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Blue Carbon Study Supports Tampa Bay Habitat Restoration and Resiliency Planning

Study data and model will help Tampa Bay coastal managers adapt to rising seas and identify priority restoration sites

TAMPA, FL – By 2100, seagrasses, marshes and mangroves in Tampa Bay are expected to remove 74 million metric tons of carbon dioxide from the atmosphere – an amount equivalent to removing 160,000 cars off the road *every year* until 2100, according to a new study released today.

The [study](#), led by [Restore America's Estuaries](#) in partnership with several leading conservation agencies and organizations including [Tampa Bay Estuary Program](#) and [Tampa Bay Watch](#), reinforces the importance of restoring coastal habitats in Tampa Bay and around the nation to buffer the effects of rising seas and a changing climate.

Tampa Bay is a unique ecosystem as it is one of the few places in the U.S. to have three critical coastal habitats – mangroves, salt marsh, and seagrasses. These vegetative habitats are very effective at removing carbon dioxide from the atmosphere and storing it in the soil for decades or even centuries, so much so that scientists have given this service its own name – "[blue carbon](#)."

The study highlights the substantial contribution that Tampa Bay coastal habitats provide for capturing and storing carbon, and provides new data to help local organizations and agencies understand what actions are needed most to help the Bay mitigate the effects of sea-level rise, while continuing to improve habitat health and the Bay's overall environmental and economic integrity.

As sea levels rise over the coming decades, the model predicts that much of the marsh and mangrove habitat in Tampa Bay will be vulnerable to drowning. Areas along the shoreline that are drowned will provide new areas for the expansion of seagrass habitats, provided water quality is sufficient to support these underwater grasses. Providing upland area for marsh and mangrove habitats to migrate to in response to sea-level rise, and maintaining sufficient water quality to support seagrass habitats, will be critical to maintaining fisheries and quality of life in Tampa Bay.

"There is an opportunity for coastal managers to use this data to plan for sea-level rise," said principal investigator Dr. Steve Crooks, Director of Climate Change Services for [Environmental Science Associates](#). "By targeting vulnerable areas for conservation and restoration, we can improve habitat diversity and health in Tampa Bay."

In addition to modeling the response of coastal habitats to future sea-level rise, the report provides several recommendations to help managers prepare for and address changes in coastal regions. Management recommendations include:

- Actions that enhance tidal wetland resilience, e.g. enabling habitats to accrete (build up) vertically and keep pace with sea-level rise;
- Conserving upland areas to allow coastal habitat migration in response to rising seas;
- Prioritizing vulnerable areas for restoration and/or acquisition, such as areas that are more susceptible to flooding; and
- Maintain (or improve where necessary) water quality to allow seagrass expansion into newly flooded coastal lands where marsh and mangrove are unable to persist.

Enhancing management strategies to mitigate for sea-level rise increases coastal resiliency, while also providing other ecosystem benefits such as carbon sequestration and storage, improved water quality, and nursery habitat for key shell- and fin-fish species.

“Over the past two decades, the Tampa Bay community has made great progress in improving the health of Tampa Bay’s waters,” said Holly Greening, Executive Director of the Tampa Bay Estuary Program. “We want to ensure that progress will not be lost as a result of sea-level rise. The data and model provided by this study will help us chart a course forward that protects the work our public and private sector partners have collectively accomplished over the past 45 years.”

Thousands of acres of coastal habitat were lost due to development from the 1950s to early 1990s. Since that time, Tampa Bay managers have worked to restore the balance of critical estuary habitat types. As the remaining habitat is increasingly vulnerable to sea-level rise and continued development pressures, being able to predict changes in the landscape is extremely valuable to coastal managers.

“This science-based assessment provides Tampa-specific data, recognizing the important role bay habitats have in mitigating the effects of climate change, underlining yet another reason to preserve and restore these habitats before they disappear due to development and sea-level rise,” said Jeff Benoit, CEO and President of Restore America’s Estuaries.

The Tampa-specific carbon sequestration data also presents an added opportunity to use market incentives in order to foster additional support for restoration and conservation efforts. Projects that have a climate benefit, such as restoring salt marsh, can generate carbon offsets using the recently approved Verified Carbon Standard [VM0033](#) Methodology for Tidal Wetland and Seagrass Restoration. Companies seeking to reduce their carbon footprint can purchase carbon offsets on the voluntary carbon market, thereby generating carbon finance that can support sustainable projects such as coastal restoration.

RAE will host a free webinar July 7, 2016, 2:00 - 3:00 pm EDT, to present findings from this study. Register for the webinar at: <https://attendee.gotowebinar.com/register/614016046120753923>. Find a copy of the report at <https://www.estuaries.org/bluecarbon-resources>.

This report was a collaborative effort of [Restore America’s Estuaries](#), [Environmental Science Associates](#), [Tampa Bay Estuary Program](#), [Tampa Bay Watch](#), Woods Hole Oceanographic Institute, and the Florida [Fish and Wildlife Conservation Commission](#). Funding was provided by the [Tampa Bay Environmental Restoration Fund](#), [NOAA’s Office of Habitat Conservation](#), U.S. Environmental Protection Agency, [U.S. Fish and Wildlife Service – Coastal Program](#), and [ScottsMiracle-Gro](#).

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Restore America’s Estuaries (RAE) is a national 501(c)(3) nonprofit organization established in 1995. RAE leads a national alliance of ten coastal conservation organizations across the country committed to protecting and restoring the lands and waters essential to the richness and diversity of coastal life. www.estuaries.org.