

Center for GIS at Towson University

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Client

Maryland Department
of Natural Resources,
Maryland Chesapeake
Bay National Estuarine
Research Reserve

Project

Geospatial Analysis and
Database Development

Testimonial

"Thank you so much for
the great work and for
delivering such great
products. It has been a
pleasure to work with you!"
Patricia Delgado, Ph.D.
Research Coordinator



Using GIS to Depict 18 Years of Wild Rice Decline and Re-growth

In 1999 Maryland DNR, through the Maryland Chesapeake Bay National Estuarine Research Reserve Program and in collaboration with the Patuxent River Park in Prince George's County, began promoting expansion of wild rice in the Jug Bay area of the upper Patuxent River. To visually depict the decline and subsequent resurgence of this important native marsh grass species, the Center for GIS (CGIS) mapped stands of wild rice along a seven-mile stretch of the upper Patuxent River between Prince George's and Anne Arundel Counties for four different growing seasons. The maps are based on orthophotography from the Virginia Institute of Marine Science's aerial survey imagery archive.

Historical Change Analysis Maps

The red and blue areas show mixed and pure stands of wild rice, respectively. A pattern of a decreasing then increasing area of wild rice can be seen over the 18-year study period. In 1989 an estimated total of 327 acres of wild rice is shown. By 1999 the wild rice had declined to approximately 52 acres, primarily due to goose overgrazing. By 2007 there were an estimated 247 acres of wild rice in the study area, a 375% increase since the large decline in 1999. The increase is the result of more than 8 years of wild rice restoration efforts.

