

Moosic Lake Fishery Survey

On September 6, 2007, **Ecological Solutions, Inc. (ECS)** conducted a fishery survey in Moosic Lake and the Little Lake. Both of these lakes are located in the community of Moosic Lake. The purpose of the study was to evaluate the quality of the fishery in both lakes in order to make recommendations on how to manage these resources in the future. A brief summary of our findings is presented below.

Moosic Lake

The water quality of Moosic Lake is exceptional, and as a result this limits the quality of the fishery that can be maintained. Typically lakes that maintain better fisheries have poorer water clarity and more vegetative cover. Lack of vegetation and the exceptional water clarity affects the abundance of forage species, increases juvenile mortality, and causes the fishery to become unbalanced. Therefore, ECS recommends that the harvest rates be reduced and a stocking program be initiated to increase the abundance of desired fish species. In addition, artificial habitat should be installed throughout the shallower portions of the lake to provide the much needed cover.

Little Lake

The results of the survey conducted in the Little Lake were much different than what was found in Moosic Lake. The Little Lake has an abundance of aquatic vegetation that has increased the survival of juvenile fish, and as a result the population has become “stunted”. There is an obvious lack of larger predator species and the lake has become over-populated with small yellow perch. Therefore, ECS recommends that the amount of aquatic vegetation be reduced so that approximately 30 to 40 percent of the lake surface area maintains vegetative cover. In conjunction with the aquatic plant control program, largemouth bass should be stocked as the primary predator species. The abundance of small perch will provide more than enough food for the bass, and the bass should grow quickly.

Habitat Survey

As part of the fishery survey conducted in Moosic Lake, **ECS** performed a habitat survey using Habitat Suitability Index (HSI) models developed by the U.S. Fish and Wildlife Service. More specifically, in our study we utilized models developed for largemouth bass, bluegill, yellow perch, black crappie, and walleye. Data sheets generated by the models have been included as an attachment to this report. Scores shown on the data sheets for specific life requisites evaluated range from zero to one, with one being the best possible score. Based upon the results obtained from these models **ECS** has made the following conclusions:

- Habitat in the lake is suitable for largemouth bass. Although habitat for juvenile fish is lacking.

- Bluegill are present in the lake, but the abundance and size of this fish specie is limited by a lack of vegetative cover.
- As is the case in most lakes throughout Pennsylvania yellow perch are abundant. However, the quality of the yellow perch fishery in Moosic Lake is also limited by the lack of vegetation.
- The black crappie should do well in the lake, but low total dissolved solid (TDS) limits the availability of preferred food for this specie.
- A lack of forage species and excellent water clarity limit the lakes ability to maintain a quality walleye fishery.

Stocking Recommendations

Based upon the results of our fishery survey ECS would like to provide you with a few recommendations for this year's fish stocking.

Big Lake

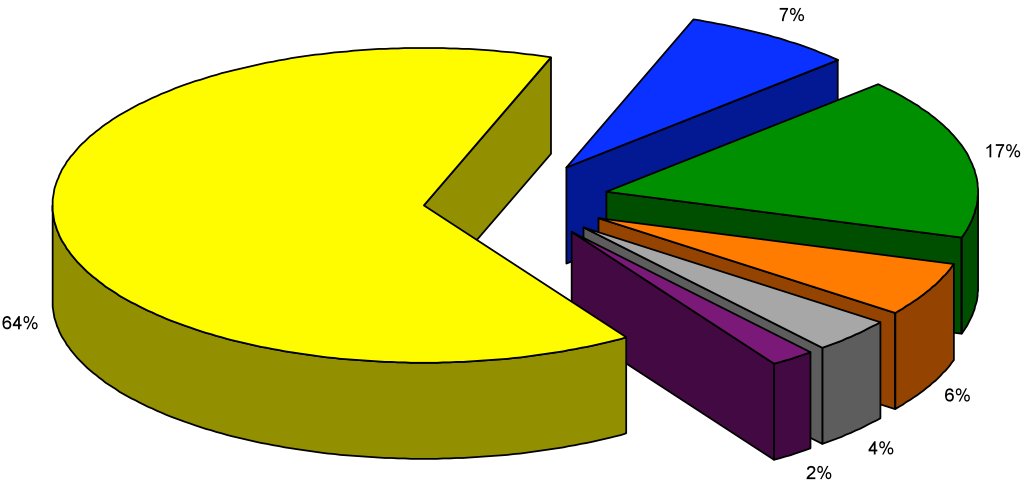
1. Stock smallmouth bass in the 6" to 8" range (100 or more if possible).
2. If a second predator species is desired stock walleye fry. (Optional; and should be continued annually to ensure success).
3. Re-locate juvenile perch from the Little Lake (As many as possible for a cost of \$175.00).
4. If monies remain stock 50 to 100 brown trout.

Little Lake

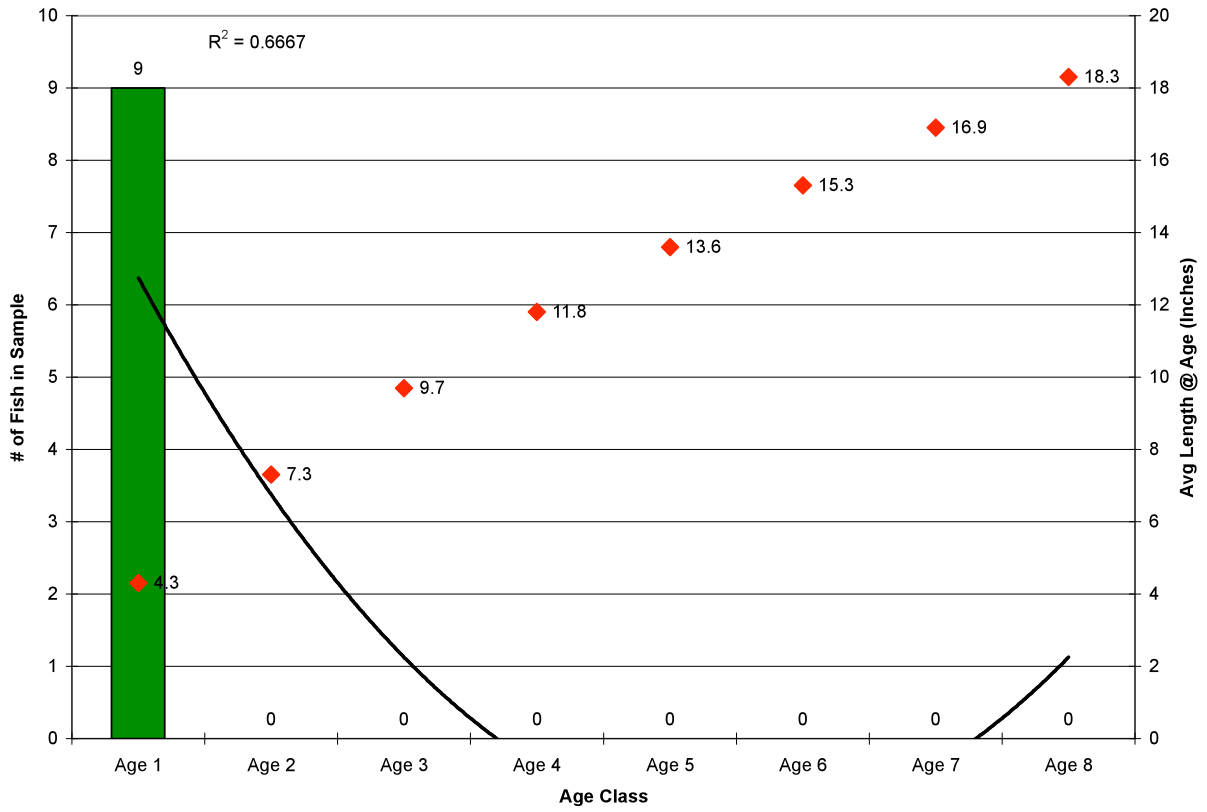
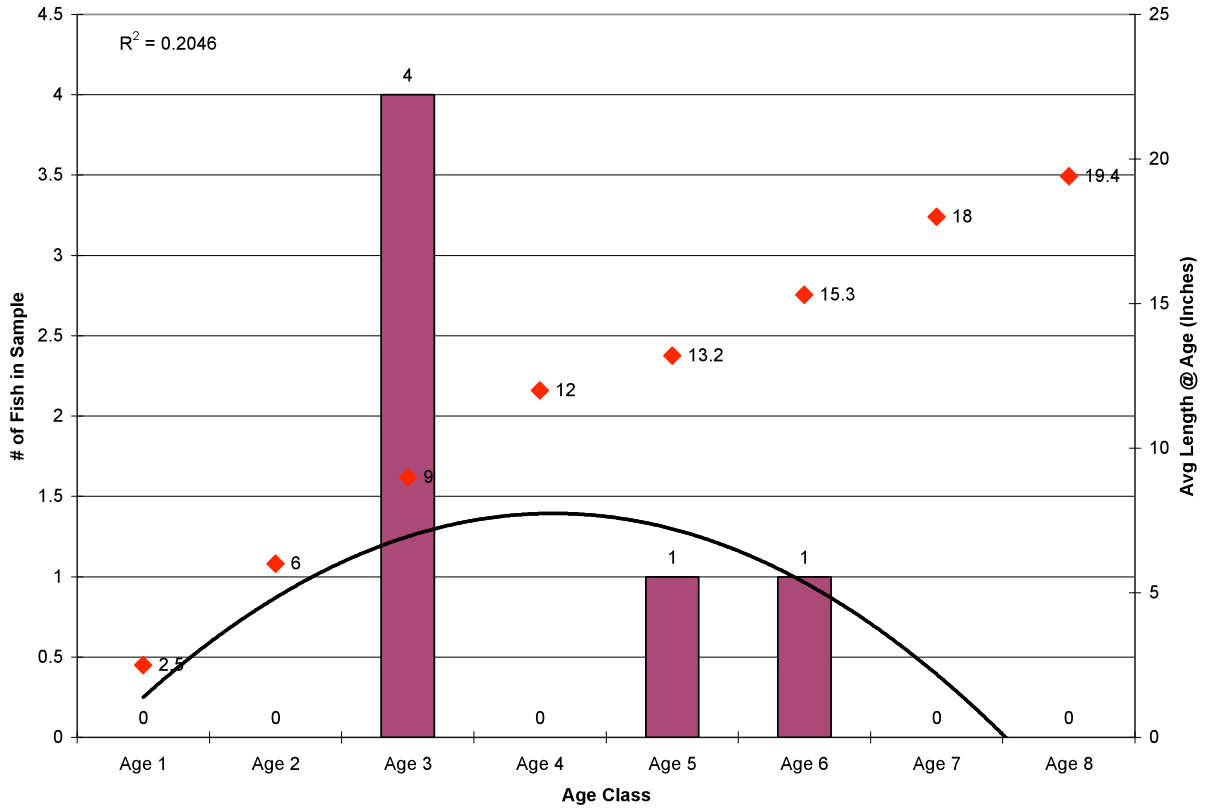
1. If financially possible, stock 20 to 30 10" to 12" inch largemouth bass. The population in this lake is totally out of balance and in need of large predator fish.

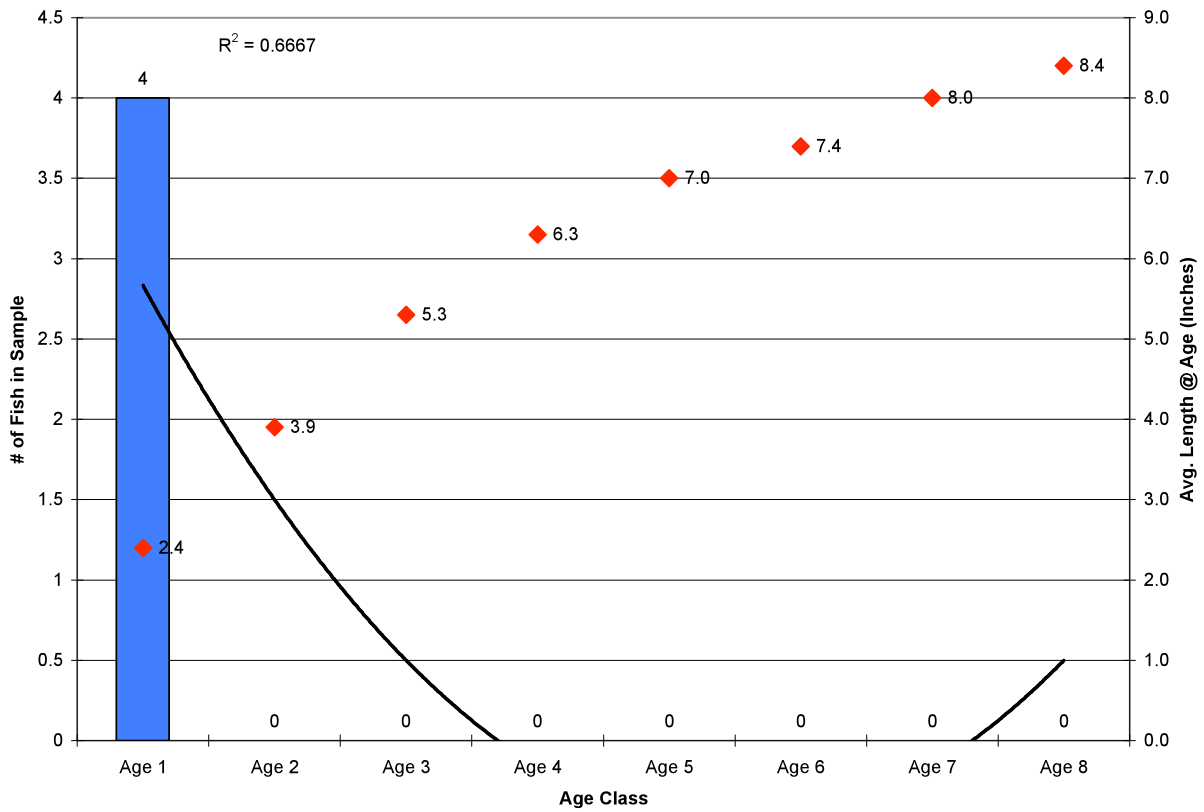
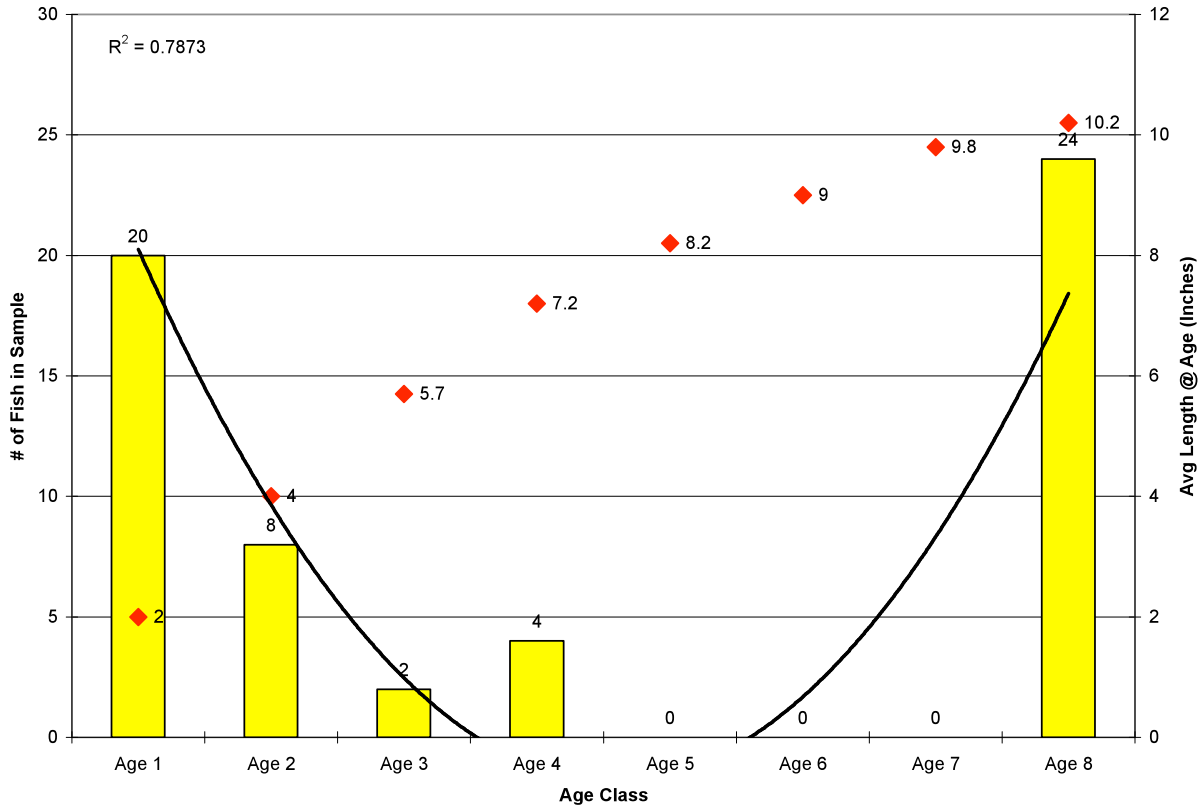
Survey Results for Moosic Lake

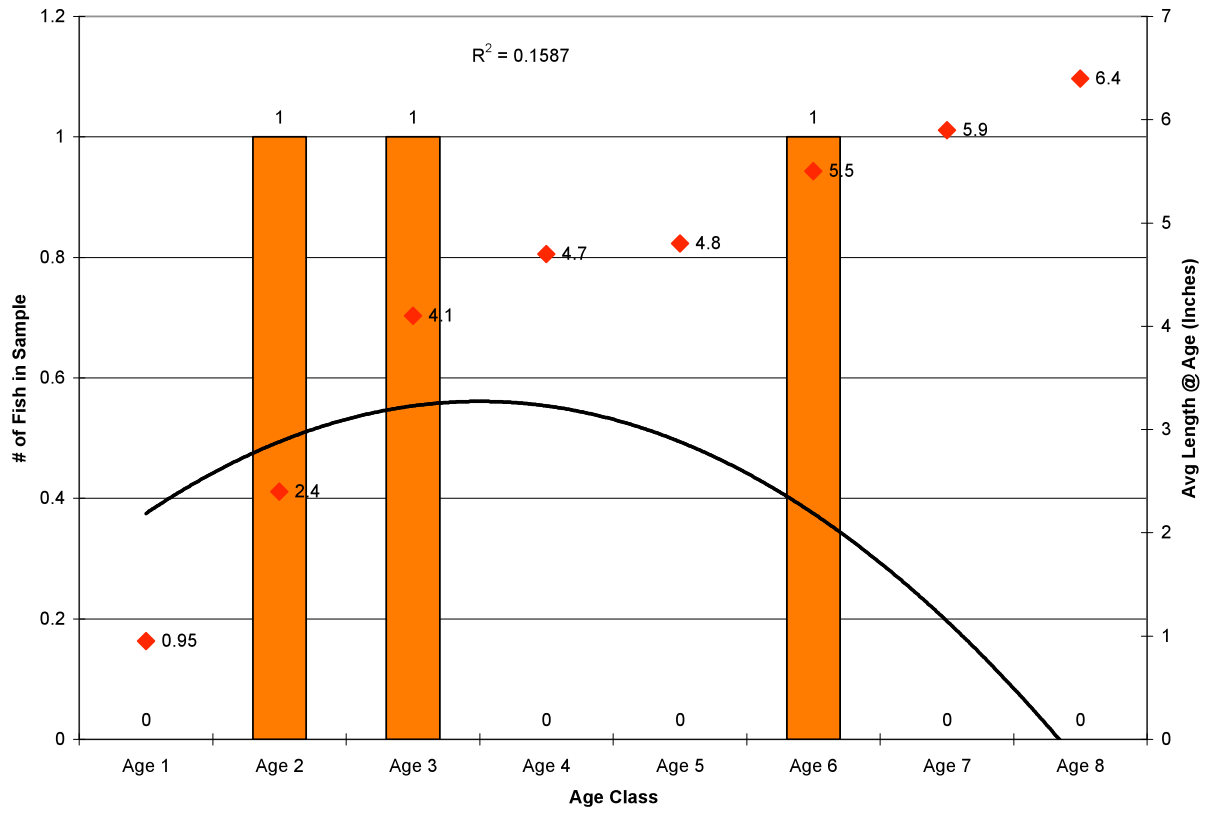
Fish Community Composition (Main Lake)

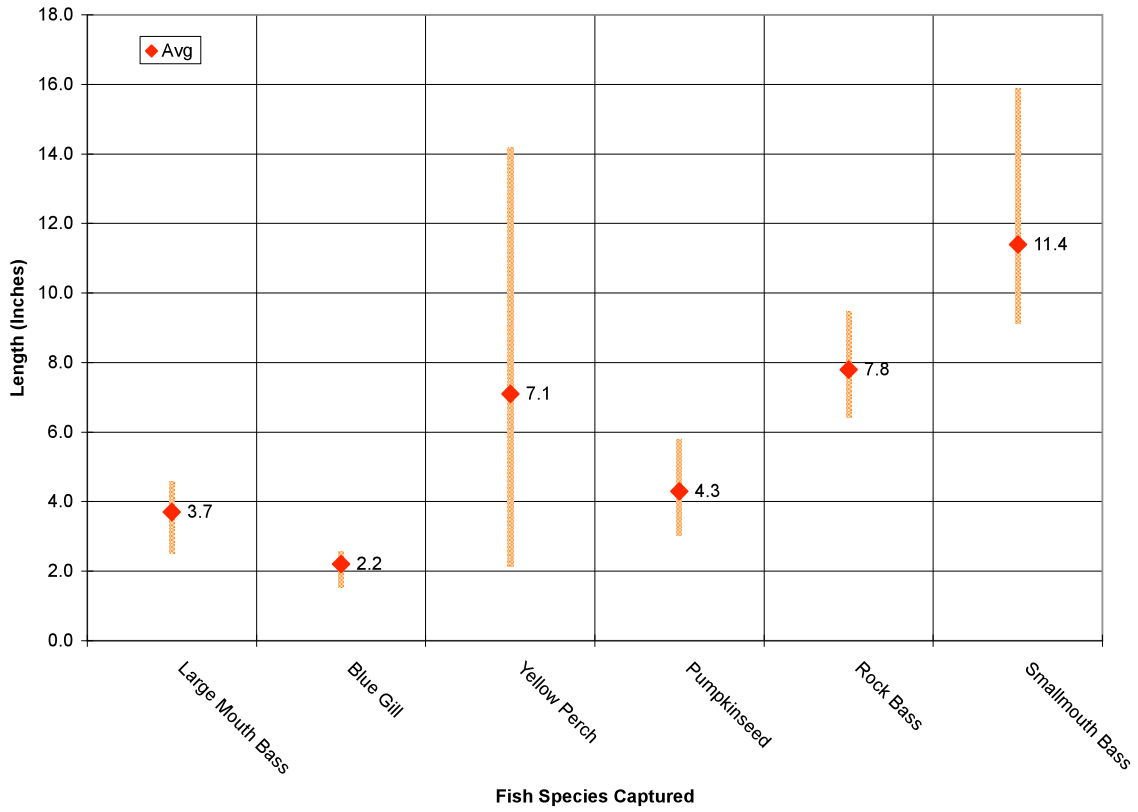
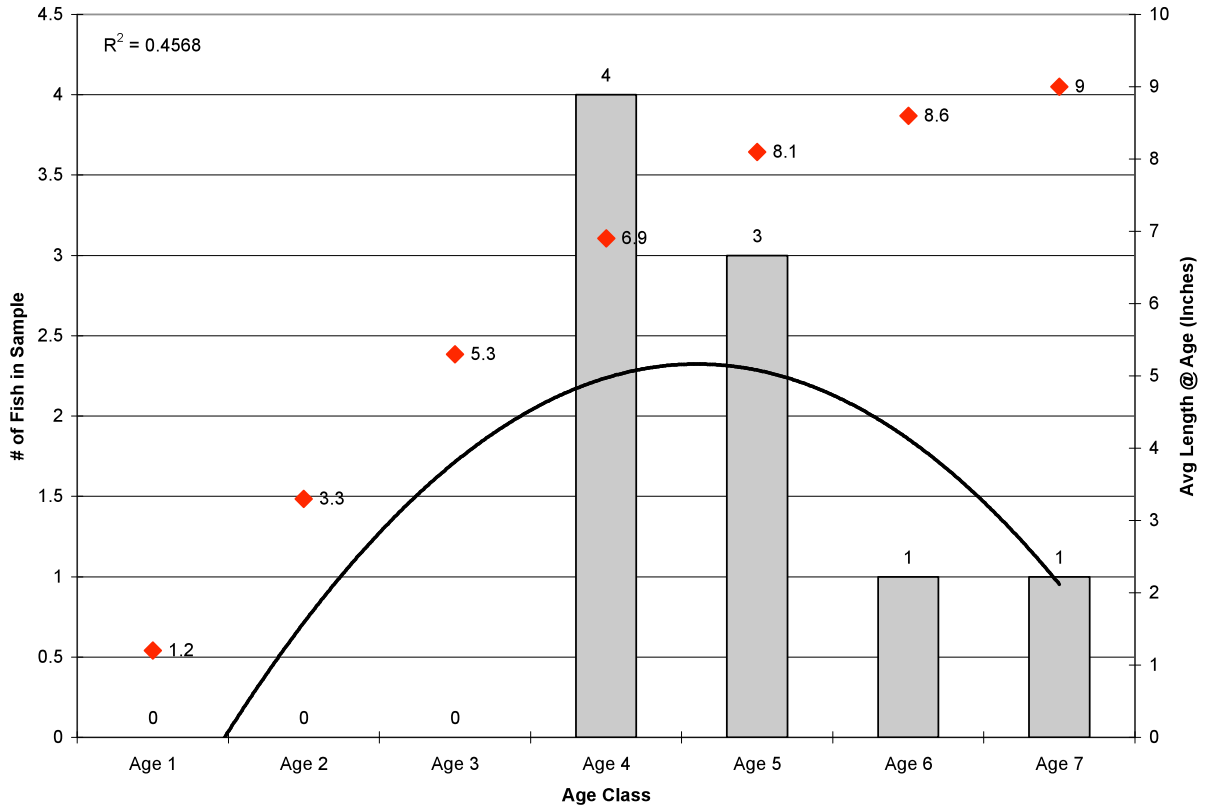


■ Blue Gill	■ Largemouth Bass	■ Pumpkinseed	■ Rock Bass	■ Smallmouth Bass	■ Yellow Perch
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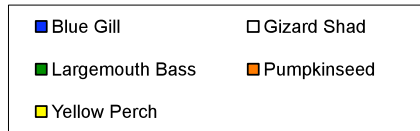
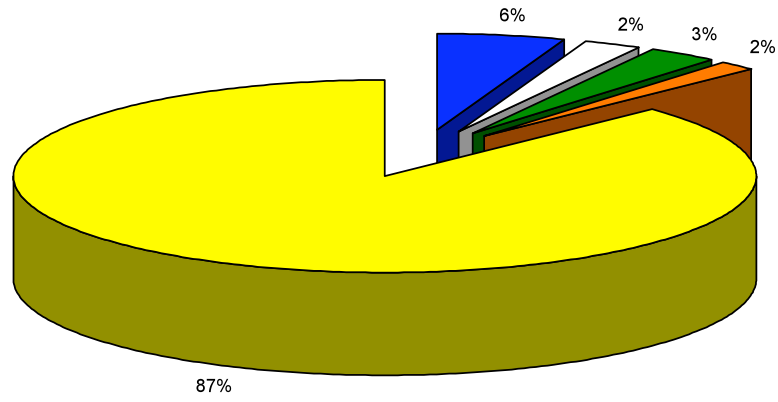


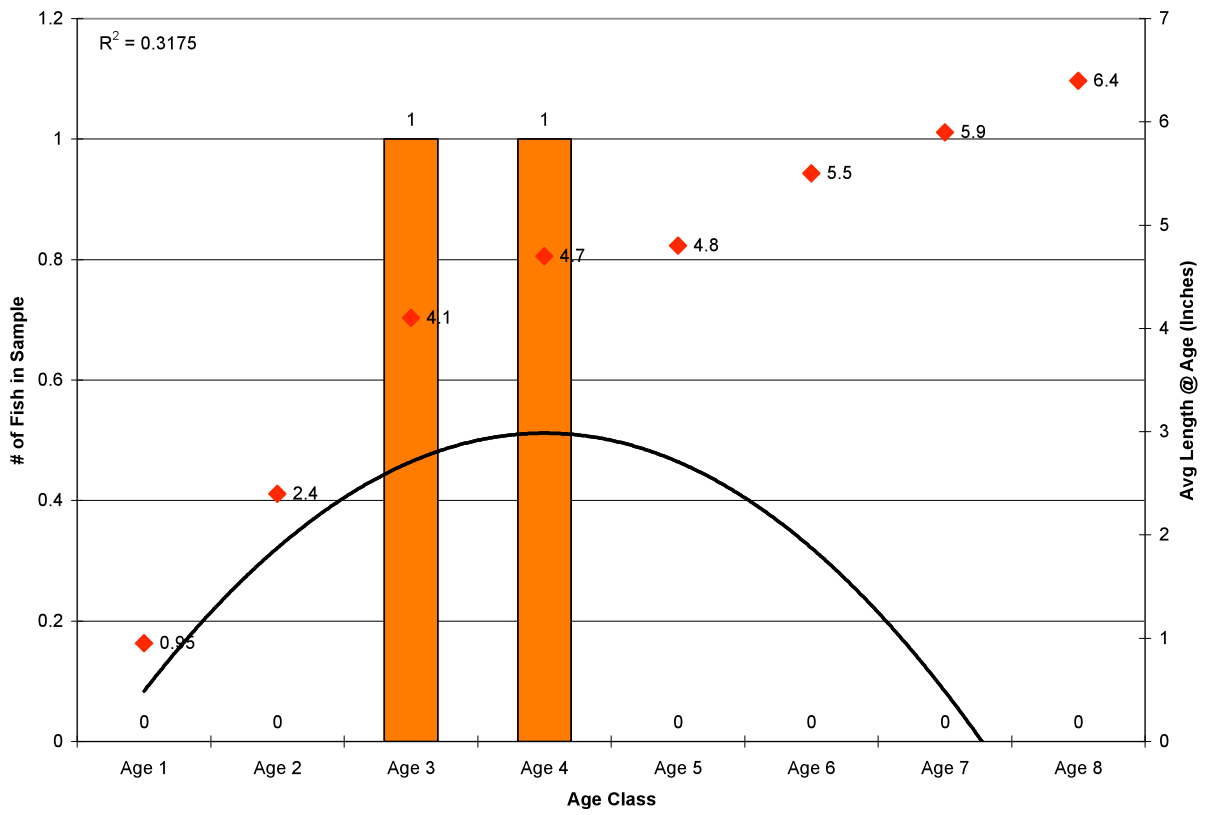
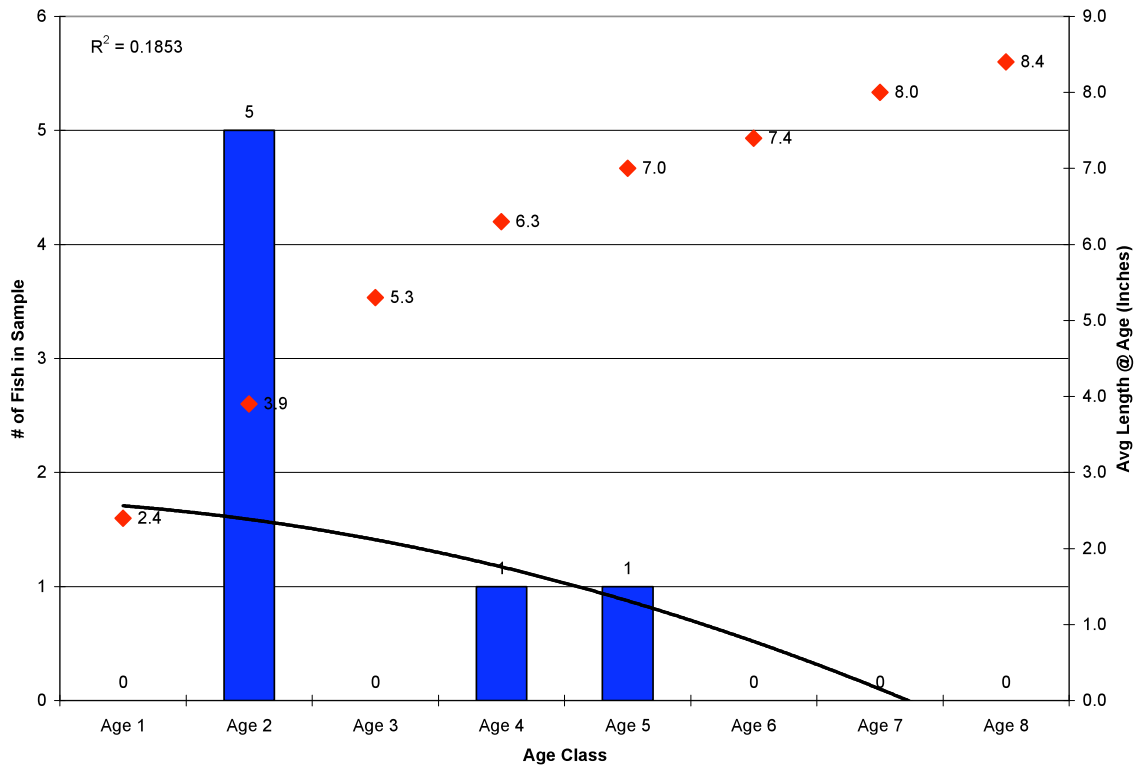


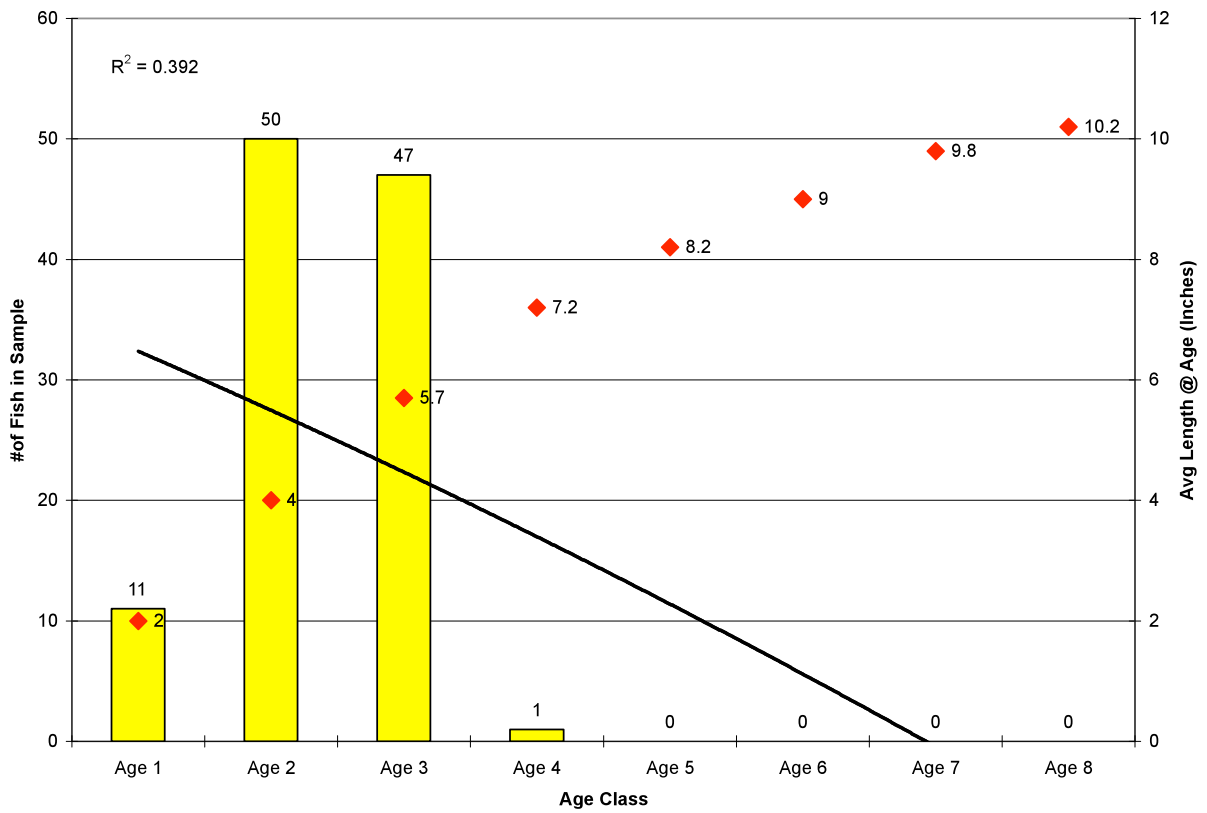


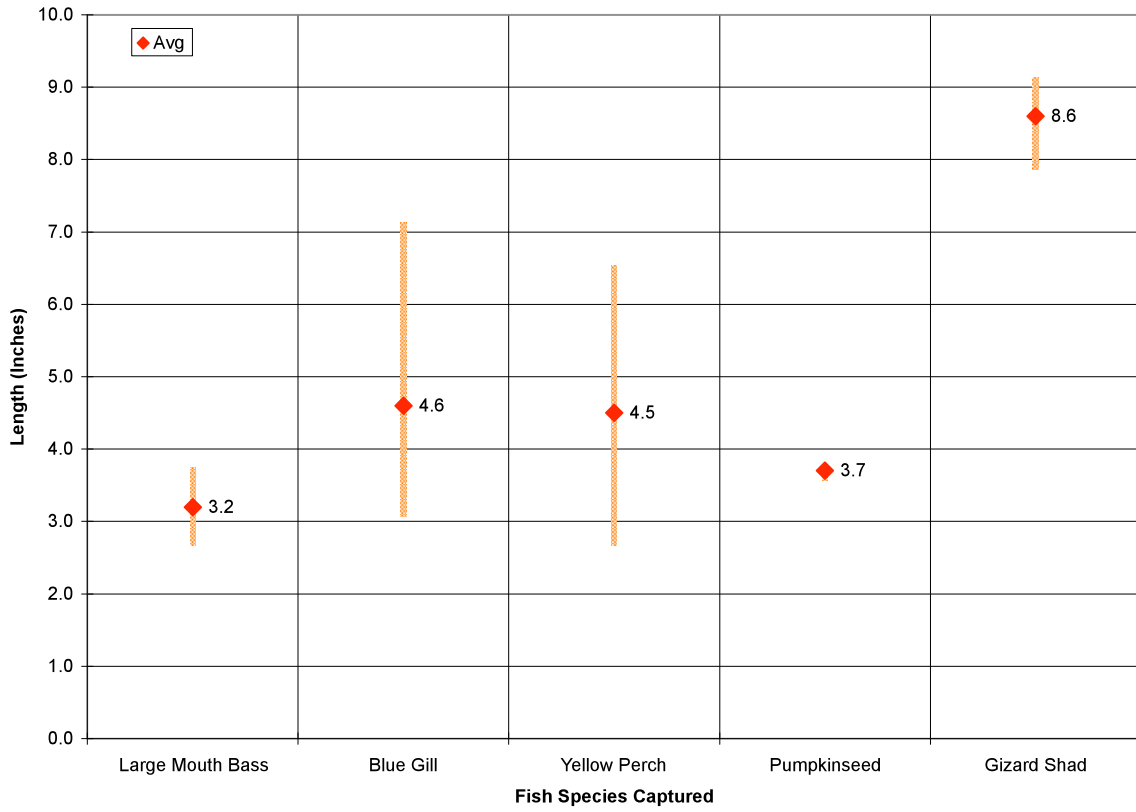
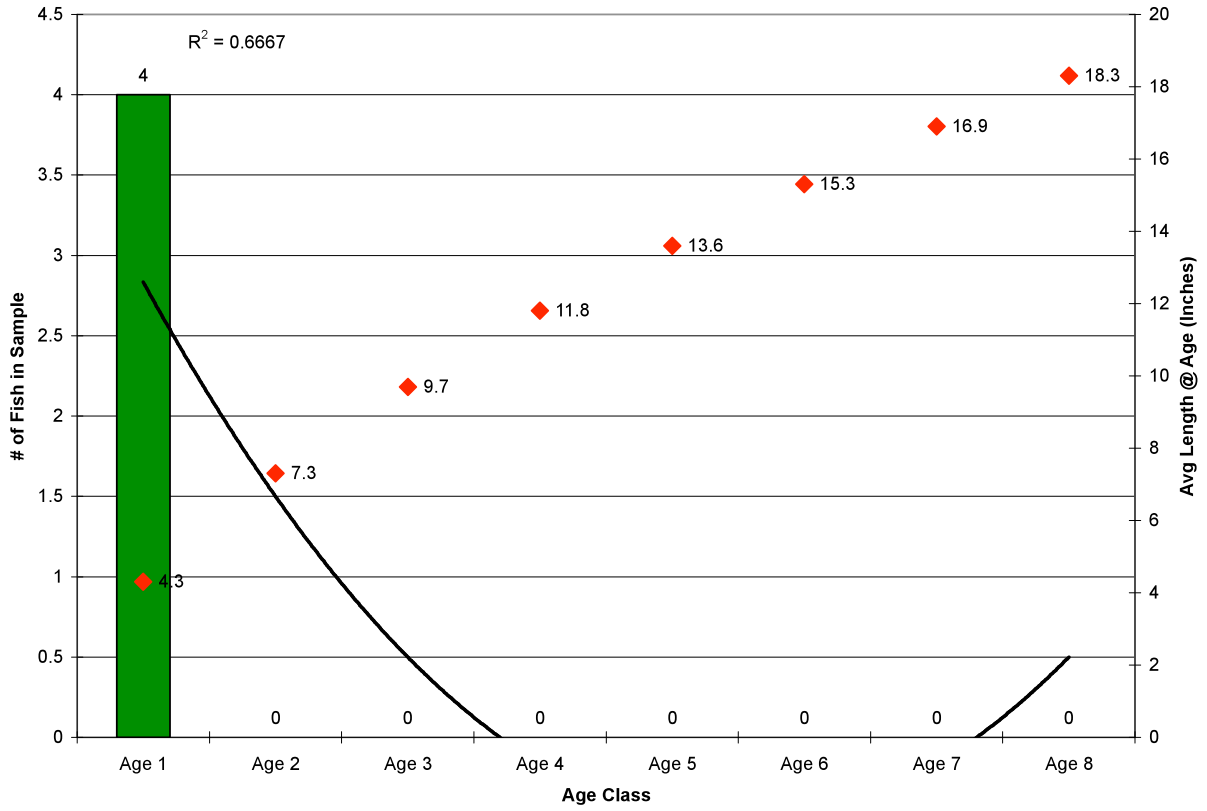
Survey Results for the Little Lake

Fish Community Composition (Small Lake)









Habitat Suitability Index (HSI) Models
For Moosic Lake

