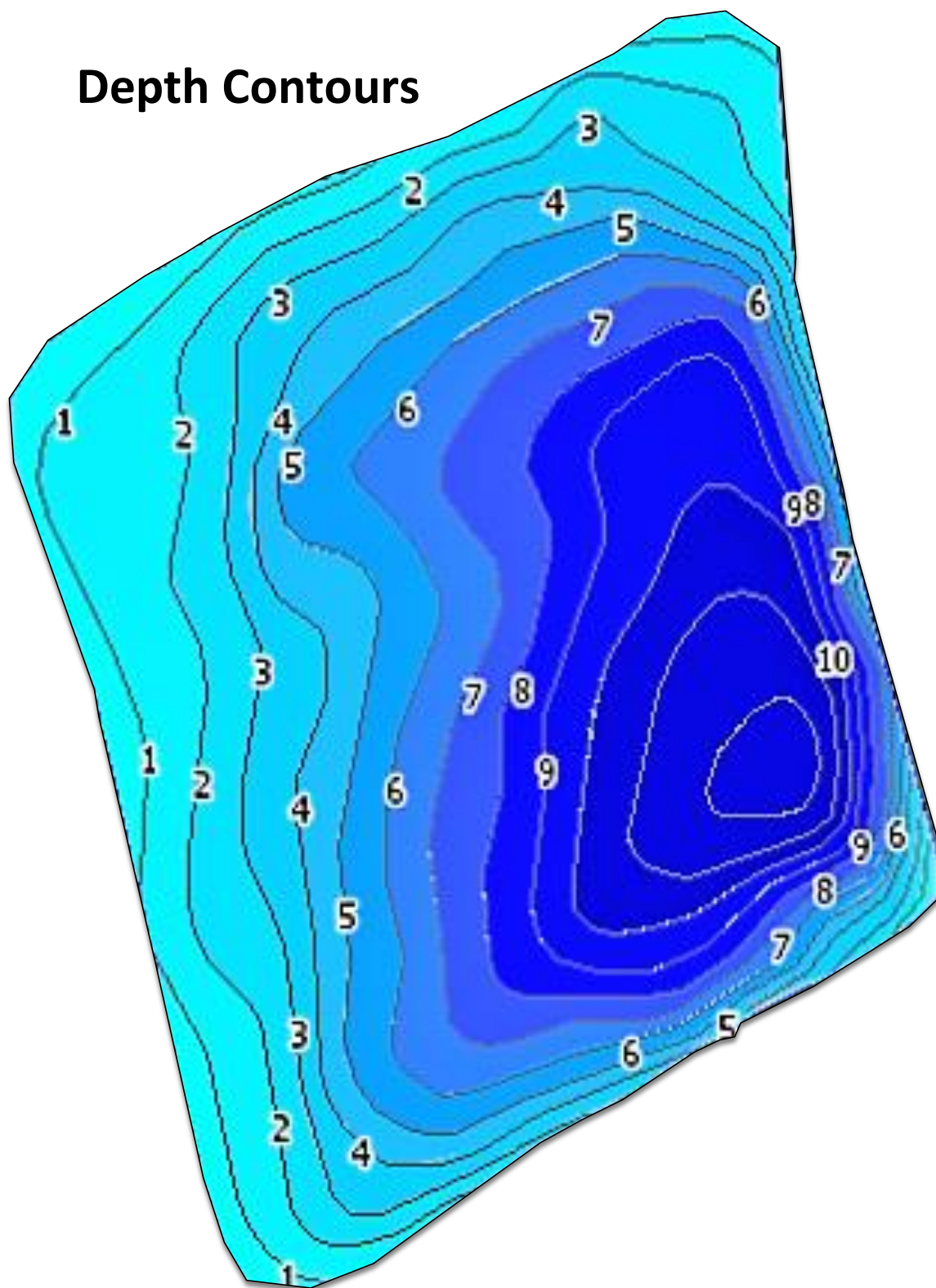


Approx. 2.79 acres
Approx. 1,456 per feet

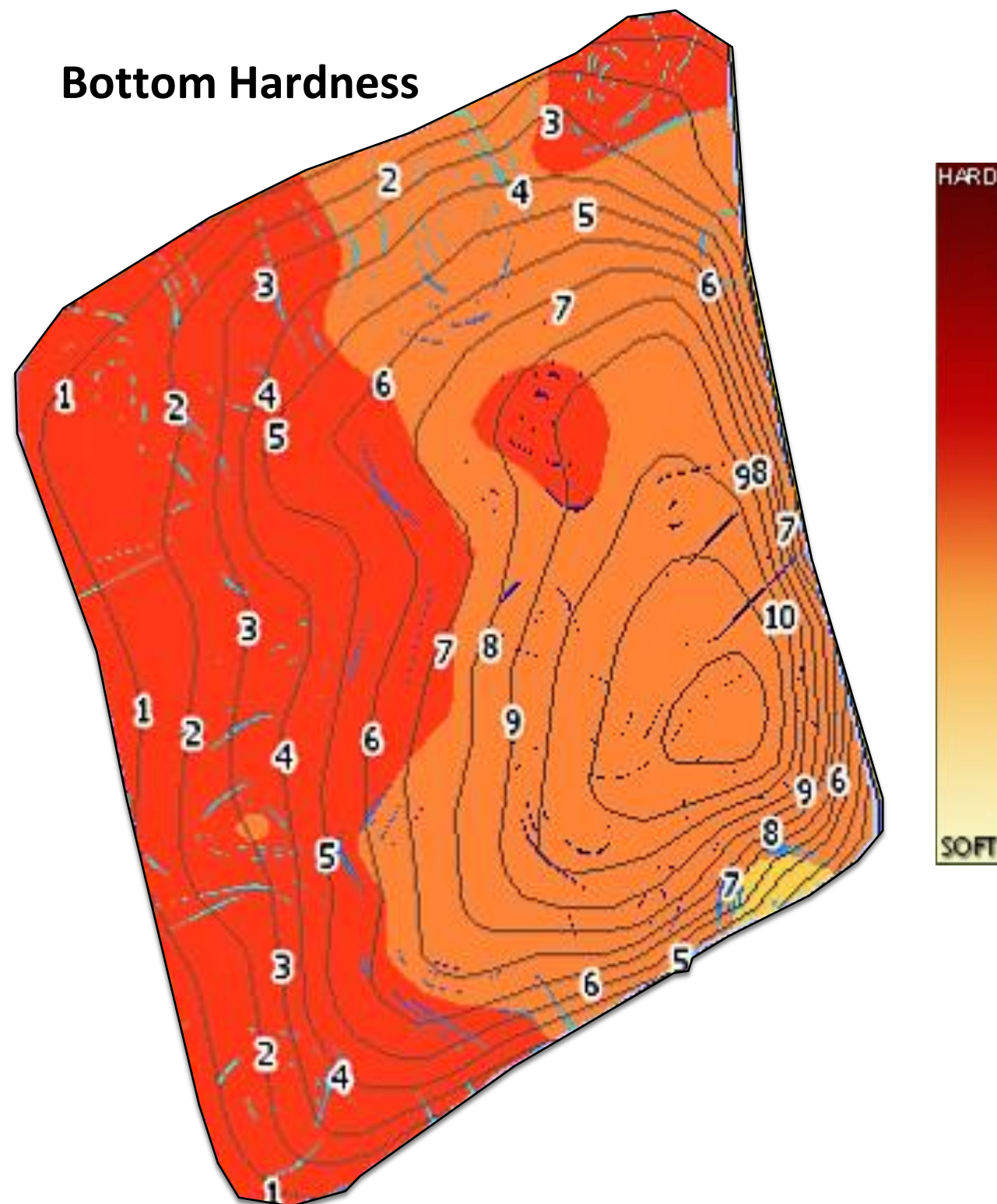
measurements based on satellite images.

Sample Pond Profile Contour Maps

Depth Contours



Bottom Hardness



Sample Pond Profile Artificial Habitat Placement

