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State, federal agencies produce map to protect fishing industry and environment

RALEIGH – State and federal partners have produced the first map of an underwater fish habitat in an effort to better protect the fishing industries and coastal environments in North Carolina and Virginia.

The map is the first to detail the location of underwater grasses known as submerged aquatic vegetation along the entire North Carolina and southern Virginia estuarine coastlines.

"It's difficult to protect something if you don't know where it exists," said Louis Daniel, director of the N.C. Division of Marine Fisheries. "Mapping efforts such as this provide baseline information on the quantity and quality of these specific habitats."

Knowing the location of submerged aquatic vegetation will aid permitting efforts by helping avoid impacts from development. The extent of submerged aquatic vegetation also reflects the amount of pollution in coastal waters, which helps scientists understand whether conservation efforts are working.

The agencies, led by the Albemarle-Pamlico National Estuary Program, mapped 138,741 acres of submerged aquatic vegetation, mostly in the Albemarle-Pamlico estuary that spans southeastern Virginia and northeastern North Carolina. In addition to producing dissolved oxygen that fish need, the underwater grasses filter pollution and serve as food, a hiding place and a home for fish, shellfish and crustaceans.

Protecting these underwater grasses is also important to North Carolina's \$1.75 billion fishing industry, which employs 24,000 people. Environmental economists value submerged aquatic vegetation at about \$12,000 per acre per year because of its importance to fisheries and overall aquatic health.

Mapping such a large area was no simple task. Airplanes with special cameras flew 1,795 miles along the estuarine coastline during a two-year period. Wind, waves, high humidity and sediment-laden water from rainfall sometimes interfered with the ability to photograph submerged aquatic vegetation. To overcome these problems, volunteers sampled the water for clarity to ensure conditions were right for the high-altitude flights. Boat crews with underwater cameras also confirmed the accuracy of the vegetation's location.

"Committed citizens, dedicated professionals and strong agency partnerships were required to bring this challenging project to fruition," said Bill Crowell, executive director of the Albemarle-Pamlico National Estuary Program. "The success of this project bodes well for the future of ecosystem-based management in the Albemarle-Pamlico estuarine region."

Funding and technical expertise for the project came from the estuary program, the N.C. Department of Environment and Natural Resources, N.C. Division of Marine Fisheries, N.C. Wildlife Resources Commission, U.S. Fish and Wildlife Service, the National Oceanic and Atmospheric Administration, and two contracted private firms.

The map is online at http://portal.ncdenr.org/web/apnep/resources/maps. For information, check out the Albemarle-Pamlico National Estuary Program's website, www.apnep.org, or contact Jim Hawhee, the program's community specialist, at (919)

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