Tampa Bay Estuary Program
Technical Publication # 04-09

A Tampa Bay Estuary Program Progress Report 2009

FINAL REPORT

January 2009

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The State of Our

- Seagrasses
- Water Quality
- Watershed
- Wildlife
- Community Outreach

TAMPA Estuary Program

Message from the Executive Director

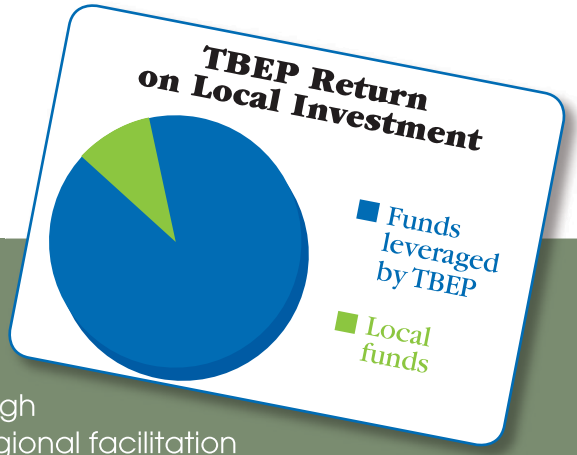
The Tampa Bay Estuary Program is pleased to present this Progress Report to our many friends, partners and colleagues. On the following pages, you will find an overview of the key projects we've tackled in recent years, and examples of how those efforts have reaped dividends for the bay.

Together, we have made tremendous strides in improving water quality, recovering life-sustaining seagrasses and restoring degraded habitats. Overall, water quality in Tampa Bay is as good as it has been since the 1950s, and more than 6,000 acres of seagrasses have been restored since 1982. These remarkable achievements are a testament to the collective commitment of the entire region. But we can't rest on our laurels. In coming years, the bay will face a host of new challenges as well as ongoing threats. We'll need your continued support to keep Tampa Bay on the road to recovery.

The Tampa Bay Estuary Program's focus on measurable results and inclusive community involvement has made us a national model of success. And we hope you'll agree that our emphasis on sound science allows us to act as an "honest broker" in resolving difficult issues. In these tough economic times, we will continue to work hard to maximize our resources to benefit the bay, and to retain the trust you have placed in us.

Holly Greening
Executive Director
Tampa Bay Estuary Program

The mission of the Tampa Bay Estuary Program is to build partnerships to restore and protect Tampa Bay through implementation of a scientifically sound, community-based management plan.



A Smart Investment for Local Government

TBEP provides outstanding support to our local government partners through grant writing assistance, regional facilitation services, innovative research and restoration, and wide-ranging community outreach programs. Overall, TBEP returns $9 to the Tampa Bay region for every $1 invested. In the last two years alone, the Estuary Program has brought in more than $5 million in additional funding for bay research and improvement activities.

A Partnership for a Healthy Bay

About Us

The Tampa Bay Estuary Program is an intergovernmental partnership that coordinates the restoration and protection of Tampa Bay. Major partners are Hillsborough, Manatee and Pinellas counties; the cities of Tampa, St. Petersburg and Clearwater; the U.S. Environmental Protection Agency; the Southwest Florida Water Management District; and the Florida Department of Environmental Protection.

TBEP is governed by a Policy Board composed of elected officials from the six local governments, EPA and the Water Management District. A Management Board comprised of upper-level environmental administrators makes recommendations to the Policy Board.

The Program's mission is also greatly assisted by several committees, including a Technical Advisory Committee of bay scientists and managers, a Community Advisory Committee of interested citizens, and a Manatee Awareness Coalition that promotes manatee and seagrass protection.

TBEP Policy Board

Deborah Getzoff, Chair
Florida Department of Environmental Protection

Tom Welborn, Vice Chair
U.S. Environmental Protection Agency

Commissioner Al Higginbotham
Hillsborough County

Commissioner Joe McClash
Manatee County

Commissioner John Morroni
Pinellas County

Councilman Paul Gibson
City of Clearwater

Councilwoman Linda Saul-Sena
City of Tampa

Councilman Jamie Bennett
City of St. Petersburg

Sallie Parks, Governing Board
Southwest Florida Water Management District

Did you know...

TBEP's landmark Nitrogen Management Consortium is an alliance of local governments, regulatory agencies, and key industries bordering the bay – such as electric utilities and fertilizer manufacturers. Consortium members work cooperatively to reduce nitrogen pollution from wastewater, stormwater and air pollution. Together, these partners have contributed more than 250 projects to improve water quality in Tampa Bay.

TBEP Staff

Holly Greening
Executive Director

Ron Hosler
Program Administrator

Ed Sherwood
Program Scientist

Nanette O'Hara
Public Outreach Coordinator

Misty Cladas
Project Manager

Lindsay Cross
Environmental Scientist

Colleen Gray
Outreach Specialist

TBEP is one of 28 "estuaries of national significance" designated by Congress and administered by the U.S. Environmental Protection Agency.

Seagrasses on the MEND

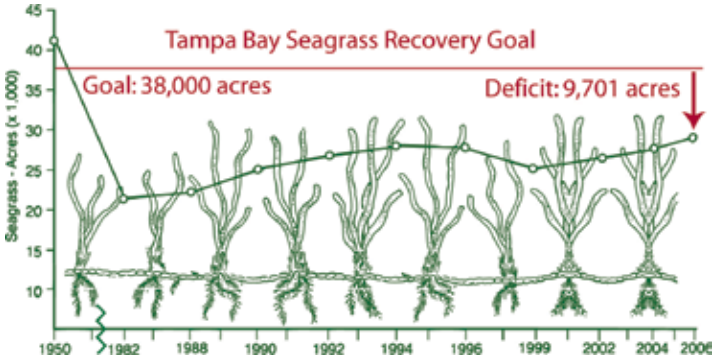
Water quality in Tampa Bay has met all targets for two straight years, fueling continued recovery of the bay's critically important seagrasses as well as a resurgence of species such as bay scallops and sea trout that depend on healthy seagrasses.

Water quality and seagrasses share a direct relationship.

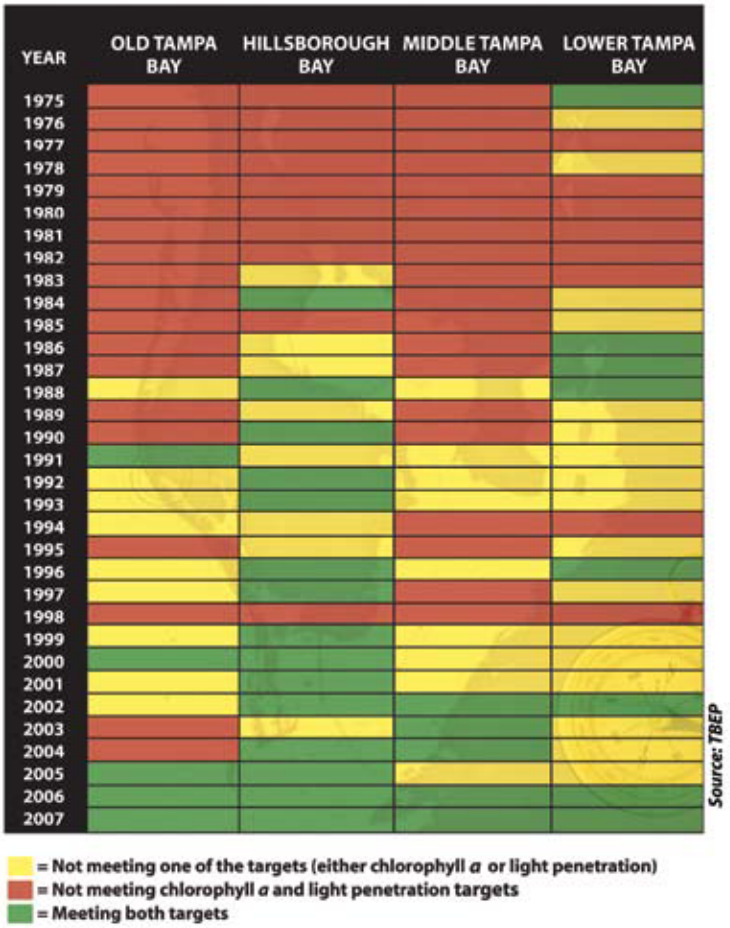
Tampa Bay has regained some 6,000 acres of seagrasses since 1982. The bay now supports 28,299 acres of seagrass—far less than the Estuary Program's goal of 38,000 acres, but the highest recorded total since the 1950s.

TBEP's seagrass recovery strategy seeks to nurture new grasses by reducing the amount of nitrogen entering the bay from urban, industrial and agricultural development. Too much nitrogen causes algae blooms that cloud the water and prevent sunlight from reaching seagrasses. To maintain sufficient water quality for continued seagrass recovery, the total amount of nitrogen in the bay must be continually reduced to keep pace with growth.

Local governments, along with key industries in the bay watershed, are assigned a share of the nitrogen reductions through TBEP's innovative Nitrogen Management Consortium. TBEP is facilitating a major reallocation of those loading targets to assist the region in meeting new regulatory limits on nitrogen.



Water Quality Steadily Improving



= Not meeting one of the targets (either chlorophyll *a* or light penetration)
= Not meeting chlorophyll *a* and light penetration targets
= Meeting both targets

CASE IN POINT

Longshore Bar Restoration

A unique effort to rebuild natural sandbars in the bay could jump-start seagrass recovery in areas where the grasses once existed, but are now absent.

TBEP is coordinating a pilot project to recreate four sandbars in shallow, protected waters off MacDill Air Force Base. Scientists hope the bars will serve as a barrier to wind and waves, so seagrasses can flourish in the calmer waters behind the bars.

The project also is testing whether transplanting seagrass might actually promote the natural creation of sandbars, since seagrasses help to trap and stabilize bottom sediments. Scientists from the city of Tampa and volunteers with Tampa Bay Watch transplanted seagrass in summer 2006 at one site adjacent to MacDill where a sandbar once existed. The transplanted grass bed has nearly tripled in size since then.

In coming years, project partners plan to transplant more seagrasses at other suitable bay locations, and to build the sandbars and monitor their effect on seagrass recovery.

Improving Water Quality: Regional Fertilizer Use Guidelines

A major effort for TBEP in 2008 was facilitation of regional guidelines for non-agricultural use of fertilizers. This effort culminated with the adoption by TBEP's Policy Board of a model ordinance regulating use of lawn and landscape fertilizers.

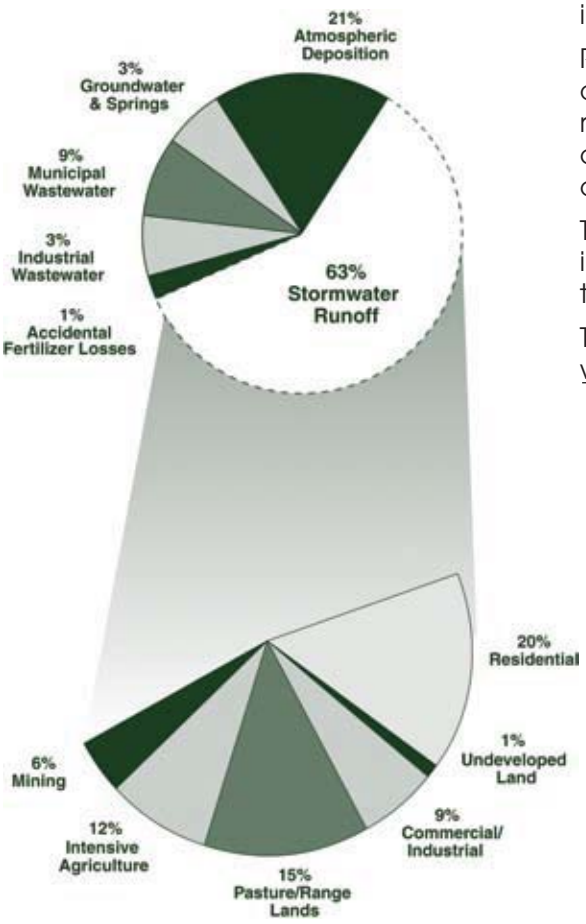
The ordinance is intended to reduce nitrogen pollution from stormwater flowing into the bay and other surface waters.

Residential runoff, including fertilizer residues, accounts for about 20% of the nitrogen flowing to the bay. TBEP research indicates that a compliance level of 50% with the ordinance could reduce the bay's nitrogen burden by 84 tons per year, and save communities millions in costly stormwater treatment projects.

TBEP will coordinate a regional education program to assist with informing homeowners, retail outlets and lawn care professionals about the new guidelines.

The model ordinance and supporting documents can be viewed at www.tbeptech.org/Fertilizer/FertilizerHomePage.

Where Nitrogen in Tampa Bay Comes From



Nitrogen in Tampa Bay

Stormwater isn't the only source of nitrogen in the bay. Wastewater, emissions from automobiles and power plants, and even natural sources such as lightning contribute to the bay's nitrogen burden.

The Model Ordinance Encourages Local Governments to:

- Restrict application of Nitrogen and Phosphorous on lawns and landscape plants from June 1-September 30, the summer rainy season
- Prohibit application of Nitrogen or Phosphorous fertilizer within ten feet of a water body
- Restrict the retail sale of Nitrogen and Phosphorous lawn and landscape fertilizer during the summer
- Establish a licensing and certification program for lawn care professionals
- Provide information about the nitrogen content of reclaimed water to customers using reclaimed for lawn irrigation

Taking a Wide-Angle View of the Watershed

Tampa Bay itself is only about 400 square miles in size. Its watershed – the land area that drains into the bay – is nearly six times as large. Recognizing that what happens in the watershed greatly influences the health of the bay has fostered a wide-angle approach to management that looks far beyond the bay's obvious borders.

For example, TBEP's approach to habitat restoration seeks to "restore the historic balance" of bay habitats, encompassing a mosaic of systems from oyster bars and mangrove forests to pine flatwoods and freshwater ponds. The strategy emphasizes restoring habitats that have suffered disproportionate losses, such as low-salinity marshes in the upper reaches of rivers and creeks that are critical fish nurseries.

In 2009, TBEP will release an updated Habitat Restoration Master Plan. New concepts presented in this Plan include a focus on restoring degraded systems, such as the Palm River/Tampa Bypass Canal and the Lake Tarpon Outfall Canal. The revised Plan also will explore whether mitigation associated with development can be used to meet TBEP habitat goals.

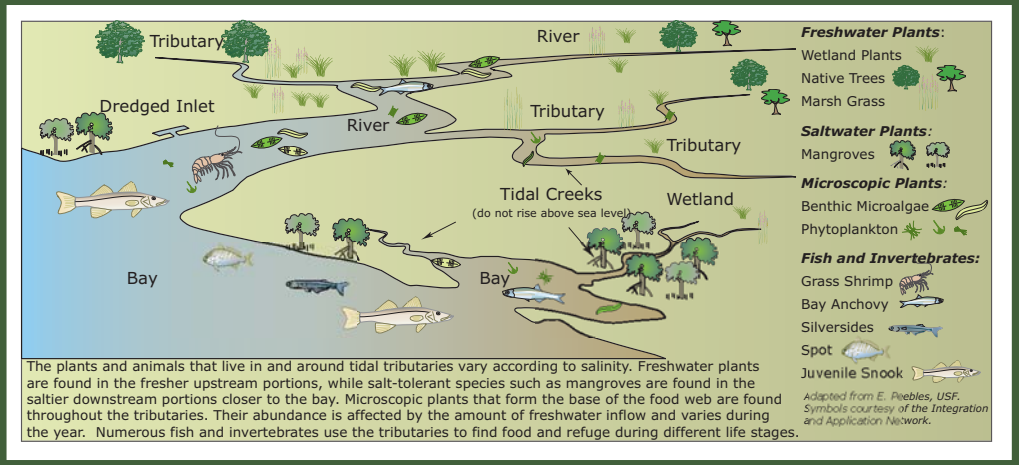
CASE IN POINT

Tidal Tributaries

A research project coordinated by TBEP has reinforced the importance of the more than 100 small streams and creeks that flow into Tampa Bay.

These smaller tributaries are generally not as well understood as the major rivers or the open bay, and many have been severely impacted by flood control projects and development activities along their banks. But these tidal streams are critically important fish nurseries for snook and other prized gamefish, as well as valuable foraging areas for wading birds.

The TBEP study provided an in-depth look at several of these streams, examining relationships between habitat, water quality and fisheries production. While each tributary is unique, the study concluded that all would likely benefit from management strategies that preserve and enhance the natural pattern of freshwater inflow to the streams. Researchers also note the need for greater public awareness of the importance of these tributaries to fish and wildlife, and recommend studying additional creeks.



Above, a schematic diagram of various "tidal tributary" systems typical of Tampa Bay.

Working to Help the Bay's Wildlife

Tampa Bay Wildlife Facts

More than 200 species of fish are found in Tampa Bay. The most abundant is the bay anchovy.

More than one-third of the state's population of roseate spoonbills nest annually on mangrove islands in Tampa Bay.

Tampa Bay is an important nursery area for Kemp's Ridley sea turtles, one of the world's most endangered animals.

A record 624 bay scallops were found in Tampa Bay in 2008, the highest number since overfishing and pollution virtually wiped out stocks in the 1960s.

Grants awarded by TBEP to area community groups are helping scientists gain a better understanding of the abundance and diversity of the bay's wildlife—and test innovative techniques to protect and enhance those populations.

Bay Mini-Grants, selected annually by TBEP's Community Advisory Committee using funds from the Tampa Bay Estuary specialty license tag, have supported a variety of wildlife monitoring and enhancement efforts, including:

- An assessment of the abundance and distribution of seahorses and pipefish in Tampa Bay seagrass beds, involving University of Tampa students as well as community volunteers.
- A study of the use of restored habitats in the Cockroach Bay Aquatic Preserve by neo-tropical migratory birds such as scissor-tailed flycatchers and blackpoll warblers.
- A scallop enhancement project that utilized neighborhood volunteers to release and monitor the survival of hundreds of thousands of hatchery-reared juvenile scallops in Terra Ceia Bay.
- Purchase and installation of "no trespassing" signs on important bird nesting islands in the bay to minimize human disturbance of nesting colonies protected by Audubon of Florida.
- A Derelict Crab Trap Removal program utilizing Tampa Bay Watch volunteers that has collected hundreds of abandoned crab traps, preventing them from continuing to ensnare fish, crabs and other marine organisms.

CASE IN POINT

Manatees & GPS

Navigation software produced by Garmin is the first to feature manatee and homeland security zones in Tampa Bay, thanks to a partnership between Garmin, the Florida Fish and Wildlife Conservation Commission and the Tampa Bay Estuary Program's Manatee Awareness Coalition (MAC).

The information is available on all new Garmin GPS chart plotters, as well as on the navigation chips (SD cards) that boaters can buy to update their existing chart plotters.

Boaters using the updated electronic charts will see manatee zone boundaries highlighted as they scroll over portions of Tampa Bay where slow speed zones have been established, such as Old Tampa Bay and the Manatee River. Homeland security zones – including those around MacDill Air Force Base and the Port of Tampa - also are displayed on the chart plotter. In addition, the software tells boaters whether the area is idle, slow speed or no-entry, and also whether speed restrictions are seasonal or year-round.

The digital files showing the zones were provided by FWC's Fish and Wildlife Research Institute.

Educating and Involving the Community

Give A Day for the Bay

The "Give A Day for the Bay" volunteer program recruits citizens to assist with bay improvement projects at area parks and preserves through a series of workdays held throughout the year. In 2008, more than 300 volunteers contributed 1,000 hours to such projects as mapping gopher tortoise burrows at a Ruskin nature preserve, removing invasive vines and shrubs at a bayfront park in St. Petersburg, installing wetland plants at a lake in Pinellas County and picking up trash along the Hillsborough River in Tampa.

Estuary Academy

This popular daylong series of lectures and hands-on workshops introduces citizens to the wealth of scientific research being conducted in, on and around Tampa Bay. Held each Fall at Pinellas County's Weedon Island Preserve, the event is limited to 100 adults and children over 12 years old. The 2008 Academy featured "Wildlife in the Watershed," with lectures on tarpon, bay scallops and shorebirds, a guided canoe trip, and workshops on fisheries sampling, bats, wading birds and frogs.

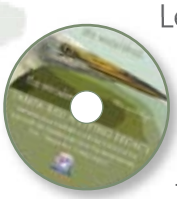
Pooches for The Planet

This innovative campaign promotes "petiquette" by educating dog owners about the water quality and public health impacts of pet waste. A pilot project conducted in a waterfront park in Tampa showed a 47 percent decrease in pet waste piles over the course of a 10-month education, mapping and monitoring program. Lessons learned from that project now are being applied to ongoing pet waste education efforts conducted by TBEP and several other organizations.

Scoop that Poop!
Pooches for the Planet

Summer Teacher Workshops

In 2008, TBEP staff conducted its first teacher workshops featuring a high school curriculum developed for the award-winning documentary film "Tampa Bay: Living Legacy." TBEP staff also conducted workshops for middle school teachers on the harmful impacts of invasive plants and animals, using a teaching guide developed for TBEP by The Florida Aquarium and Florida Sea Grant.



Canoe Trails

TBEP provided funding to mark several paddling trails in Tampa Bay, including one in the Little Manatee River and two in Upper Tampa Bay.

Boating and Angling Materials

TBEP is a major partner in the production of the master Boating and Angling Guide to Tampa Bay, as well as localized guides filled with important information about natural resources in Hillsborough Bay, Boca Ciega Bay and Clearwater Harbor.

The program also distributes free "Bay-Friendly Boater Kits" packed with information and useful tools for new boaters.

TBEP's popular Ethical Angler Wallet Card presents size and bag limits for the most common sportfish in the bay in a convenient, fold-up card that fits in a tackle box or shirt pocket. The Wallet Card is available in both Spanish and English, and widely distributed at fishing shows and through bait and tackle shops.

Boaters and divers also are encouraged to watch out for and report marine invasive plants and animals through "Boater's Alert" and "Diver's Alert" laminated identification cards.

Looking Ahead

Exciting new projects on our horizon over the next few years include:

Feather Sound Wetlands Restoration

TBEP and partners will use nearly $400,000 in grant funding to begin restoration of degraded tidal wetlands in the Feather Sound area by filling old mosquito control ditches and redirecting and treating runoff from the surrounding watershed.

BASIS 5

The 5th Bay Area Scientific Information Symposium will bring scientists from throughout the watershed together to summarize the current "State of the Bay" in late 2009. Special poster sessions will be offered for high school and college students.

Fertilizer Education

TBEP will coordinate a regional effort to distribute the recently adopted urban fertilizer guidelines to homeowners, retail outlets and lawn care professionals.

McKay Bay Sediment Quality Action Plan Development

This project will help to define "hot spots" of sediment contamination in McKay Bay – an important estuarine habitat surrounded by heavy industry - and develop action plans to remediate those areas.

Ecosystem Services Project

Tampa Bay will be a pilot study area for this EPA-sponsored effort to quantify and place a monetary value on the services provided by ecosystems, including clean drinking water, recreational opportunities and climate regulation.

Climate-Ready Estuaries

Tampa Bay will participate in a new EPA initiative to assess climate change vulnerabilities in coastal areas, develop and implement adaptation strategies, and engage stakeholders in efforts to mitigate or adapt to climate change.

CLIMATE READY ESTUARIES EPA

Tampa Bay Estuary Atlas

This information-packed web portal maintained by the University of South Florida's Center for Community Design and Research has been upgraded to offer additional features and search capabilities in a more user-friendly interface.

Ten Ways YOU Can Save Tampa Bay

1. Let elected officials and other policy makers know that the **health of Tampa Bay** is important to you.
2. Plant a **Florida-friendly yard** that features low-maintenance, drought-tolerant plants adapted to Florida's climate. These landscapes require less water, fertilizer and pesticides, reducing harmful runoff to the bay while attracting birds, butterflies and other wildlife.
3. Reduce or stop using toxic products. Even common household cleaners contain hazardous chemicals that can pollute the bay and taint our groundwater supplies. Instead, **use environmentally friendly substitutes** when possible. When you can't avoid using hazardous materials, make sure you dispose of them properly. Contact your community's solid waste department for information.
4. Introduce a child to nature. Be part of the **"No Child Left Inside"** movement to ensure that youngsters appreciate our natural heritage and will care for the bay when they become adults.
5. Save **energy** by using Compact Fluorescent light bulbs, buying Energy Star appliances, installing a digital thermostat, and unplugging your electronics when not in use.
6. Pick up and properly dispose of your doggy's little presents. **Pet waste** contains bacteria and nutrients that can pollute nearby ponds, lakes, rivers and the bay.
7. When boating in the bay, **use marked channels** whenever possible to avoid running aground in shallow seagrass beds that can be easily damaged by boat propellers. When in shallow waters, tilt your boat motor up and pole through the area. Obey slow speed zones. Buy navigational charts—and use them!
8. If you live on the water, **avoid pruning mangroves,** which provide critical habitat for fish and wildlife and filter pollutants from the water. If you have a seawall, consider replacing it when repairs are needed with a more natural shoreline or installing artificial **"seawall reefs"** to provide habitat for marine life.
9. Purchase a fuel-efficient car, or drive less and walk, carpool or bicycle more. Automobiles contribute to air pollution that is a source of nearly one-third of the bay's **nitrogen burden.** This nitrogen causes algae blooms that cloud the water and deplete it of oxygen.
10. Be a giver, not a taker. **Use less** of everything - water, energy, chemicals - and use it more wisely. Recycle everything you can and purchase reusable bottles and bags. Give back to the bay by **participating** in a shoreline cleanup or habitat restoration project.

How YOU Can Help

You can support the Bay Mini-Grant program by **purchasing** a "Tampa Bay Estuary" license tag for your car, RV or boat trailer. The tag costs $27 the first year and just $17 after that.

Support Tampa Bay: Buy a Tampa Bay Estuary license tag for your car or boat trailer!

You can also support TBEP's nationally recognized community education, research and restoration initiatives by making a tax-deductible **donation** through our easy online donation system at www.tbep.org.

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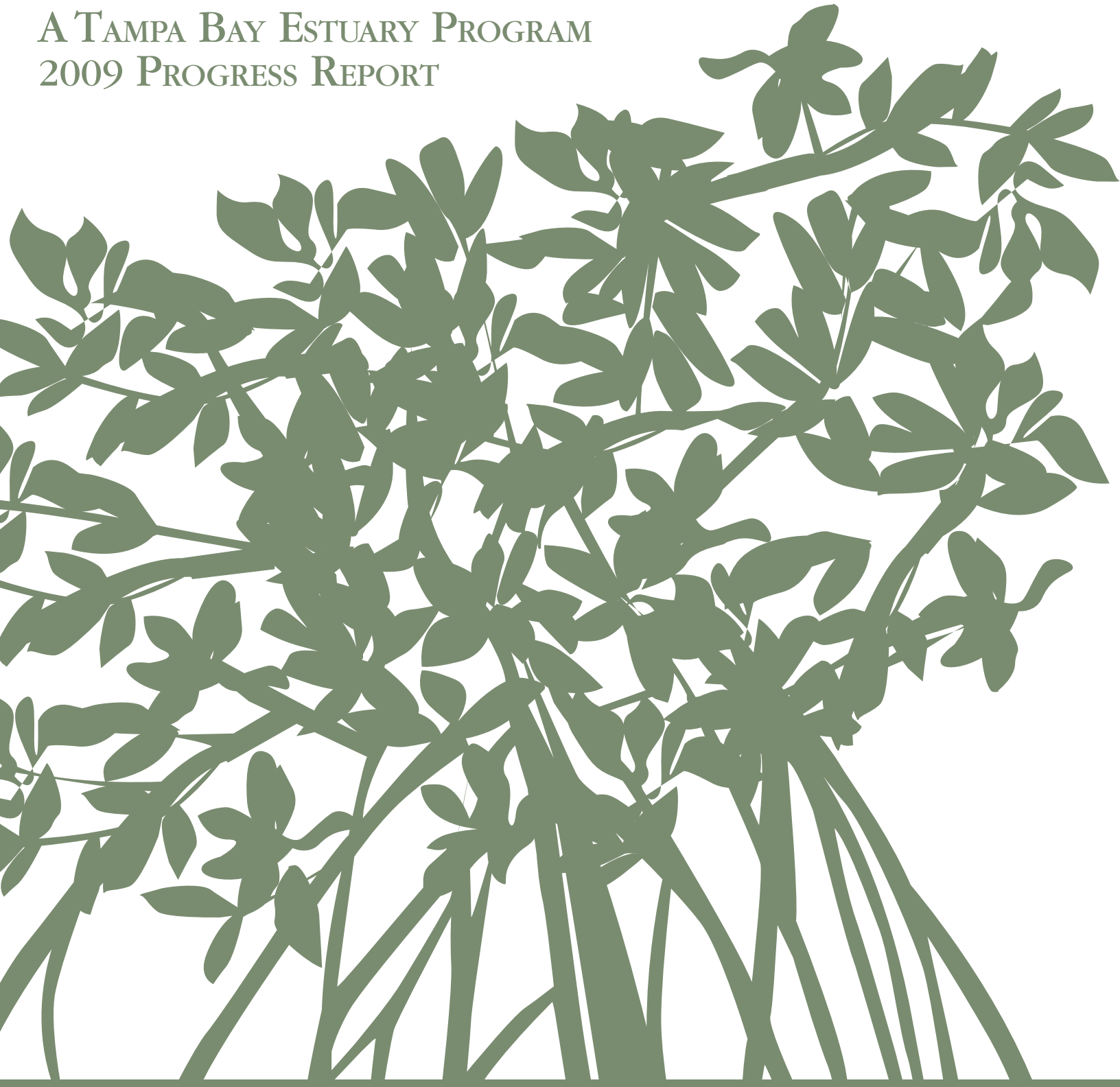

Tampa Bay Estuary Program
100 8th Avenue S.E.
St. Petersburg, FL 33701

Tel: 727.893.2765
Fax: 727.893.2767

E-mail: saveit@tbep.org
www.TBEP.org

Acknowledgements

Photography by:
Donna Bollenbach
Nanette O'Hara

Watercolors by:
Sheri Bazany
BlueCoveStudio.com