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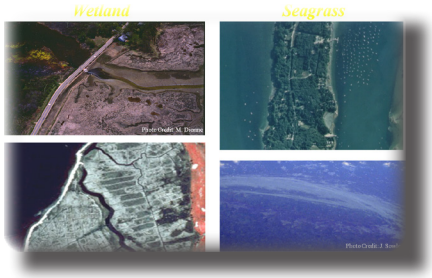
Patuxent Wildlife Research Center

Coastal Salt Marsh Management Along the Atlantic

- ***The Challenge:*** A number of coastal states have been altering marshes for mosquito control since the early 1900s, but for the past four decades, changes have been made in the methods used to alter high-marsh environments. However, in most states, research and monitoring activities are still needed to inform the management methods employed. Although modern Open Marsh Water Management (OMWM) methods, including pond and radial ditch creation, have reduced mosquito populations in most areas, questions remain about the overall ecosystem impacts of these alterations.

- ***The Science:*** To more critically evaluate the changes resulting from OMWM along the northeast Atlantic coast, USGS scientists and cooperators from the USFWS and the University of Rhode Island joined forces to conduct before and after assessments of marsh management at a series of 5 coastal national wildlife refuges from Massachusetts to Delaware. Changes in hydrology, vegetation, mosquitoes, fish, and waterbird components have been evaluated.



- ***The Future:*** The results of the five-year project are being examined. Results thus far suggest that a shift has occurred in many marshes from a forage fish-dominated system to one dominated by small marsh shrimp. This implies that the food base for larger fish and waterbirds may be compromised by this change. Mosquito populations also seemed to be lower in the marshes treated with OMWM. Other changes (vegetation, hydrology, birds) were inconsistent, indicating that longer-term monitoring (longer than 3 years) is necessary to fully evaluate the effects of the new management methods.

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