

Land-use Patterns and Aquatic and Wetland Resources in the New Jersey Pinelands

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ABSTRACT:

In the early 1990's, the Pinelands Commission initiated a long-term environmental-monitoring program. The main objectives of the program were to characterize the effect of existing land-use patterns on aquatic and wetland resources and to monitor long-term changes in these resources. This presentation addresses the results of the long-term environmental-monitoring program in four watersheds in the New Jersey Pinelands. Data for stream vegetation, fish, and anuran assemblages and two water quality parameters, pH and specific conductance, were collected in order to characterize each monitoring site. Land-use profiles were developed for each monitoring site by summing the percentage area of each major land-use category available in the New Jersey Department of Environmental Protection's 1995/97 Land-use/Land-cover data for the drainage area upstream from the site. In general, studies of the Mullica River, Rancocas Creek, Great Egg Harbor River, and Barnegat Bay basins demonstrated that elevated pH, specific conductance and nonnative plant and animal species were associated with stream basins with a higher percentages of altered lands.