

Fishery Survey

Hemlock Farms
Blooming Grove Township
Pike County, PA



Fall 2006

Submitted To:

Hemlock Farms Community Association

Prepared By:

Ecological Solutions Inc.

P.O. Box 193
1 Hillside Road
Conyngham, Pennsylvania 18219
888-433-3267

Introduction

At the request of the Hemlock Farms Community Association, Ecological Solutions, Inc. (ECS) has completed a fishery survey of five lakes within the Hemlock Farms Community. More specifically, the lakes included in the survey were: Elm Lake (32-acres); Hemlock Lake (101-acres); Lower Hemlock Lake (20-acres); Willow Pond (1.25-acres); and McConnell Lake (98-acres). The exact location of these lakes within the community is shown on the Site Location Map that follows.

During the survey, ECS used a variety of sampling techniques to capture fish in each of the lakes listed above. Specific sampling techniques implemented during the survey were:

- *Boat-mounted electrofishing equipment* – A minimum of two sampling efforts lasting 17 to 22 minutes were completed at random locations along the shoreline of each lake. Each transect h boat-mounted electrofishing equipment with an attempt to keep effort (actual time spent collecting fish) similar.
- *Hoop Nets* – ECS used hoop nets to sample fish traveling along the shoreline of each lake. Two nets were used to sample shallow shoreline habitat at random locations in the each lake. The nets were set during the afternoon, and fished for a minimum of 24 hours before being harvested the following morning.
- *Gill Nets* – ECS used gill nets to sample the deeper portions of the lake. Typically, the nets were set along the thermocline, or in areas where large numbers of fish were located on the sonar. Two 100 yards long nets were set in each lake in the afternoon and fished for a minimum of 24 hours before being harvested the following morning.

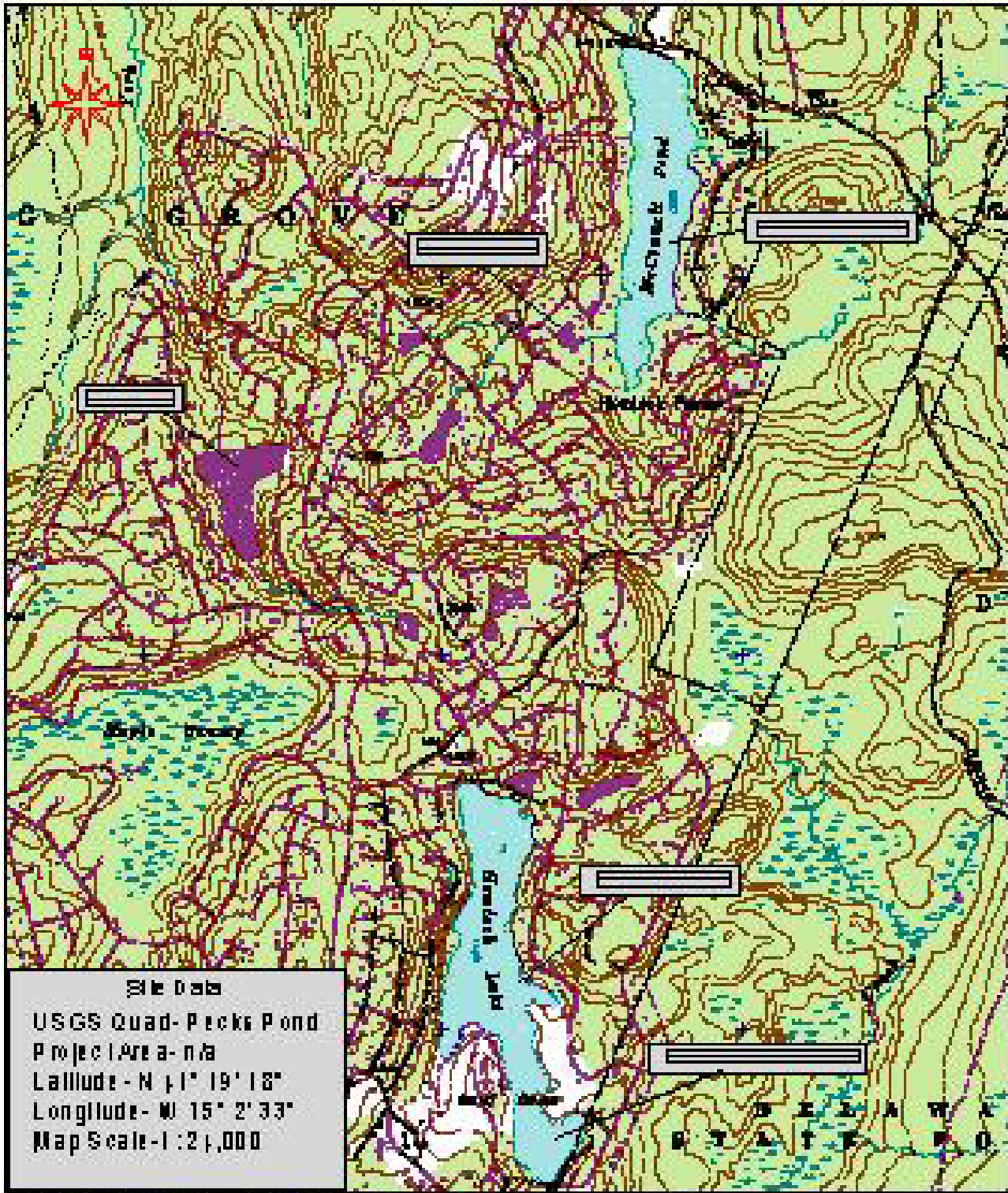
Upon capture, all of the fish were temporarily placed in an aerated livewell until the sampling was complete. The method of capture, species type, length, and weight of each fish captured was recorded. Weight was measured to the nearest gram and length to the nearest millimeter. Every attempt was made to release all fish unharmed to the lake.

In conjunction with the fish sampling, ECS performed a physical habitat assessment and collected water quality data in each lake. The physical habitat assessment was completed using “Habitat Suitability Index Models (HSI)” for specific species of interest (e.g. largemouth bass, bluegill, yellow perch). Water quality samples were collected according to EPA guidelines and analyzed in the field using a LaMotte Colorimeter. Specific analyses performed include: pH, secchi disk transparency, turbidity, total dissolved solids, specific conductance, alkalinity, hardness, nitrate nitrogen, and total phosphorous. In addition, when appropriate dissolved oxygen and temperature profiles were plotted for each lake.

Upon completion of the fieldwork and data analysis, **ECS** prepared the following final report documenting the results of the sampling performed in each lake. The results for each lake are presented in separate sections that include:

- A description of the methodologies used to sample and analyze the fishery, collect water samples, and assess the physical habitat in each lake.
- Color maps for each lake showing all sample locations.
- Summary charts for each lake showing the results of the water quality monitoring, physical habitat assessment, and fishery analysis.
- A results section clearly describing the outcome of the study for each lake.
- Recommendations on how to improve and/or maintain the quality of the fishery found in each lake. This includes stocking recommendations, future habitat improvements, and specific management alternatives to establish the desired type of fishery in each lake.

The information presented in this report is intended to be used as a guide for the future management of the fisheries found in each lake. Specific management techniques proposed for each lake are based solely upon data collected during the survey conducted in the fall of 2006 by **ECS**. Historical information relating to the fisheries in each lake was reviewed, during the data analysis. However, since specific information relating to the methods used (i.e weather conditions and time of sampling; type of voltage and amperage used to collect the fish; sampling effort) during those surveys was not provided the data could not be accurately compared. Therefore, data contained in the previous reports was considered qualitative (descriptive) and not used in any of the quantitative analyses contained in this report.



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Site Location Map
 Hamlock Farms 2008 Fishery Survey
 Dingman Township, Pike County, PA