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DIVISION OF FISHERIES AND WILDLIFE

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## Leverett Pond Aquatic Weed Control Project: Fisheries Assessment

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Leverett Pond is a fertile, 69-acre warm water pond located one mile east of Rte. 63 north of Depot Road. Access is off Long Hill Road via an unimproved car-top launch. The pond is characterized by clear water color, with a mean depth of 9.0 feet and a maximum depth of 20.0 feet and a shoreline of 1.9 miles. Water chemistry factors are within average range for ponds in the Connecticut Valley area, with the exception of a fairly high pH (6.5) reported in a 1981 report.

Surveys conducted in 1974, 1981 and 1994 identified a warm water fish community which consisted of the following species (ranging from abundant to occasional): Pumpkinseed (*Lepomis gibbosus*), Bluegill (*Lepomis macrochirus*), largemouth bass (*Micropterus salmoides*), chain pickerel (*Esox niger*), smallmouth bass (*Micropterus dolomieu*), black crappie (*Pomoxis nigromaculatus*), brook trout (*Salvelinus fontinalis*), golden shiner (*Notemigonus crysoleucas*), brown bullhead (*Ictalurus nebulosus*) and American eel (*Anguilla rostrata*).

The presence of brook trout as an apocryphal species (there is no survey evidence to support or deny the presence of trout in Leverett Pond) is contrary to the 1981 survey which reported no evidence of trout water. A 1950 survey had shown 5% trout water, water which combines temperature and dissolved oxygen requirements suitable for trout; it is possible that the almost complete coverage of the bottom by aquatic vegetation reported in 1981 would be responsible for this loss of cold, well-oxygenated water.

### Fisheries Community and Management in Leverett Pond

In these surveys, where the information from the 1981 survey is the most comprehensive, fish condition factors were found to be above average for most species (bluegill, pumpkinseed, largemouth bass, chain pickerel and black crappie) when compared to state averages. Growth rates, however, were found to be average (pumpkinseed, chain pickerel) or below average (bluegill, largemouth bass and black crappie) when compared to state averages.

Condition factors are calculated comparing length and weight, and can be used to investigate the overall "well-being" of fish in a water body, and also allows comparison across a variety of water bodies. Above average condition factors at Leverett Pond in 1981 would seem to indicate that the fish were growing well compared with other water bodies across the state, based solely on the relationship of length to weight observed in the fish sampled.

Although the "well being" of the fish community appeared above average in most cases, the average and below average growth rates give an indication of unbalanced, or stunted, populations of bluegill, largemouth bass and black crappie. While the relationship between weight and length created above average condition factors, the fish were generally smaller and slower growing as shown by the slow growth rates.

Management objectives at the time were to improve access, control the stunted sunfish populations, and to raise the largemouth bass PSD to 50%. Recommendations to achieve these objectives were to purchase an access point, introduce a large esocid to control panfish (sunfish), and to control aquatic vegetation if good access was obtained.

The present methodology is to use more extensive comparison (age through scale analysis combined with length-weight information) rather than the more general PSD method. PSD, or