



## **New Jersey Pinelands Commission PRESS RELEASE**

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### **Pinelands Commission Study of Mullica River Watershed Provides Comprehensive Data on Health of Resources**

NEW LISBON, NJ - A major Pinelands Commission study of the health of the aquatic and wetland resources within the Mullica River Basin is expected to have far-reaching applications. The report, which provides one of the most comprehensive datasets ever assembled for a watershed in New Jersey, characterizes the water quality and ecological resources within the 569-square-mile basin, which includes all or portions of 23 municipalities in Atlantic, Burlington, Camden and Ocean Counties. Importantly, the study correlates the scientific data with the various types and levels of land-use development within the watershed area regulated by the Pinelands Comprehensive Management Plan.

“This is a significant milestone in our watershed management efforts in the Pinelands,” explained Annette Barbaccia, Executive Director of the Pinelands Commission. “The report shows that the Pinelands Comprehensive Management Plan, through its management area designations and controls, has been immensely effective in protecting the Pinelands. Thanks to the continued support of National Park Service, we have collected very detailed scientific and land-use data that will prove to be invaluable in better understanding the Pinelands ecological resources and refining the Commission’s regulations to further enhance and protect these resources. It will support the Commission and local planners in making informed land use decisions based on sound scientific data. This document will have significant policy implications for many years to come.”

Under the Commission’s long-term monitoring program, Pinelands scientific staff spent nearly ten years gathering data for the Mullica River report. The report examines populations of hundreds of species of plants, fishes, frogs and toads, as well as the health of dozens of Pinelands habitat types at over 500 monitoring locations throughout the watershed. This information is then compared with existing water quality attributes and land use patterns to show how land use activities impact wildlife, aquatic and wetland habitat and water quality.

While the Mullica watershed is diverse in terms of land use, ranging from fully developed to pristine forests, it is 85 percent forested and undeveloped and only 15 percent is developed and farmed. Within this study, a clear picture emerges of the relationship between development, human activity and the type, quality and health of the resources. Degraded surface water quality and non-native plant and animal species were common in stream basins with higher percentages of developed land and upland agriculture. With most developed land and upland agriculture located in the headwaters of the western drainage basins, water quality and biological integrity generally improved downstream, as streams passed through vast forested areas. The abundance of high water quality and native species found in the Mullica watershed is reflective of the largely natural-preserved state of the Basin.

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Further, the results from this study can be applied to other watersheds in the Pinelands region. Through funding provided by the the New Jersey Department of Environmental Protection, the Pinelands Commission staff is in the midst of a comprehensive Mullica River watershed planning initiative for protection of the water resources in the region. Pinelands staff is facilitating the Mullica project as part of a statewide watershed initiative. The Mullica River Basin study will play a critical role in that effort, by providing planners with the scientific support needed to accurately assess the needs of the region and make recommendations backed by science rather than speculation.

The Mullica River Basin study has also achieved a milestone by characterizing the scientific parameters for defining water quality in the Pinelands. “Due to the high acid, low-nutrient quality of Pinelands water, we have to assess water quality differently because the basic chemistry of Pinelands water is much different than that of water outside of the region,” said Pinelands Commission Chief Scientist Robert Zampella.. “This study clearly defines what a healthy Pinelands waterway looks like verses an impaired system.”

An important outcome of this study, the characterization of water quality criteria will provide scientific backing to the Commission’s efforts to redefine water quality standards used by State and Federal agencies for rating the overall health of Pinelands waterways. For example, a recent report issued by the USEPA rated the combined Mullica and Toms River watershed area as one of the most unhealthful watersheds in the country.

According to the Pinelands Commission’s Mullica River Basin Study, several major stream systems in the watershed, including the Batsto, Wading, Oswego and Bass Rivers demonstrate the superior water quality and unique native biological communities that give the Pinelands its international reputation as a venue for scientific research. Further, other Commission studies have revealed similar high-quality streams in the Toms River basin, including Cedar Creek and branches of the Forked River and Oyster Creek.

In 1998, the National Oceanic and Atmospheric Administration designated estuarine portions of the Mullica River watershed as a National Estuary Research Reserve, which includes a large area of the Pinelands. The designation was based largely on the exceptional long-term scientific research and monitoring opportunities presented by the high-quality of the estuary -- regarded as one of the least disturbed in the Northeast United States.

Some other key findings of the Mullica River Study included:

- Evaluating aerial photography and satellite imagery, land-cover composition of the Mullica River Basin changed little between 1979 and 1991, with development occurring in the appropriate Pinelands management areas.
- There was a slight increase in Atlantic White Cedar cover between 1930 and 1991, and hardwood replacement of cedar swamps is not a certain outcome of cedar-swamp succession, as has been widely believed.