FALL 2011

Bay Soundings

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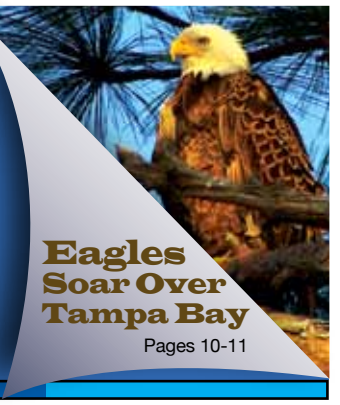
COVERING THE TAMPA BAY WATERSHED



Eagles Soar Over Tampa Bay
Pages 10-11

Corridor Connects Past with Present and Future

Photo by Victoria Parsons

Mangrove-lined trails beckon canoeists through Cockroach Bay, one of the first sites in the nation to be purchased with voter-approved funding specifically to protect ecosystems.

By Victoria Parsons

Sometimes, the best-laid plans turn out even better than anyone involved would ever have expected.

For instance, nobody envisioned that the spoil islands created when shipping channels were dredged across shallow bay bottom would become internationally important bird nesting sites. And the grand plan certainly didn't extend to protecting the vast majority of Tampa Bay's eastern shore in a nearly contiguous corridor.

In fact, the initial plans for Tampa Bay bear little resemblance to the natural beauty we see today. Allen Burdett joined the Florida Department of Environmental Regulation (now the Florida Board on Conservation) in 1968 to enforce development permits in a territory that ranged from Marco Island to Crystal River.

"It was the wild, wild west back then," he recalls. "Some people thought that the whole shoreline should be developed anywhere the water was too shallow to navigate."

The corridor began to come together about 30 years ago when scientists realized that the accidentally created coastal islands were attracting a wide variety of nesting birds. "We had brand-new research documenting that birds like the white ibis needed freshwater food sources for their young," recalls Robin Lewis, a long-time bay advocate. "Some of them had to fly 30 to 40 miles to find freshwater food."

That led to one of the nation's first referendums where citizens voted to tax themselves to purchase wildlife habitat at Cockroach Bay. "There were some skeptics at first but we put together a good case that we needed to buy and protect this land in perpetuity," notes Rob Heath, former director of Hillsborough County's land management program.

By 1985, more new research detailed the link between mangroves, marshes and fish populations. "That brought a whole new

Corridor
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INSIDE:

CHANGES AFLOAT AT BAY SOUNDINGS!

Like nearly every organization in Florida, *Bay Soundings* has been impacted by the difficult economy. Budgets at one major funding source have been cut and we all need to do more with less money.

Two major changes will occur in 2012:

• First, we'll make sure everyone who receives a copy of *Bay Soundings* in the mail wants it. You must call, write or email us to let us know that you want to receive an individually mailed copy. If we don't hear from you, your name will be removed from our mailing list.

• We're also cutting back on the number of issues we print this coming year. Instead of publishing as a quarterly, we'll print three issues 2012. We hope this is a temporary change but we're all waiting to see what happens with the economy.

At the same time, we're working to reach beyond our traditional audience. We've expanded our on-line presence as well as working to set up additional distribution sites for our print publication. Web readers have noticed that we now have "Tell a friend" links on every page that make it easy to spread the news via email, Facebook, Twitter and Gmail. New distribution points are still being finalized but the goal is to have the most recent edition of *Bay Soundings* available in places like doctors' and dentists' offices, select auto repair locations and restaurants. Please let us know if your workplace could be a distribution point.

As always, we welcome your input on the changes. Please contact us at editor@baysoundings.com or call 813-689-2616.

LET US KNOW NOW!

If you'd like to continue your mail subscription to Bay Soundings, please email circulation@baysoundings.com, call 727-570-5151 ext. 10, or fill out and submit the form on page 12. You will not receive a February issue in the mail if we haven't heard from you before then!

PROFILE

Brightman Logan: From Flowers to Food

When life handed Brightman Logan lemons, he planted organic vegetables.

A pioneer in the native plant industry, Logan's landscaping business plummeted with falling real estate values. Growing organic vegetables for the local market was the next-best solution.

"It's not native plants but it's sustainable," he says. "If people really understood how and where their food is grown, it would be a giant stride forward in reducing environmental damage and increasing our health."

Photo by Victoria Parsons

Brightman Logan developed a patented firebush using old-fashioned selection and high-tech tissue culture.

From the farmer's perspective, it's an enormous step from the native plants that have become acclimated to living in Florida's unique climate for thousands of years to the pampered vegetables grown without pesticides or chemical fertilizer. "There was a learning curve," he admits. "Food is a whole new thing for us."

Logan began growing organic vegetables at the family farm outside Zephyrhills in 2008. Like most Florida farmers, they plant cover crops during summer months and focus their energy on growing fresh vegetables during the cooler fall and winter months. One sunny August morning, a combine had plowed under the cover crop of nitrogen-fixing cowpeas and was spreading 20 tons of used coffee grounds on an eight-acre field.

As the combine roars across the field, tiny seedlings are being babied in a shade house by Logan's daughter, M.J., who also serves as director of sales and marketing for Magnolia Organics. "She wasn't particularly interested in the business when we were growing native plants, but she really wanted to get involved in the vegetables," Logan said.

Along with the expected lettuce, tomatoes and greens, M.J. selects some unusual crops to introduce to customers. Bright lights chard, for instance, features nearly fluorescent colors to tempt even fussy kids into trying it. Kohlrabi is a relative of broccoli, but with a milder, sweeter taste. Spaghetti squash looks and tastes just like pasta but has fewer calories.

Rather than setting up as a CSA (community supported agriculture) program where members receive standardized boxes of vegetables, customers can order vegetables online or visit farmer's markets in Hyde Park and Wiregrass. Monthly "farm days" are scheduled on the second Saturday of the month from November through June with activities for both adults and children to help connect families to their food and the people who grow it. The Logans also are working to coordinate neighborhood deliveries in areas like Brandon, Lutz and south Tampa.

Next Steps for Natives

Although the landscaping industry has been impacted by the decline in the real estate market, Logan is taking the long view and preparing for the rebound with a new line of patented native plants.

"One of the problems with native plants is that they aren't always uniform in a landscape," he said. That problem can become a benefit when he selects plants that offer better color or improved growth patterns.

He's also continues to work with developers, showing them that using native plants in their landscapes offers significant savings in terms of water, fertilizer and maintenance costs, plus they provide nearly year-round color as well as habitat for wildlife.

While Logan has made native plants his life work, it was almost an accidental career for the fifth-generation Floridian who grew up in south Tampa. He spent hours listening to tales about natural Florida from his grandfather and then paid friends and neighbors to drive him out to land that his family owned near Zephyrhills where he spent weekends exploring the woods. After earning a degree in biology from Mercer University, he came back to Tampa and went to work for Biological Research Associates.

"We were working on some of the state's first wetlands mitigation projects and needed plants," he recalled. "There was a peat bog on the land so we started transplanting them. That became the capital I needed to start a real nursery in 1981."

He and his wife, Nan, built a Florida cracker-style home on an island in the middle of the bog just down the dirt road from the nursery. "It's a great life," he says. "Some days I go all day without seeing a paved road."

For more information: www.magnoliaorganics.net or www.allnativefloria.com, 800-449-2363

Other organic growers in the Tampa Bay region include Eco-Farm in Plant City (email ecofarmfl@yahoo.com), Scotty's Produce in Polk County (email pegjeffcamp@yahoo.com) or Passion for Produce (www.Passionforproduce.net). In Pinellas, about a dozen growers have banded together to create a network that supplies a wide range of produce and food at http://stpete.locallygrown.net. Sweetwater Organic Farm (www.sweetwaterorganic.org) in Tampa, one of the first CSAs in the nation, has sold out its memberships for the 2011-2012 season but does have a waiting list.

Explore Tampa Bay's magnificent waterworld and watershed with *Bay Soundings,* a quarterly news journal covering Florida's largest open-water estuary. *Bay Soundings* chronicles the news and issues affecting the bay, while profiling the people, places and creatures that make it so compelling. Thanks to generous community support, *Bay Soundings* is distributed free of charge to local and national subscribers. Interested readers may subscribe online at www.baysoundings.com or send an email to circulation@baysoundings.com. Bulk copies also are available for distribution through area attractions, schools, businesses and civic organizations.

TALK BACK

We welcome letters to the editor on topics covered in Bay Soundings as well as articles or story ideas on issues impacting Tampa Bay and the region's natural resources. Send letters to editor@baysoundings.com.

SEND US YOUR NEWS

We're always interested in news about community organizations involved in Tampa Bay, and our calendar page highlights upcoming bay-related events and activities. Send news to editor@baysoundings.com.

HELP YOURSELF

If you see an article in *Bay Soundings* that you would like to include in another publication, help yourself. All we ask is that the story appears with the following credit: "Reprinted with permission from *Bay Soundings.*" Photos, however, may not be reprinted without express written permission.

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Local Marinas Support Shark-Free Initiative

Photo courtesy Florida State Archives

Four Tampa Bay marinas have signed up to support a national initiative that discourages the landing of sharks. They include Largo Intercoastal Marina, Loggerhead Club and Marina in St. Petersburg, Longboat Key Club Moorings and the Anclote Island Marina.

Around the world, sharks are being killed at an unsustainable rate, according to a study by Imperial College, London, which estimated that up to 73 million shark fins per year are harvested for shark fin soup. Closer to home, the U.S. government estimates that recreational fishing kills an average of more than 200,000 sharks per year along the Gulf and Atlantic coasts.

“Many shark species have declined because of overfishing, which recreational fishing has contributed to in the U.S.,” notes Robert Hueter, director of Mote Marine Laboratory’s Center for Shark Research. “Sustaining these species is in the interest of recreational anglers as well as marine conservationists.”

The Shark-Free Marinas Initiative (SFMI) has organized as a cooperative by the Pegasus Foundation, the Guy Harvey Ocean Foundation and The Humane Society of the United States, with support from Mote, the Pew Environment Group, Fishpond USA and the Fisheries Conservation Foundation.

"There is no state more important to the success of this initiative in the United States than Florida, the sport-fishing capital of the world," says Luke Tipple, managing director of the SFMI. "Because of the number of shark species off Florida, and the sheer number of nursery grounds and migratory routes located there, protecting Florida's sharks is critical to maintaining the health of Atlantic and Gulf of Mexico waters."

Contraceptive Shot for Cats Could Save Millions of Birds

Photo courtesy Stock.xchng

University of Florida researchers, in collaboration with the U.S. Department of Agriculture, report that a single dose of an immunocontraceptive vaccine controls fertility over multiple years in adult female cats.

The scientists hope their findings will aid in the registration and use of the vaccine, called GonaCon, to help manage overabundant feral cat populations humanely.

Cats, particularly feral cats, kill an estimated 480 million birds in the U.S. each year, making them a leading cause of avian death in many communities.

“Millions of free-roaming feral cats exist in the United States and in other countries around the world,” said Julie Levy, the lead researcher and director of the Maddie’s Shelter Medicine Program at UF. “Unfortunately, their welfare is not always adequate, and they can have a negative impact on public health and the environment.”

The vaccine is currently registered by the U.S. Environmental Protection Agency for use on female white-tailed deer; however, it has also proved successful with numerous other mammal species including feral horses, bison, elk, prairie dogs and ground squirrels.

“We’re hoping this research will lead to a nonlethal method of control for feral cat populations that is less expensive, labor-intensive, and invasive than current methods, such as surgical sterilization,” Levy said.

Funded by Morris Animal Foundation, a nonprofit organization that advances veterinary research to protect, treat and cure animals, the five-year study was published in August online in the scientific journal *Theriogenology*.

Nutrient-rich Streams Starve Out Predators

A long-term study at the University of Georgia looking at how changing nutrient inputs to streams affects forest-dwelling organisms has yielded surprising results. Although higher levels of nutrients increased the number of aquatic insects, streamside predators that depend upon them as a food source did not benefit. In fact, they received significantly less nutrition from aquatic sources than did their counterparts at a similar unenriched stream nearby.

An earlier study had demonstrated that high levels of nutrients allowed many aquatic insects to grow to their maximum size. In-stream predators were generally unable to consume these larger insects so researchers predicted that terrestrial predators such as spiders would be able to take advantage of this increased source of nutrition.

“We didn’t expect what we found,” said Amy Rosemond, an associate professor of ecology. Most spiders—even those that specialize in preying on stream insects—were receiving less nutrition from aquatic sources at the enriched stream than were those at streams without added nutrients. And rather than increasing, populations of spiders were the same or even smaller at the enriched stream.

The researchers suspect that, as with in-stream predators, the larger insects were difficult for the spiders to consume.

“In the last ten years we’ve started to understand how much stream ecosystems depend on forest ecosystems and vice versa,” Rosemond added. “This is the first study to show how nutrient enrichment affects subsidies from streams back to forests.”

Implementing the ONE BAY vision: Region applies for HUD grant

A regional consortium of partners, led by the Tampa Bay Regional Planning Council, is vying for a $4-million grant to advance implementation of the ONE BAY regional shared planning vision.

More than half of the funding would cover efforts aimed at uniting the community by revitalizing and strengthening transportation corridors and connecting neighborhoods to spur regional transit-oriented development (TOD). The grant would provide implementation of catalyst projects such as the SR54/56 Corridor Plan; Wesley Chapel Targeted Growth and TOD initiative; University District revitalization; Clearwater Downtown Transit Station Area Plan; Gateway Business District Plan; East Lealman Community Revitalization Plan; St. Petersburg Transit Station Plan; Sarasota and Manatee TOD Plans; and an update of the countywide plan for Pinellas County.

Funding will also be used to integrate the regional vision into the Strategic Regional Policy Plan, conduct a transportation listening tour and other public engagement efforts. Grant winners will be announced by the end of the year.

For more information on the ONE BAY vision, see *Bay Soundings* Winter 2009.

Part of Gandy Causeway Set Aside for Birds

Photo by Victoria Parsons

From a speeding car on busy Gandy Boulevard, it’s difficult to imagine that the narrow causeway leading to the bridge could be an important spot for migrating birds. As other beaches are built over, however, it’s become so significant that the Florida Department of Transportation has placed concrete barriers to block off the southeast corner to cars.

The recommendation to close the beach to motorized vehicles came from the Florida Fish and Wildlife Conservation Commission (FWC) at the urging of the Suncoast Shorebird Partnership that provided data from 2008-2010.

"The portion of the beach next to the radio tower is an important staging area for feeding and migrating shorebirds and seabirds. Places where these birds can safely forage and rest are becoming scarcer - a contributing factor to the decline of some species," said Nancy Douglass, biological supervisor for the FWC.

Weaving the Past with the Present: A trip down the Hillsborough River

Hillsborough River Guidebook, Kevin M. McCarthy, 2011, Pineapple Press

Reviewed by Suzanne Cooper, principal planner, Tampa Bay Regional Planning Council

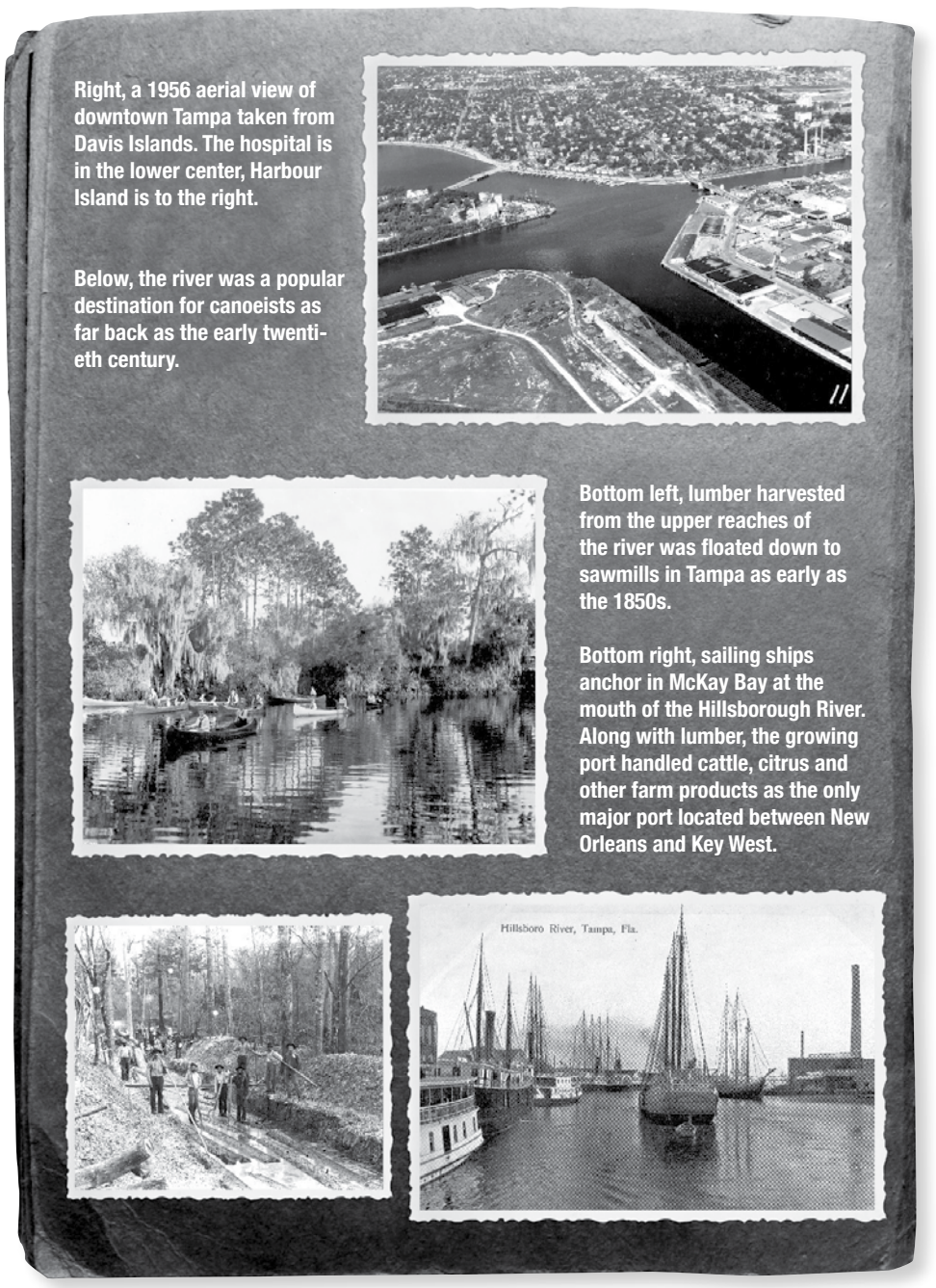
Calling Kevin McCarthy's latest offering a "guidebook" doesn't begin to cover the scope of this wonderfully informative view of the Hillsborough River. Of course, it's a great guide to take if you're planning a trip down the historical waterway, but it's so much more than that.

Dr. McCarthy details Florida's geologic evolution, early peoples, and its struggles with the first carpetbaggers in an entertaining format that doesn't come close to anything like a textbook. He mixes the ancient history with recent news to reveal the substance of what we see today across our region – it makes me yearn to pull out a kayak and visit those places again.

But the book also will appeal to people who would never even consider actually venturing into an alligator haven. Each of nine river segments between the Green Swamp and Hillsborough Bay is described by water and by land in a very creative way. The many, many photographs – dating from 1885 to the present – illustrate how far our area has come in terms of technology, transportation and urbanization. It is amazing to see aerial views of downtown Tampa, Davis Islands and what is now Harbour Island when industrial development dominated the waterfront and street cars were commonly used. Pictures of logging trains hauling behemoth tree trunks out of the landscape remind us that it wasn't too long ago that this region was wild and unrestrained.

Archaeological records indicate that humans made their way to this area 12,000 to 15,000 years ago. In 1528, Spanish explorer Panfilo de Narvaez landed near Tampa Bay and found the Tocobaga people established in the area. They called the river Locksa apopka – A Place for Eating Acorns. In 1539 Hernando de Soto, another Spaniard, landed at what was probably the Hillsborough River and had a lasting impact on the area. By the early 18th century, disease and slavery had nearly eliminated the Tocobaga people.

By 1772, a map drawn and sent to English Earl of Hillsborough, Governor of West Florida, showed the river named as the Hillsborough. Modern occupation began in earnest in the early 19th century and hasn't slowed since. The guidebook has pictures of drawings of native-explorer conflicts and photos of some of the early bridges across the river – wide enough for one horse-drawn cart!



All photos courtesy Florida State Archives

The river has been flowing for about 27,000 years. It rises from the Green Swamp in northwestern Polk and Pasco counties, sharing headwaters with the Withlacoochee River, then meanders as a wooded wetland until it flows through Crystal Springs and various tributaries to form a major river. Its headwaters were ignored during the frenzy of swamp-clearing and land-draining activity that dramatically changed the Everglades, Kissimmee River valley and other notable Florida watersheds. Even today, it only has one dam, near Rowlette Park, which forms the 1,300-acre reservoir that supplies the City of Tampa's drinking water.

The river's early name – A Place for Eating Acorns – speaks to the abundant oak hammocks and swamps that still border much of the upper river. Much of the rich pine flatwoods that covered the uplands were cleared for cattle ranching in the early 20th century, but large parcels have since been reforested. State and regional agencies own or hold easements on large tracts that are used for groundwater protection and flood control, ensuring that the headwaters will retain their primary function.

At the same time, the lands are accessible to the public -- a real bonus in our urbanized landscape. The guidebook has information on how to access these lands, where to rent a canoe or kayak, and what level of paddling/boating expertise is best to enjoy each of the upper stretches.

Along the river, McCarthy describes the river in terms that draw his readers to seek these same experiences. For example, the section around Trout Creek Park has "the fattest gators on the whole river." And although each stretch of the river is separated into "by water..." and "by land..." subchapters, these lines are quite blurred and are interspersed with history and current events about the local area, the extended area surrounding it, and more. The information flows like a conversation – meandering like the river into related topics and then back to the main point enriched by the diversion.

Dr. McCarthy's references to key people, past and present, and to other publications reminds us just how rich our history is, how many have been inspired to write about it and how many river advocates are still in our midst. He even quotes articles from our own *Bay Soundings*! The Appendices provide information for boaters, and places to visit, stay and eat on the land side; and the Further Reading section is a valuable listing of books, articles and more that will send you in search of more knowledge about the river and the region.

As you can tell, I thoroughly enjoyed this little book, and I'm looking forward to reading more of Dr. McCarthy's work, including guides to the St. Johns and Suwannee rivers which are already available and a new book on the Caloosahatchee that will be published in January 2012. I think I can learn a lot about those rivers, those parts of Florida, and the people who are and have been involved with those rivers. I expect I'll be itching to visit those rivers, too.

About the author: Dr. McCarthy is professor emeritus of English and Florida Studies at the University of Florida where he taught for 33 years. He has written over 50 books on such diverse topics as Aviation in Florida, Lighthouses of Ireland, Florida Outhouses: An Ode to the Shack in the Back, Twenty Florida Pirates, *and many, many more on Florida subjects, and has been published in numerous magazines and journals of all sorts. Check out his website at www.kevinmccarthy.us or visit www.pineapplepress.com for a more complete list of his published works.*

Do Fertilizer Ordinances Work?
TBEP Study Aims to Find Out

The Tampa Bay Estuary Program has launched a 3-year research project to assess whether restrictions on residential fertilizer use result in water quality improvements.

"There have been some pretty dramatic results in other states, but nothing has been done specifically in Florida," notes Nanette O'Hara, public outreach coordinator for the estuary program.

The work will compare nitrogen levels in stormwater ponds in selected communities within Hillsborough, Manatee and Pinellas counties, which have all adopted different lawn and landscape fertilizer ordinances. For example, Pinellas County has a total ban on use and sales of nitrogen fertilizer in the summer; Manatee County has a summer ban on use only; and Hillsborough County does not ban either use or sale of nitrogen products.

The goal of the research is to determine which, if any, of the ordinances is successful at reducing nitrogen pollution in area waterways, and to what extent.

The communities to be studied consist of sections of newer subdivisions with stormwater ponds, where the primary source of the stormwater is the homes within the study area. Water quality sampling for nitrogen will be conducted in these ponds during both wet and dry seasons to detect changes in nitrogen levels.

Sources of nitrogen can be tracked using isotopes that identify whether it came from animal waste, fertilizer or atmospheric deposition, she adds.

Social surveys also will determine whether, and to what extent, homeowners in those neighborhoods have changed their lawn care practices as a result of the ordinances and associated educational programs. "A secondary goal is to determine how well education works," O'Hara said.

The work will be conducted by a team led by Applied Ecology, Inc., in partnership with researchers from the University of Central Florida and the University of Florida.

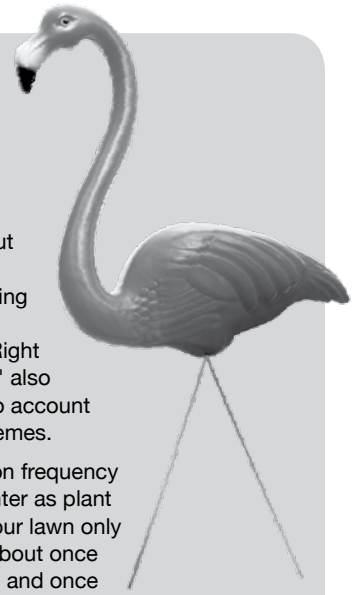
More than 40 communities in Florida have enacted fertilizer ordinances since 2007, but this study is the first effort to measure how effective they are at reducing nitrogen in waterways. Quantifying the water quality benefits of fertilizer ordinances could help local governments meet new regulatory requirements for reducing nutrient pollution in their streams, lakes and bays.

"If we can prove that fertilizer regulations protect water quality, they could become a significant consideration in the regulatory arena," she said.

TBEP hopes that the local governments participating in the project will continue the water quality sampling after the study ends, to track long-term trends in nitrogen levels resulting from the ordinances.

Funding for the $200,000 project is being provided equally by the Estuary Program and Pinellas County, with in-kind contributions from the City of Tampa, Manatee County, and the Environmental Protection Commission of Hillsborough County.

Be Floridian This Fall



As the summer ban expires for the year, partners of the Be Floridian fertilizer education campaign urge residents to apply fertilizers judiciously.

Garden centers in Pinellas County offer a variety of fertilizers that comply with the county's fertilizer ordinance. Products on the store shelves from October through May must contain at least 50% of the nitrogen in a slow-release (or timed release) form.

In other counties, residents can look for fertilizers that release nitrogen gradually, nourishing lawns and plants for a longer period of time. They also help keep our environment healthy, since they are more likely to be absorbed by the plants and less likely to run off into waterways when it rains. Too much nitrogen is the biggest source of pollution in our lakes, ponds, Tampa Bay and the Gulf of Mexico.

If you choose to fertilize, October is a good month to do it. Gardening experts do not recommend use of fertilizers during the coldest winter months because grass and plants are not actively growing and cannot utilize the nutrients.

Here are a few additional tips to keep both your landscape and our waterways healthy through the fall and winter:

- Fertilize only when you are looking for a particular plant response such as growth, more blooms or to correct a nutritional deficiency. If your plants and grass look healthy, hold off on the fertilizer.
- Make sure your cold-sensitive plants have been planted in the warmest sites on your property - usually south-facing areas protected by walls, fences or evergreen hedges. Better yet, choose plants that will easily tolerate winter temperatures. We've all learned hard lessons in recent years about the expense of constantly replacing plants killed by winter freezes! "Right plant, right place" also means taking into account temperature extremes.
- Reduce irrigation frequency in the fall and winter as plant growth slows. Your lawn only needs watering about once a week in the fall, and once every 10-14 days in the winter. If it rains, don't water!
- Provide tree shade or cover to guard against "radiation" freezes that occur on cold, clear, windless nights when heat "radiates" into the air from plants. Providing a tree canopy helps plants hold the heat they generate and prevents it from escaping into the night sky.
- Add 2-3 inches of mulch to hold in both heat and moisture during dry winter months, and moderate soil temperatures. Choose eco-friendly mulches like pine straw, pine bark or eucalyptus chips. Don't bag those leaves that fall in the autumn; use them as mulch instead!
- Avoid pruning in early fall; that extra growth will help protect your plants on chilly nights.

For more tips on how to Be Floridian, visit www.befloridian.org.

For information on the Pinellas County Fertilizer Ordinance visit http://www.pinellascounty.org/environment/watershed/fertilizer.htm.

For general landscape questions, and info about Florida-Friendly Landscaping™ visit http://pinellas.ifas.ufl.edu/FFL/index.shtml.

Corridor

Continued from cover page

group to the table supporting restoration," Lewis said. "People love birds and even more people love fish. When we could tell them that healthy habitat equals healthy fisheries, we got their support too."

In 1987, 71% of Hillsborough County voters supported a 0.25 mill tax for four years specifically to purchase wildlife habitat in a program called Environmental Lands Acquisition and Protection(ELAPP). "That was one of the first instances of citizens voting to tax themselves for general habitat purchases," Lewis recalled.

By then, scientists had begun to document the value of a corridor, notes Brandt Henningsen, the chief environmental scientist for the Southwest Florida Water Management District who has been involved with many of the eastern shore projects. "The original purchases were happenstance but looking at land acquisitions from a corridor perspective gave us an even longer-term vision," he said. "We began to focus on the connectivity that wildlife needs to thrive."

Much of the corridor, including key tracts at Cockroach Bay, the Rock Ponds and Wolf Branch Creek, was purchased with funding from partnerships created between ELAPP and the water management district. The SWIM (Surface Water Improvement and Management) program led restoration efforts at most of the large tracts along the bay.

When the original ELAPP neared expiration, 79% of citizens voted to continue the special tax levy. "Voters clearly recognize the value of environmental lands purchases," said Jan Platt, a former county commissioner who was a driving force in protecting Tampa Bay. "ELAPP won the biggest majority on the entire ballot that year – even in a difficult economy."

While much of the corridor is already in public hands, the future is less clear for remaining pieces. Land acquisition funding at the state and district level has dried up but Hillsborough County has been able to make several major purchases – in large part because no other entity had cash available when a motivated owner was ready to sell.

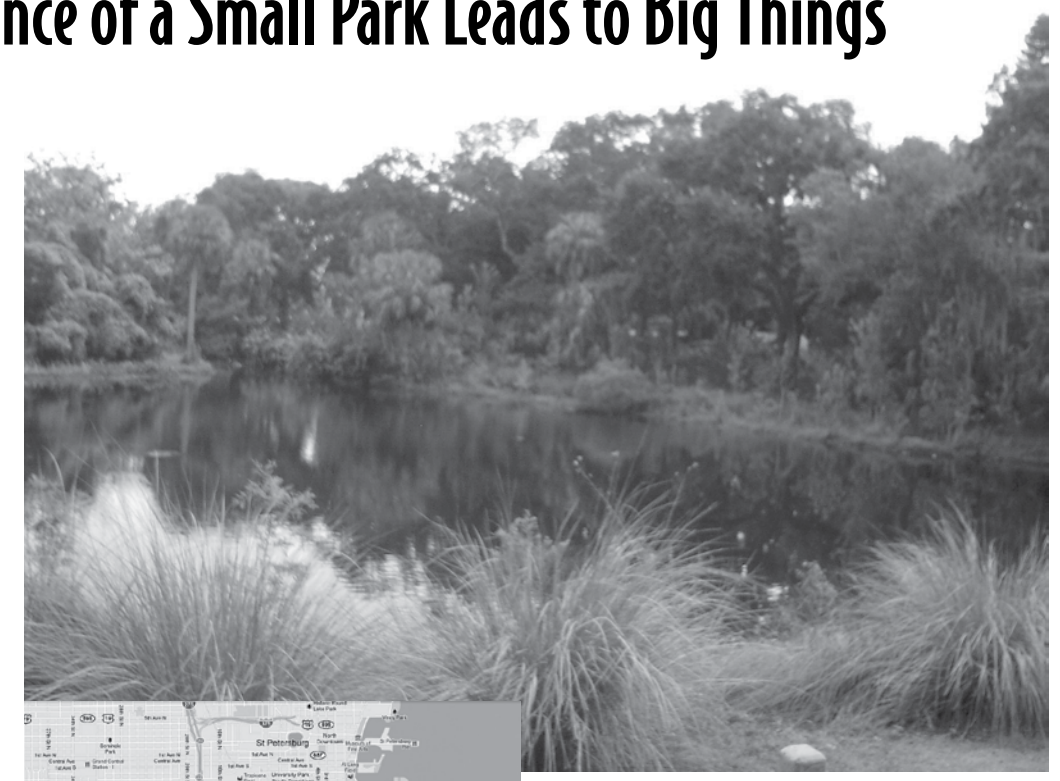
"It's good because we may be the only buyer in the market and we have cash available," says Forest Turbiville, section manager for Hillsborough's park department. "It's bad because we've been able to partner with the state or district on over three-quarters of the 60,000 acres we've purchased and that funding isn't there any longer."

Since voters approved spending up to $200 million in 2008, Hillsborough County has made two significant purchases inland but none on the coast, Turbiville said. "We're looking at a piece of land adjacent to 'The Kitchen' (south of the Alafia River and north of Apollo Beach) but we don't know if they'll accept our offer or not."

By law, ELAPP can't pay more than the appraised market value for a piece of property – but appraisals have dropped dramatically too. "We've been very blessed," Turbiville said. "We're one of only about 15 other counties with environmental lands purchase programs. I think we'll come out of this with even more of natural Hillsborough County protected."

Little Bayou Park:
The Amazing Renaissance of a Small Park Leads to Big Things

By Ray Wunderlich III and Ron Chicone



Little Bayou Park holds a unique place in history as well as a special space in the region's ecology.

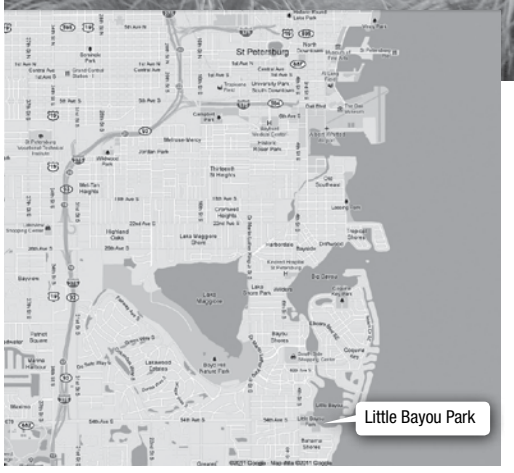
From a historical perspective, its shores once saw a Union sloop bombard the home of southern sympathizer and early pioneer, Abel Miranda, who lived on Big Bayou just to the north. It was also called home by one of St. Petersburg's first pioneers and its first postmaster general, John Bethel, in the mid 1800s. Bethel describes the land as a poor choice to raise "truck crops" (pumpkins, squash, beans, watermelons, etc.) referring to an 1868 settler's attempt to farm a section then known as "The Maple Swamp" with disastrous results. Later, citrus performed poorly on it as well. Some of the foundation's remains can still be found in Little Bayou, and one of the oldest homes in St. Petersburg, circa 1915, abuts the property.

Sometime in the early 1900s, a large portion of the bayfront property was purchased by banking magnate Hubert Rutland Sr., and became a wild, forested playground for his family. The Rutland's 30-acre site was sold to the City of St. Petersburg in the early 1970s. Then, during Mayor Baker's administration, the northern third of the parcel was sold and developed as a condominium community.

The remaining 19-acre section is now known as Little Bayou Park. The woodsy site is one of only a few remaining section of the natural coastline that originally lined most of Tampa Bay and it is officially designated as a "Wild Park" by the city.

I had known this mysterious, untouched, and largely forgotten forest existed from my days running through it on the cross-country team at nearby Lakewood High School. In 2004, working as a volunteer naturalist with the Florida Native Plant Society, I re-discovered Little Bayou Park. With the knowledge I gained through FNPS on the relationships among ecosystems and a penchant for making this park an ecologically productive learning tool, I formulated a proposal for restoring Little Bayou. The City embraced the proposal and we set about its renaissance.

The park encompasses four separate ecosystems: a distinctive mangrove swamp, a maritime hardwood hammock, pine flatwoods and a freshwater marsh system. Its watershed, however, is mostly residential but still includes Lake Vista, several seepage springs, and a channelized creek that flows through the park before reaching the bay.



Its position at the mouth of Little Bayou Creek gives it an environmental significance beyond its relatively small size. It is a sentinel against urban pollution protecting the bay from plastic bottles, cans, plastic wrappers, old shoes, pesticides, fertilizers, engine oil, human and animal waste, heavy metals and anything that washes down the storm drains. This stream is designated as an "impaired water body" by the state due to low dissolved oxygen, high fecal coliform counts, excessive nutrient levels and high mercury levels.

Along with contaminants deposited by water, the site was considered a "free dump" for years. We found trash that ranged from construction debris and furniture to plastics, old bicycles and even a dumped swing set. Dumping probably included yard waste containing exotic plants that had become ubiquitous and impenetrable in the park. To date, 26 non-native invasive plant species have been identified in Little Bayou Park. The most abundant include shoebutton Ardesia (*Ardesia elliptica*), Senegal date palm (*Phoenix reclinata*), lead tree (*Leucaena leucocephala*), air potato (*Dioscorea bulbifera*), swamp eucalyptus (*Eucalyptus robusta*), pothos (*Epipremnum pinnatum*) and Brazilian pepper (*Schinus terebinthifolius*).

Through the efforts and collaborations of the concerned volunteers and the multiple grants (including two from the Tampa Bay Estuary Program), over 3500 plantings of native trees and shrubs are flourishing in the park. Along with the trash, over 1500 cubic yards of vegetative debris were removed from the woods and wetlands. Over the last seven years, 14 organizations, 900 people donating 3300 volunteer hours, 16 official workdays (including two "Give-A-Day For The Bay" workdays), and the University of South Florida's Environmental Science and Policy Laboratory classes have contributed mightily to the improved ecology of the area.

The years-long dedication of volunteers from across the region has made Little Bayou a showcase for what a small group of committed people can accomplish:

- Never has an all-volunteer force working in conjunction with the city restored such a large area and continued to help maintain it.
- No other cumulative mass of volunteer hours has equaled this commitment to restoring a St. Petersburg park.
- Never have so many entities including government, non-profit, neighborhood, private, and community, collaborated for one effort.
- Never has a volunteer effort been able to scientifically identify and document the plant and animal species occurring in an undermanaged St. Petersburg park. Many botanical specimens, including some previously undocumented invasives, of the park's flora have been preserved and are on file at the USF Herbarium.
- Little Bayou also is the first interactive outdoor laboratory, integrating classroom experiences for students at USF who are learning aspects of habitat restoration, botany, ecology, non-native invasive plant removal, taxonomy, and public-private collaborations.

Recognizing those accomplishments, Little Bayou Park received the Tampa Bay Estuary Program's Golden Mangrove Award for the best project in the Tampa Bay Area for 2010. The City of St. Petersburg awarded the author and his two USF interns "Sunshine Ambassador" awards for their outstanding efforts in making St. Petersburg a better place.

The success of this effect has increased the wetland and upland animal species quantity and quality, and numerous species have been documented including bald eagle, great blue herons, white ibis, four different woodpeckers, green heron, limpkin, little blue heron, yellow-crested night heron, kingfisher, gopher tortoise, chicken turtle, black snake, a yellow rat snake, osprey, reddish egret, snook, crow, grackle, warblers, many songbirds and over 15 species of butterflies.

Neighbors have shown an increased pride and respect for the site by picking up trash and keeping an observant eye on the area. No homeless people frequent the area anymore and usage of the park has increased. The city plans to list Little Bayou Park in its Parks and Recreation pamphlet for the first time.

Although we recognize Little Bayou is a small physical space at just 19 acres, it is the last natural area of its kind bordering Tampa Bay from Weddon Island to Maximo Park and serves critical environmental functions. Its pond, creek and wetlands are a last line of defense in protecting the bay from polluted runoff, and they help manage flooding during storms. The restoration of the park's rich natural habitats has created an ecological laboratory that is educating students and residents about the importance of a healthy environment.

It exemplifies the reality that actions have consequences, both positive and negative, in our local and global spheres. This continuing renaissance in Little Bayou Park shows how collaborative efforts and caring citizens must forge the way to an improved environment, a healthier community, and a better world.

Ray Wunderlich III a project leader in park restorative efforts. Ron Chicone is a professional ecologist. Both are active in the Florida Native Plant Society.

Discover Egmont Key: Annual Event Highlights Ecology, History

The lighthouse at Egmont Key has marked the entrance to Tampa Bay for more than 150 years. Today, a small group of dedicated volunteers is working to make sure the island and its lighthouse continue to welcome visitors from around the world.

Over the years, the island has changed dramatically. Nearly a third of the western shore has eroded away, leaving sections of crumbling remains falling into the water. Instead of hosting hundreds of servicemen who enjoyed a movie theater, bowling alley and tennis courts, Egmont now supports more than 117 species of birds as well as endangered turtles and tortoises. The lighthouse – once the only navigational aid between Key West and Pensacola – is more a symbol of longevity than a life-saving structure in an era where nearly every boat carries electronic equipment that pinpoints its location.

Tampa Bay residents have a special opportunity once a year to learn more about Egmont Key and its role in the region's history – and its future. Discover the Island will be held Nov. 12-13 this year with re-enactments of historic battles, guided tours of remarkable structures, special displays and presentations, as well as games for children.

"Even people who have been to Egmont Key may not realize what an important role in played in the region's history," notes Richard Sanchez, president of the Egmont Key Alliance. Even before Florida joined the United States, several petitions had been filed with the fledgling nation showing the need for a lighthouse to mark the channel into Tampa Bay. The first structure was built in 1848 at a cost of $7580.

In the 1850s, Egmont served as a staging area for Seminole Indians being shipped to Oklahoma in the "Trail of Tears" that largely decimated native American communities across Florida and other southeastern states. Egmont played a pivotal role in the Civil War as part of the Union's successful blockade restricting supplies to Southern states.

Photos by Victoria Parsons

Historic buildings are literally falling into the water as Egmont's western shore continues to erode. Supporters are working with local congressional representatives to secure funding to construct a sheet pile wall along a portion of the shore in time to take advantage of the anticipated 2014 widening of the ship's channel. The dredging will create about $10 million worth of beach-quality sand which could be used to renourish Egmont's shoreline.

Its most well-known historic niche may be the Spanish American War when Teddy Roosevelt and some 66,000 "Rough Riders" embarked from Tampa to fight in Cuba. The bay's strategic location became clear and the federal government built two major forts at its entrance – Fort Dade on Egmont Key and Fort DeSoto on nearby Mullet Island.

Although the island is open every day and accessible by ferry, Discover the Island includes commemorations and exhibits recognizing historic events to give visitors the opportunity to re-live them, Sanchez said. Highlights include:

- A display of underwater photos taken of the Union tug Narcissus which sank just west of the island in 1886.
- Re-enactments of Civil War events on the island
- Costumed volunteers conducting tours of specific areas, including re-enactments of a light-house keeper's days.

Tampa Bay Research Now National Model for Ecosystem Interactions

A decade-long study on Tampa Bay's ecosystem has become a national model for integrating research on the complex interactions of biological, chemical, geological and hydrological factors in estuaries.

The U.S. Geological Survey, working with the Tampa Bay Estuary Program, will publish a synthesis of the research, covering the complex interactions of biological, chemical, and geological systems. interactions in November. Entitled "Integrating Science and Resource Management in Tampa Bay, Florida," the research looks at how ecosystems function as a whole.

"This is a huge cultural shift at USGS," notes Dr. Kimberly Yates, the biogeochemist directing the study. "To effectively manage ecosystems, we need to know how they work together."

The $20 million project involved scientists at 24 organizations including Tampa Bay Estuary Program, the University of South Florida, Eckerd College, the Florida Fish and Wildlife Research Institute, National Oceanic and Atmospheric Administration, Southwest Florida Water Management District and Mote Marine Lab.

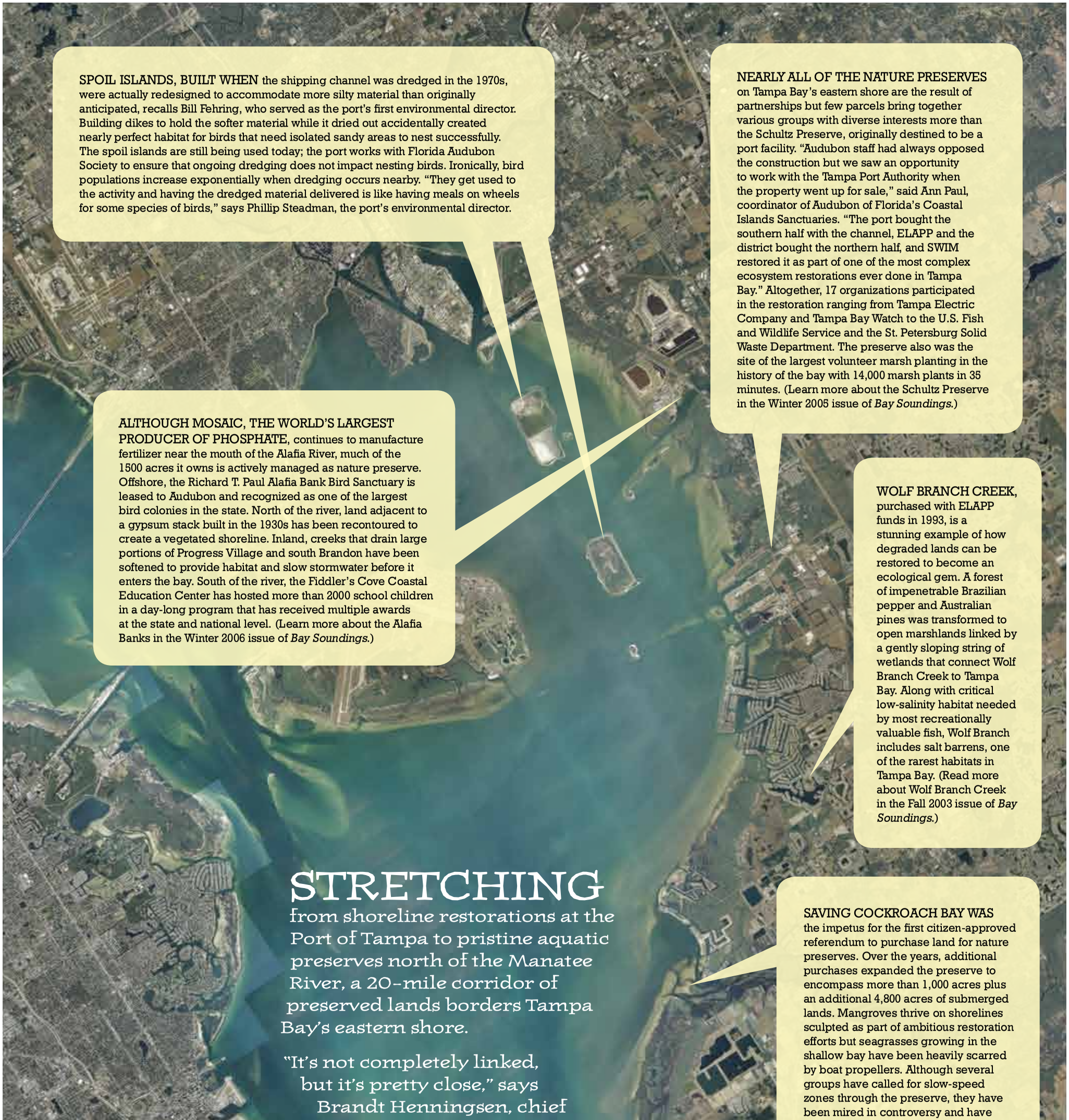
"Tampa Bay's CCMP (Comprehensive Conservation and Management Plan) is a national model for integrating scientific research and management actions," she adds.

Among the most interesting findings:

- Tampa Bay was actually formed as a series of collapsed sinkholes, not a submerged river bed, as some scientists had theorized. More than 100 sediment cores show the land underneath Tampa Bay changing from forest to marsh about 7,000 years ago. The transition was extremely rapid, occurring over a period of about 50 years.
- Even today, the coastline is a "leaky sponge" discharging fresh groundwater into the bay. Those discharges are likely to be a significant source of nutrients in bay waters.
- A dynamic urban growth model, which tracks the relations between thermal changes, impervious surfaces and seagrass growth, shows that seagrass acreage declined in Tampa Bay as the region's impervious surfaces increased, until about 1985 when the trend reversed.
- A topobathic map of Tampa Bay that combines data on both land and seafloor elevations in an easy-to-use document was the first seamless format developed (see *Bay Soundings* Spring 2011 for more information.) Those techniques are now being used nationwide to help scientists understand complex processes in ecosystems.

The Tampa Bay project also focused on data management and information and a highly interactive website designed to facilitate the exchange of scientific information – including public outreach to involve citizens in the decision-making process.

For more information, visit http://gulfsci.usgs.gov/tampabay/index.html.



SPOIL ISLANDS, BUILT WHEN the shipping channel was dredged in the 1970s, were actually redesigned to accommodate more silty material than originally anticipated, recalls Bill Fehring, who served as the port's first environmental director. Building dikes to hold the softer material while it dried out accidentally created nearly perfect habitat for birds that need isolated sandy areas to nest successfully. The spoil islands are still being used today; the port works with Florida Audubon Society to ensure that ongoing dredging does not impact nesting birds. Ironically, bird populations increase exponentially when dredging occurs nearby. "They get used to the activity and having the dredged material delivered is like having meals on wheels for some species of birds," says Phillip Steadman, the port's environmental director.

NEARLY ALL OF THE NATURE PRESERVES on Tampa Bay's eastern shore are the result of partnerships but few parcels bring together various groups with diverse interests more than the Schultz Preserve, originally destined to be a port facility. "Audubon staff had always opposed the construction but we saw an opportunity to work with the Tampa Port Authority when the property went up for sale," said Ann Paul, coordinator of Audubon of Florida's Coastal Islands Sanctuaries. "The port bought the southern half with the channel, ELAPP and the district bought the northern half, and SWIM restored it as part of one of the most complex ecosystem restorations ever done in Tampa Bay." Altogether, 17 organizations participated in the restoration ranging from Tampa Electric Company and Tampa Bay Watch to the U.S. Fish and Wildlife Service and the St. Petersburg Solid Waste Department. The preserve also was the site of the largest volunteer marsh planting in the history of the bay with 14,000 marsh plants in 35 minutes. (Learn more about the Schultz Preserve in the Winter 2005 issue of *Bay Soundings*.)

ALTHOUGH MOSAIC, THE WORLD'S LARGEST PRODUCER OF PHOSPHATE, continues to manufacture fertilizer near the mouth of the Alafia River, much of the 1500 acres it owns is actively managed as nature preserve. Offshore, the Richard T. Paul Alafia Bank Bird Sanctuary is leased to Audubon and recognized as one of the largest bird colonies in the state. North of the river, land adjacent to a gypsum stack built in the 1930s has been recontoured to create a vegetated shoreline. Inland, creeks that drain large portions of Progress Village and south Brandon have been softened to provide habitat and slow stormwater before it enters the bay. South of the river, the Fiddler's Cove Coastal Education Center has hosted more than 2000 school children in a day-long program that has received multiple awards at the state and national level. (Learn more about the Alafia Banks in the Winter 2006 issue of *Bay Soundings*.)

WOLF BRANCH CREEK, purchased with ELAPP funds in 1993, is a stunning example of how degraded lands can be restored to become an ecological gem. A forest of impenetrable Brazilian pepper and Australian pines was transformed to open marshlands linked by a gently sloping string of wetlands that connect Wolf Branch Creek to Tampa Bay. Along with critical low-salinity habitat needed by most recreationally valuable fish, Wolf Branch includes salt barrens, one of the rarest habitats in Tampa Bay. (Read more about Wolf Branch Creek in the Fall 2003 issue of *Bay Soundings*.)

STRETCHING

from shoreline restorations at the Port of Tampa to pristine aquatic preserves north of the Manatee River, a 20-mile corridor of preserved lands borders Tampa Bay's eastern shore.

"It's not completely linked, but it's pretty close," says Brandt Henningsen, chief

SAVING COCKROACH BAY WAS the impetus for the first citizen-approved referendum to purchase land for nature preserves. Over the years, additional purchases expanded the preserve to encompass more than 1,000 acres plus an additional 4,800 acres of submerged lands. Mangroves thrive on shorelines sculpted as part of ambitious restoration efforts but seagrasses growing in the shallow bay have been heavily scarred by boat propellers. Although several groups have called for slow-speed zones through the preserve, they have been mired in controversy and have

environmental scientist for the Southwest Florida Water Management District.

"There are some breaks but it's an amazing accomplishment and a true legacy. A hundred or two hundred years from now, people will look at this land and realize how wise we were to set it aside while it was still available."

not been approved by the multiple governments involved. (*Bay Soundings* has published a number of stories on Cockroach Bay including a BackBay Adventure through the preserve via kayak in Summer 2010, highlights from a student field trip in Spring 2004 and an article on proposals to limit damage to seagrasses in Summer 2009.)

ONCE SLATED FOR DEVELOPMENT as a power plant, the purchase of 2389 acres just north of the Manatee County line highlights how effectively ELAPP and the water management district have worked through the years. The site was identified, assessed and reviewed by a series of committees before it was nominated for acquisition in 1987. Nearly 15 years later, TECO wanted to sell the land quickly and local governments were ready. Restoration on some parts of the property is underway including removal of invasive plants; plans to improve tidal flushing to abandoned burrow pits are being drawn now. The rock ponds on the southwestern segment already are being used by wildlife and Audubon recently designated the area as a globally important bird area.

JUST SOUTH OF THE MANATEE COUNTY LINE AND bustling Port Manatee, a 2,000-acre parcel was snapped from the hands of developers who went bankrupt before they could build waterfront condominiums and an exclusive golf course community. Finger-fill canals have been reconstructed into meandering tidal channels punctuated by small islands. Hundreds of acres of uplands have been cleared of invasive Brazilian pepper and Australian pine trees, and replanted with native slash pine, oak trees and wax myrtle. The preserve also contains more than 20,000 acres of state-owned submerged lands, which are easily accessible by canoe or kayak. (*Bay Soundings* wrote an in-depth story on Terra Ceia in our Summer 2002 edition and a story on Mariposa Key at the western tip of the preserve in Summer 2010.)

Other stories on properties on the eastern shore of Tampa Bay include:

- Emerson Point Preserve in Manatee County, Fall 2002
- Newman Branch Preserve, Spring 2005
- Robinson Preserve, Summer 2006

A National Treasure Soars Over Tampa Bay

By Matthew Cimitile and Aaron Dalley

They soar over coastlines, rural countryside and lakes in search of prey. They rear their young in pine trees and manmade structures in parks or urban neighborhoods. They are a national treasure often seen soaring the skies over the Tampa Bay region, particularly during the fall and winter months when they nest here.

Once on the endangered species list, the bald eagle has made a remarkable comeback both nationally and in Florida. In 1973, there were 88 eagle nests across the entire state. Last year, more than 1,300 active nests were counted in Florida, making it the nation's third-largest concentration of bald eagles behind only Alaska and Minnesota.

The state's long coastline and abundance of lakes make it prime habitat for the raptor, said Ulgonda Kirkpatrick, an eagle biologist with the U.S. Fish and Wildlife Service (FWS). "All that water makes for a lot of really good foraging areas and we have a fair amount of habitat for nesting."

Water is critical to bald eagles, adds Michelle van Deventer, bald eagle management coordinator for Florida Fish and Wildlife Conservation Commission (FWC). "Most bald eagle nests in Florida are within 1.8 miles of water, so an area like Tampa Bay has the appropriate habitat for eagles."

The FWC's Eagle Nest Locator (https://public.myfwc.com/FWRI/EagleNests/nestlocator.aspx) website finds nearly 100 nesting sites within a 25-mile radius of downtown Tampa. While those numbers are probably significantly lower than they were before World War II, they're considerably higher than some people may have ever expected to see them.

National Symbol Nearly Extinct

The American bald eagle plays a central role in our country's history. Upon declaring the bald eagle America's symbol in 1782, the Second Continental Congress cited the bird's power, bravery, and perseverance as worthy attributes to represent the new nation. (Famously, Ben Franklin saw the eagle as an animal with "bad morale character," favoring the turkey as the nation's symbol.)

Nearly 100 bald eagle nesting sites are located within a 25-mile radius of Tampa – most pairs return to the same nest year after year. Trained Eagle Watch volunteers keep tabs on many of them to compile data on their success and identify potential threats.

Once numbering in the hundreds of thousands, eagle populations began to dwindle as the fledgling United States grew. Their preferred habitat – forests located near waterways and coastlines – appealed to settlers hungry for land. As large tracts of forests were converted to farmland, populations of waterfowl, shorebirds, and other animals the eagles hunted also plummeted. Eagles also had to contend with direct assault from hunters and farmers, who considered them a threat to their livestock.

By the mid 1950s, a hidden but deadlier adversary emerged for the bald eagle: dichlorodiphenyltrichloroethane, more commonly known as DDT. The pesticide, seen as a miracle cure for insect control, was extremely effective at protecting crops and killing mosquitoes. However, it also seeped into nearby water, infiltrating the food chain and eventually bioaccumulating in the fat tissues of fish and other animals. As top predators, eagles consumed high levels of toxins from the bodies of their prey.

DDT was in widespread use throughout the 1940s and 50s on farms, in coastal wetlands, even in neighborhoods. "When I was a kid growing up you bought powdered DDT to spread around the foundation of your house to keep bugs out, and you used to run behind fogging trucks that were spraying for mosquitoes to cool you down in the summer heat," recalls Gabe Vargo, a professor emeritus of biological oceanography at the University of South Florida College of Marine Science and head of the birds of prey aviary at Boyd Hill Nature Center in St. Petersburg.

Raptor populations, including bald eagles, were declining rapidly – bad news for both the birds and the ecosystems where they lived. "As top predators, raptors are sentinel organisms," said Vargo. "When they are not doing well ecologically, then there is usually something wrong with the larger environment. Their role in the ecosystem is to maintain populations of organisms below them in the food chain at reasonable levels and maintain a healthy prey population by easily removing sick or weak individuals that may carry disease."

The far-reaching impact of DDT was largely unknown so scientists were both alarmed and puzzled by the declining numbers. The effects of DDT and decades of habitat loss and predation struck home when the U.S. Fish and Wildlife Service estimated that there were less than 500 pairs of eagles nesting in the lower 48 states by 1963.

An Unlikely Researcher

One of the first researchers to document the decline in eagle populations was Charles Broley, a retired Canadian banker who spent his winters in St. Petersburg. He was fascinated by raptors so a friend and member of the National Audubon Society suggested that he begin banding eagles. At the time, no one knew how many lived in the Tampa Bay region – or where they went during hot summer months.

Although his friend suggested that he hire a younger helper to climb trees to the eagle nests, Broley did it himself with a homemade rope ladder. One biographer describes the process: "He would spring, spiderlike, on a web of fragile ropes, 100 feet above the earth, until he could secure a death grip on a jungle of sticks and heave himself into a nest of protesting – and sometimes threatening – birds."

Once in the nest, he would hold one wing down with his leg then attach an aluminum band to its left foot. Between 1939 and 1958, Broley banded well over a 1,000 eagles, making the Tampa Bay eagles the most intensively studied population in North America, according to Rachel Carson's *Silent Spring*.

Broley's annual banding revealed two important discoveries. First, young bald eagles migrated out of Florida as far north as Canada, generally not returning until they reached adulthood at the age of five. Second and more importantly, the number of eagles being banded in Florida each year was diminishing at an extremely rapid pace. At first, Broley found and banded about 150 eaglets per year. By 1958, he found only one eaglet to band within a 100-mile range and just 10 adults.

Broley concluded that that DDT was the likely culprit but he died in 1959, three years before Carson's book was published and clearly linked the decline of our national symbol with the indiscriminate use of DDT. Carson showed that the egg shells of predators became thinner when parents were eating fish with high doses of DDT, so thin in fact, that the shells would break when their parents sat on them to keep them warm.

"By going to egg collections that were held at Smithsonian and other museums, ornithologists eventually discovered that the thickness of the current bald eagle egg shells were much thinner than what the shells had been in the past," said Vargo.

The publication of *Silent Spring*, along with the dwindling numbers of raptors and the overall degradation of our ecosystems, is generally credited with spurring the modern-day environmental movement. The creation of the Endangered Species Preservation Act, later expanded to the Endangered Species Act, and the banning of DDT in 1972 laid the foundation for the eagles' recovery.

"The combination of regulations that ban DDT and smarter habitat management were

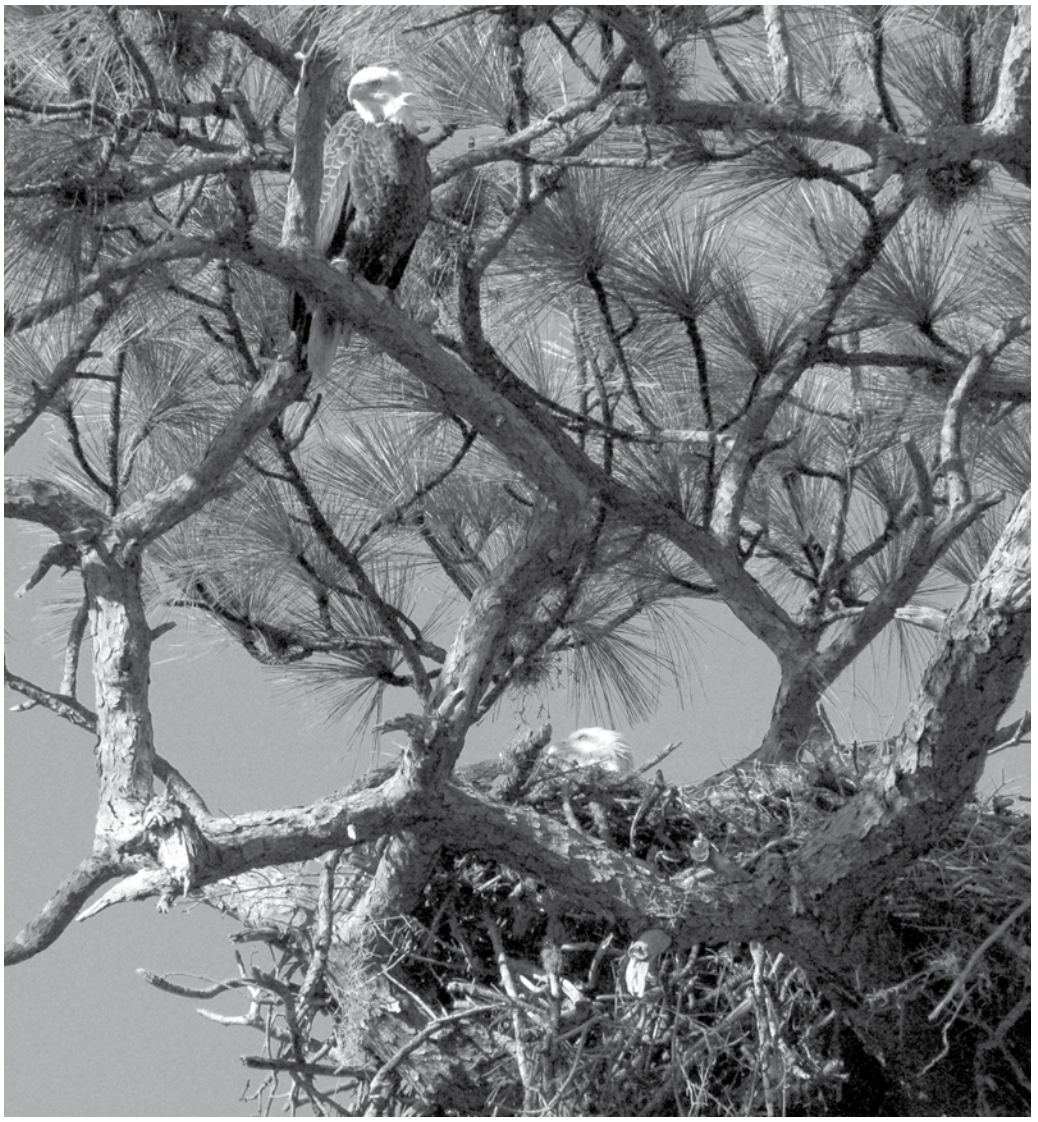


Photo by Karen Morgan

Eagles prefer to nest in large old pine trees that were once abundant across Central Florida.

key to the survival of the species," said Kirkpatrick. "We no longer completely clear-cut forests, we regulate in a manner that protects eagles. Through greater education, we're helping more people understand that this is both our nation's symbol and an important species in the ecosystem."

Bald Eagles Rebound

For many people, the bald eagle is the poster child for the Endangered Species List. That first class inducted in 1967 included charismatic animals like the Florida panther, grizzly bear and whooping crane, but listing our national symbol as an endangered species clearly illustrated the severity of the crisis.

Of the nearly 2,000 species identified as endangered, only 21 have been de-listed, indicating that populations have reached a sustainable level and they no longer need federal protection. The eagle's remarkable resurgence was assisted by its status as the nation's symbol, increasing awareness of its plight. And unlike other endangered species, breeding populations of bald eagles remained in Canada and Alaska and could be used to help bring back eaglesto the lower 48.

"Bald eagles from Canada and Alaska were used in a captive breeding program to raise young for reintroduction throughout the nation, including Florida," said Vargo. "Once they started reestablishing themselves, there was enough food out in the wild to support a higher population since there were so few eagles at the time."

By 1995 the U.S. Fish and Wildlife Service changed their classification from endangered to threatened, then removed eagles from the list in 2007.

Although no longer protected as an endangered species, bald eagles still retain federal and state protections. In fact, the first government protection for bald eagles actually preceded the list by 30 years. Congress passed the Bald Eagle Protection Act in 1940 that prohibited killing, selling and possessing the species. It was later amended to include the golden eagle and remains in effect as the Bald and Golden Eagle Protection Act. Another federal law, the Migratory Bird Treaty Act, prevents the taking of migratory birds, eggs, feathers and nests.

Additionally, Florida has its own bald eagle rule that protects the state's population, and a Bald Eagle Management Plan designed to maintain or increase the population of eagles throughout the state. The plan focuses on minimizing activity near nests to reduce potential disturbances, said van Deventer.

"The last call I received pertained to eagles nesting in a cell tower that needed to have repairs done to it," she said. "The climber doing the repair called to see when would be the best time to conduct the work so as not to disturb the nest and our guidance was to conduct the repairs outside of the nesting season."

FWC guidelines call for a buffer zone of 660 feet around an occupied eagle's nest to minimize impacts. Activity outside this area is not likely to disturb the eagles. The buffer zone is critical, regulators stress, because disturbances could result in decreased productivity during breeding season. Eagles typically return to the same nest throughout their life, sometimes for 15 to 20 years, if not disturbed.

"Activities like building a new home, clearing trees, putting in a new highway or building a retention pond can be noisy and disruptive and cause eagles to abandon their nest. These activities should be delayed until outside the nesting season," said van Deventer.

Land Use Challenges Grow

As the region continues to grow, land-use issues are likely to become more challenging. For instance, a parcel of land with development rights for 16 homes is owned by the Morton Plant Mease Foundation in the East Lake area of St. Petersburg. Unable to sell the property to a developer due to eagles' presence, the foundation is trying to sell the land to budget-strapped local governments as a preserve.

But it is possible to work around an active eagle's nest, van Deventer stresses. The city of Pinellas Park had planned to demolish and rebuild a recreation center before they discovered eagles in a nearby cell tower. Working with van Deventer, the city rescheduled the construction for summer months when the eagles were not nesting. "The city was able to plan to complete the work without disturbing the eagles or needing a permit, the eagles were unaffected by the work and park goers continued to enjoy their eagle watching," she said.

In Sarasota, eagle eggs were removed from a nest in a light fixture at the newly renovated Baltimore Orioles spring training stadium. Those eagles, however, had decided to build their nest in the midst of an ongoing construction site rather than the construction beginning after they laid their eggs, van Deventer said. "It's the only time I've ever heard of eagles nesting in an ongoing construction site – usually they avoid that kind of activity."

The goal, says Kirkpatrick, is to work with land owners to ensure that, if necessary, permits are issued for activities around eagle nests while providing for conservation of the species.

"We don't want people to be fearful of having nests on their property, thinking that they may lose their property rights," Kirkpatrick said. "This is certainly not the case. We work with them through the permitting process to ensure that they are able to meet their land management or development needs, while minimizing impacts to eagles and avoid liability by obtaining a permit."

Over the last three to four years eagle populations in Florida have remained relatively stable, said Vargo. "That would indicate we are at ecological carrying capacity or maximum population level." The limiting factor, however, is appropriate nesting sites, not food, he added. Eagles in urban areas like Pinellas County nest in cell phone towers or stadium light fixtures but they're more likely to be exposed to human-related threats, such as vehicle collision, indirect poisoning, or overly aggressive photographers and bird watchers.

Unlike ospreys, eagles prefer more covered locations than open nests on power poles – although there is a pair nesting in a man-made structure along Interstate 4 near Orlando, he said. One option that needs additional exploration might be building nesting platforms near trees that may not be strong enough to support an eagle's nest but can still provide cover.

Across the state, about 95% of eagles nest in natural settings, but the percentage of birds nesting in man-made structures is much higher in the Tampa Bay region – probably because Pinellas County has the most dense population of humans in the state. FWC researchers are reviewing data from multiple years of statewide monitoring which may help shed light on some of the questions about eagle nesting on artificial structures.

"We know there are some issues like collisions with power lines and electrocution. There are also risks to fledglings learning to fly above concrete surfaces and busy roads, so it's a situation we are trying to understand better," van Deventer said.

Residents of Tampa Bay can help. Eagle Watch, a program of the Florida Audubon Society, uses trained volunteers to help acquire data on eagles in the state. The citizen-scientist initiative locates and observes bald eagle nests and collects information on productivity. It also fills in gaps of knowledge regarding how many eagles are nesting in Florida each year. Additionally, residents can contact the 24 hour Wildlife Alert Line at 888-430-3922 if they see any activities that may disturb eagles nesting nearby.

Matthew Cimitile is a writer working for the U.S. Geological Survey's Coastal and Marine Science Center in St. Petersburg. Aaron Daily is a USF student interning in science communications at the USGS.

Water-Wise Containers – An Eco-Friendly Solution for Frugal Gardeners

By John Starnes

The lush wet Florida where I gardened during the 1960s is gone, replaced by perennial drought and watering restrictions. When state guidelines recommend avoiding the use of reclaimed water on vegetables, what can a frugal gardener do?

Water-wise containers made with "re-purposed" plastic containers are my solution to that conundrum. You can grow an enormous amount of food in a very small space – and use even less water. Despite the fact that I grow much of the food I eat, as well as care for an extensive collection of heirloom roses, my March water bill was just $3.84.

For a bountiful harvest of greens, start with a three-foot diameter blue plastic baby or doggy pool, and drill about a dozen ¼" holes from the inside, one inch up from the bottom. Fill it with soil and compost and presto, you have an ideal spot for a winter salads garden.

For larger plants, drill five ½-inch holes in a five-gallon bucket three inches from the bottom, then fill with soil and compost. You'll have a perfect pot for growing a tomato plant each winter – plus it will be easy to bring inside during a freeze.

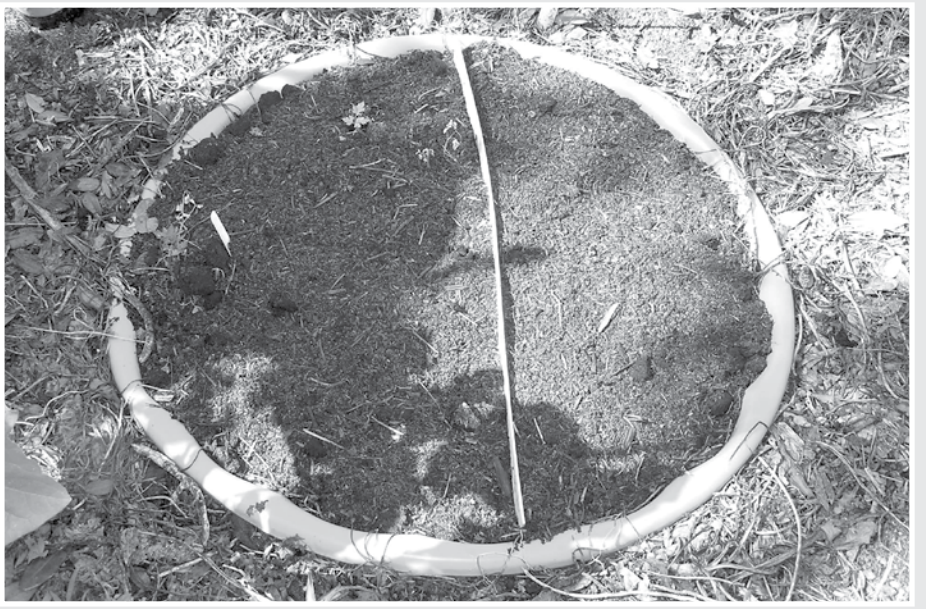
What happens with these homemade pots is that the layer of soil below the drainage holes tends to stay damp, and the holes themselves allow for crucial airflow to the roots at night. This approach is vastly more effective – and cheaper -- than the famous self-watering containers that often end up with three inches of water standing inside their base going sour and anaerobic, sickening or often killing the plants. Those that have a plastic sheet covering the soil worsen this problem by further blocking air flow through the soil.

Nutrients, of course, will be critical in such a small container. A light sprinkling of dolomite worked into the soil will combat excess acidity while providing calcium and magnesium. I also use Alaska Fish Fertilizer, 3 tablespoons per gallon, as a soil drench once a month. Don't allow the drench to overflow the pot – the fertilizer that supports your healthy vegetables will fuel the growth of algae if it escapes into a nearby body of water.

Look for the baby pools on sale each fall at Babies-R-Us for about $5, or doggy pools year round for about $10.

Gardening this way the last few years has drastically slashed my water bill, and students who've taken my classes on Water Wise Container Gardening report great success after struggling to garden in this sandy soil. It's cheap, it works, give it a try!

John Starnes, profiled in the Fall 2008 issue of Bay Soundings, is a Florida Gardening columnist who grows most of his own food on a south Tampa lot. He opens his garden to classes on an irregular schedule on weekends during the Fall and Winter. For more information, email him at johnastarnes@msn.com or call him at 813-839-0881.



Photos by John Starnes

Above: A baby pool with drip irrigation is ready to plant with winter greens. Many greens, including those that can be very expensive in grocery stores, are easy to grow from October to March. Most will handle cold weather without significant damage and some even like an occasional freeze.
Right: Larger vegetables, like tomato plants or the enormous basil shown here, thrive in "repurposed containers."

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Illuminating Diabolical Doings in the Deep

By Ford Turner

Undersea creatures have been doing what they do down there — engaging in unimaginable sex rituals, diabolical killings and unholy feasts — for countless centuries, but it took Dr. Ellen Prager to illuminate it with the light of human drama.

Prager is the author of the new book, *Sex, Drugs, and Sea Slime: The Oceans' Oddest Creatures and Why They Matter.*

Her descriptions of the bizarre ways that creatures like the hagfish, the queen conch and the Maine lobster eat and mate and fight and kill are as compelling as any great novel. The thing is ... these stories are completely true.

As a veteran marine scientist, Prager has served as chief scientist at the world's only undersea research station, Aquarius Reef Base in Key Largo, and assistant dean at the University of Miami's Rosenstiel School of Marine and Atmospheric Science. Her zeal for marine science, though, has evolved. Today, she's a sought-after author and has appeared frequently on television. "I have a real passion for bringing the oceans and ocean science to a broader audience," she says.

She'll be doing just that during a special lecture at 7:30 p.m. Monday, Nov. 28, at Mote Marine Laboratory's Immersion Cinema on Longboat Key where she'll reveal some of her favorite creature stories from the book. She'll also explain why these sometimes disgusting, sometimes amazing creatures should matter to the average person. The talk is free but space is limited and reservations are required. Call 941-388-4441, ext. 691.

Prager took a few minutes of her time recently to talk about her craft, her career and those "diabolical" creatures.

Photo by Kelly Ireland/Mote Marine Laboratory

A queen conch's eye stalks peer out from its shell. The "well-endowed" sea snails are an inside joke among many marine biologists.

The title, "Sex, Drugs, and Sea Slime," seems to fit so perfectly what you wrote about. When did you come up with it – was it in the midst of your research?

It was towards the end. I started doing research for the book, combing through the literature, talking to colleagues, and honestly, I kept finding these really wonderful, crazy stories.

These themes just started evolving. I did not realize how many animals in the ocean have, use, or are made up of slime! It is truly amazing.

Then, wow, the whole sex thing came up! I discovered just how many unusual and funny strategies there are for organisms to reproduce in the ocean.

And then the last theme, drugs, emerged. I have worked with a lot of scientists who study marine animals to improve human health, in biomedical research and in the search for pharmaceuticals. But I didn't really realize the breadth and diversity of marine animals being used in that way.

So there you have it: sex, drugs and sea slime!

If you had to pick one, what is the most fascinatingly gross creature you wrote about?

Oh, I can't pick just one!

Maybe a top three?

It would have to include the hagfish, which I found fascinating, funny and totally gross. Also, the queen conch, because let's just say the well-endowed males were not only surprising, but a funny, well-known fact that the biologists joked about in private. I think those two are certainly among the top in terms of fascinating or maybe funny.

The other extraordinary organism that I would like to point out, that I think is really interesting, is the cone snail and the search for new pharmaceuticals. There is, in fact, already a new painkiller on the market derived from the cone snail. But scientists think that this one creature in the ocean holds the most potential for drug discovery, more so than any other animal in the world.

There are two sentences from your description of the hagfish that I wanted to ask about: "Hagfishes have, however, discovered another, easier way to gain access to their victims' tasty, tender insides. They go in through open orifices, such as the mouth, gills, or yes, I am sorry to say, the backdoor." Yikes! Have you found that the hagfish is one that readers remember?

It is. People remember it. They laugh about it. You know, it is also "the slime monster."

One of the things that I really love is when I see or hear about other people having fun with the information in the book. They have learned while also being entertained. And to me, engaging people with humor, and getting them to tell stories — you know, I have heard people tell their friends these stories — is just so gratifying.

Did you grow up near the ocean?

I grew up outside of Boston. Not really at the ocean, but my parents took me snorkeling when I was a kid and I used to go to the beach. And I always had a love of nature. I used to run around the woods, climb trees and pretend to be a naturalist.

When I was in high school, I was a lifeguard. One of the guys I worked with brought a scuba tank to the pool and said, "Hey, you want to try this?" They could not get me out of the pool afterward. I was hooked.

So, I got certified to scuba dive while I was in high school. Then I began taking science classes and started studying ocean science and just fell in love with it, particularly because I could combine scuba diving with science.

What has made you gravitate toward writing and public education, rather than just being a pure scientist?

It was not something that was my intention when I started out in science.

Over time, however, I started writing and doing more public speaking, bringing the oceans and ocean science to a broader audience. I love hearing stories from my colleagues and there is so much wonderful information that the public never hears about, but that they would be interested in. And it is so important for more people to understand ocean science and its importance to the planet and society. I developed a great passion, and what I think is a strength, for engaging and communicating to the public.

Are there greater concerns, following the Deepwater Horizon spill?

Before, during and after the spill there are great concerns about the organisms living in the sea. The oil spill was just one moment. Climate change, overfishing, pollution in general and more are continuing to wreak havoc on the oceans and marine life, then and right now.

Certainly, we have to worry about what the impact of the oil spill was in the Gulf of Mexico. Particularly, I think, on the small organisms. We may have lost a whole generation of fish larvae ... We don't really know and it will take a long time to see the true ecological impacts.

You mean we can't quantify them yet?

We can't quantify the impacts, yet. We don't know if we'll ever be able to quantify them.

The sad thing is that, the whole oil spill was horrible, but what it also illustrates is that it got everybody up in arms because it was an immediate crisis that we could see, it was right in front of our eyes, on the television, the Internet, our mobile phones. We could see what was going on.

But, look at the harm done to the ocean by the cumulative impacts of our activities over time, that are just as bad, but it isn't a crisis we can readily see. We continue to face terrible problems in the ocean. We have been having an impact on the ocean and killing marine life, for years. But it just isn't that immediate crisis right in front of our eyes, that is so blatant.

It seems like there is so much more work for scientists to do.

There is so much we don't know. I find that aspect of the ocean fascinating, because there is a tendency for people to overestimate how much we truly know about the ocean and marine life.

I hate to use a cliché, but it fits: "We have barely touched the surface."

Ford Turner is a freelance writer and veteran journalist. The story is reprinted with permission from Mote Magazine.

QUARTERLY **CALENDAR**

The quarterly calendar lists some of our favorite events and top trips but there are dozens more events listed online at www.baysoundings.com where you will also find more complete information on each of these events. The calendar is compiled far in advance so we strongly suggest that you contact the sponsoring organization prior to the event. Some events may have fees for participation.

To allow additional space for individual events, contact information for the various organizations is listed at the bottom of the page.

october

Oct 29, 8am, Honeymoon Island State Park Birdwatching Walk with Clearwater Audubon Society.

Oct 29, 6:30pm, Mote Marine Laboratory and Aquarium Lab's annual black-tie fundraiser. Reservations required, contact 941-388-4441, ext. 305 or Vicki@mote.org.

november

Nov 2, 6:30pm., Rain Barrel workshop by Hillsborough County Extension at Bloomingdale Library in Brandon. Hillsborough County residents may receive one free rain barrel per household.

Nov 5, 9am, Ornamental Grasses seminar presented by Pasco County Extension, registration requested.

Nov 5, 7:30am, Blackwater Creek Field Trip with Tampa Audubon Society.

Nov 5, 9am-noon, Florida-Friendly Landscaping™ Walkabout, Manatee County Extension Office. Pre-registration requested.

Nov 5, 8am-noon, Give A Day for the Bay, Tampa Bay Estuary Program. Invasive plant removal at Lake Seminole in Pinellas County.

Nov 5, 10am-noon, Vegetable Gardening Class, Heritage Village in Largo. Preregistration required.

Nov 5 & 6, Art Arbor Festival at Boyd Hill Nature Preserve.

Nov 8, 1-4 pm – Tampa Bay Estuary Program's Manatee Awareness Coalition, Weedon Island Preserve.

Nov 9, 7:00pm, Vermiculture presentation by Hillsborough Extension Service, SouthShore Library in Ruskin.

Nov 10, 9am-noon, Agency on Bay Management, Tampa Bay Regional Planning Council.

Nov 10, 10am-noon, Florida-Friendly Holiday Tips, Manatee County Extension. Registration required.

Nov 15, 10:30am, Presentation on butterfly gardening by Hillsborough County Extension Service, Charles Fendig Library in Tampa.

Nov 17, 1:30-4:30 pm – Tampa Bay Estuary Program Management Board meeting, Tampa Bay Regional Planning Council.

Nov 18, 10am-noon - TBEP Policy Board, Tampa Bay Regional Planning Council.

Nov 19, 9:30am-4pm, Cortez Fishing Village Folk Art Festival with food, crafts and fun including boat-building workshops and tours. Visit www.cortezfish.org or 941-708-6120.

Nov 19, 8am, Tour Cliff Stevens and Kapok parks with the Clearwater Audubon Society.

Nov 19-20, Pasco EcoFest, a family-friendly weekend packed with outdoor activities such as kayaking, bird watching, hiking, airboat and riverboat rides, horseback riding, and a geo-caching challenge along with an indoor wildlife art show and live entertainment. Contact 727-375-8986 or www.pascoecofest.com.

december

Dec 3, 8am-noon, Give A Day for the Bay, Tampa Bay Estuary Program invasive plant removal at South Gandy Park in Tampa.

Dec 3, 9am, Winterizing Your Landscape Seminar presented by Pasco County Extension, Pasco County Fairgrounds.

Dec 3, 8am, Tour Al Lopez Park with Tampa Audubon Society. Pre-registration requested.

Dec 5, 7am, "The Impact of Climate Change on Birds," monthly meeting of the Clearwater Audubon Society at Moccasin Lake Nature Park.

Dec 8, 9am-noon, Agency on Bay Management, Tampa Bay Regional Planning Council.

Dec 10, 8:00-11:30am, Tour Possum Branch Preserve with St. Petersburg Audubon Society.

Dec 13, 7:30pm, Annual Holiday Pot Luck Dinner, Pasco Native Plant Society. Pre-registration requested.

Dec 14, 6:30-9pm, "Holiday Conservation Celebration," an annual fundraiser hosted by the Pinellas Chapter of the Florida Native Plant Society and the St. Petersburg Audubon Society, at the Pinellas County Extension in Largo. Manley Fuller, president of the Florida Wildlife Federation is guest speaker.

Dec 17, St. Petersburg Audubon Society Annual Christmas Bird Count open to both beginning and experienced birders. Call 727-527-0227 x253 to register.

Dec 18, Alafia Christmas Count with Tampa Audubon Society. Contact dsbowman4@verizon.net or 813-948-8576 to register.

Dec 23, Clearwater Audubon Society Annual Christmas Bird Count. Contact 727-772-7584 or mkorosy@gmail.com to register.

january

Jan 1, dawn to noon, St. Petersburg Audubon Society's 21st annual Rich Paul New Year's Day Birding Open to benefit Audubon of Florida's Coastal Islands Sanctuaries, meet at Shelter 15 for lunch.

Jan 2, Tampa Audubon Society's Christmas Count, contact dsbowman4@verizon.net or 813-948-8576.

Jan 3, 6:30pm, Growing Citrus in Florida with local author Monica Brandies, presented by Hillsborough Extension Service, Riverview Library.

Jan 12, 9am-noon, Agency on Bay Management, Tampa Bay Regional Planning Council.

Jan 13, 7:30pm, "Phenology and the USA National Phenology Network" presented by George Kish at the Florida Native Plant Society meeting, St. Marks' Presbyterian Church, Hudson.

Camp Bayou presents "A Natural Education Weekend" Nov 11 to 13 with a series of entertaining and enlightening programs about enjoying the outdoors responsibly. It starts Friday afternoon with "Camping 101" sessions on exploring, cooking and best practices for outdoor activities with kids followed by a camp-style dinner and night hike with s'mores around the campfire. Saturday events include a fishing clinic and river critter netting as well as nature and history talks. Sunday field trips range from Emerson Point's Indian midden to a Peace River fossil trip and a canoe tour of Camp Bayou or a visit to Hillsborough Community College's new SouthShore campus.

Registration is required by Nov 4. Cost is $75 for Friday and Saturday events, including meals and session supplies, Sunday field trips range from $5 to $10. For more information, visit www.campbayou.com, email campbayou@gmail.com or call 813-363-5438.

ONGOING EVENTS

Most Saturdays, 9-11am, Guided Hikes at Brooker Creek Preserve in Tarpon Springs and Weedon Island Preserve in St. Petersburg. Registration required.

First Saturdays, 8-11am, Bird Walk with St. Petersburg Audubon Society at Boyd Hill Nature Preserve, St. Petersburg. Or tour Moccasin Lake Nature Park with Clearwater Audubon Society. Pre-registration requested but not required.

First Saturdays, 9:30am, Family Naturalist Hour at Camp Bayou in Ruskin with different family-friendly activities each month.

Second Saturdays, program for beginning birders at Lettuce Lake Park with Tampa Audubon Society.

Second and fourth Thursdays, Book Time at Brooker Creek Preserve, Wee-Time at Weedon Island Preserve.

Second Sundays, 9-11am, Manatee County Extension Master Gardener Plant ID Tour at Emerson Point Preserve. Pre-registration required.

2nd & 4th Saturdays, 10am-1pm, Ask a Master Gardener! At Rocky Bluff Library, Ellenton. Pre-registration requested, Manatee County Extension.

Third Saturdays, 9-11am, Manatee County Extension Master Gardener Plant ID Tour at Robinson Point in Bradenton. Pre-registration required.

Tuesdays, 9-10:30am, Florida-Friendly Garden Tours at Florida Botanical Gardens in Largo with experts on hand to answer questions.

Oct 21-Jan 15, "Silver Springs," the Underwater Photography of Bruce Mozert, on display at the South Florida Museum in Bradenton.

Visit www.pasconativeplants.org.

Jan 14, 8am, Tour Circle B Bar Reserve in Lakeland with the St. Petersburg Audubon Society.

Jan 15, 8am, Tour Brandon ponds looking for wintering waterfowl with the Tampa Audubon Society.

Jan 17, 6:30-8:30pm, St. Petersburg Audubon & Clearwater Audubon Society's Joint Meeting, Suncoast Hospice, Clearwater. Local bird expert Ron Smith presents a program on his new book, "A Birder's Guide to Pinellas County."

Jan 25, 3 pm-5 pm, Tampa Bay Estuary Program Community Advisory Committee, Tampa Bay Regional Planning Council.

Mark the Date!

Feb 18, 8am-noon, Tampa Bay Estuary Program's Give A Day for the Bay, invasive plant removal at Little Manatee River State Park in Wimauma.

Contact informatŠn:

Agency on Bay Management, Tampa Bay Regional Planning Council, Pinellas Park, 727-570-5151, ext. 32 or tbrpc.org

Boyd Hill Nature Preserve, St. Petersburg, 727-893-7326 or stpete.org/boyd

Brooker Creek Environmental Education Center, Tarpon Springs, 727-582-2100 or pinellascountyextension.org

Camp Bayou, Ruskin, 813-641-8545 or campbayou.org

Clearwater Audubon Society, 727-518-6241 or clearwateraudubon.org

Florida Botanical Gardens, Largo, 727-582-2100 or flbg.org

Heritage Village, Largo 727-582-2233 or pinellascounty.org/heritage

Hillsborough County Extension, hillsborough.ifas.ufl.edu or 813-744-5519

Manatee County Extension, 941-722-4524 or manatee.ifas.ufl.edu

Pasco County Extension, 352-518-0156 or pasco.ifas.ufl.edu

Pasco Native Plant Society, 727-849-2335 or pasconativeplants.org

Pinellas County Extension, 727-582-2100 or pinellas.ifas.ufl.edu

St. Petersburg Audubon Society, stpeteaudubon.org or 727-526-3725

South Florida Museum, Bradenton, 941-746-4131 or southfloridamuseum.org

Tampa Audubon Society, tampaaudubon.org

Tampa Bay Estuary Program, St. Petersburg, 727-893-2765 or tbep.org

Tampa Bay Regional Planning County, Pinellas Park, 727-570-5151 or tbrpc.org

Weedon Island Preserve Cultural and Natural History Center, St. Petersburg, 727-453-6500 or www.pinellascountyextension.org

Celebrating Tampa Bay
Estuary Program Observes Its 20th Anniversary

By Holly Greening, Executive Director
Tampa Bay Estuary Program

Twenty years ago, Tampa Bay was designated an "Estuary of National Significance" by Congress, joining a small and exclusive group of the nation's most fabled – and troubled – waterways. Like its sister estuaries of New York Harbor, Puget Sound and San Francisco Bay, Tampa Bay had been pummeled by decades of dredging, development and disregard.

At the time of its entry into the National Estuary Program, Tampa Bay already had a dedicated corps of scientists, planners, elected officials, industry leaders and passionate citizen-advocates who had been working cooperatively, across political and geographical boundaries.

Those early efforts already were beginning to reap dividends when the Estuary Program came along. A remarkable transformation was underway, thanks to substantial federal investments in wastewater system upgrades on both sides of the bay and a flurry of new federal and state legislation that limited dredging and industrial discharges, required treatment of stormwater runoff for the first time and imposed strict treatment standards on sewage piped to the bay.

Life-sustaining seagrasses were again growing in areas that had been bare for years. The water became clearer and less clouded with algae. Wading birds like roseate spoonbills – which had completely disappeared from Tampa Bay by the 1940s – were returning to nest on islands throughout Tampa Bay. The mighty tarpon, once the target of a famous fishing tournament in downtown Tampa that was halted in the 1970s when the "Silver Kings" vanished from the bay, began to reappear to test the skills of avid anglers.

The Tampa Bay Estuary Program did not create the foundation for this success, but has successfully built upon it by leveraging resources and finding common ground among disparate and at times conflicting interests. As a partnership of the major counties and cities surrounding the bay, as well as federal and state environmental regulators, we have provided a regional structure to the restoration effort.

The Estuary Program has sponsored ground-breaking research to ensure we are spending time and money in the most cost-effective ways on the bay's most pressing problems. We have successfully involved stakeholders at all levels in facilitating meaningful and measurable progress toward bay recovery goals. We have provided a platform for public dialogue about what we want our bay to look like, now and well into the future. Though we began as a federal program, we are now truly and overwhelmingly a community partnership.

And, over the last 20 years, Tampa Bay's resurgence has grown ever more impressive:

• Since 1990, more than 7,600 acres of seagrass have been restored. Currently, the bay has more seagrass than at any time since the 1950s.

• Overall water quality in Tampa Bay is as good as it was during the 1950s, despite more than quadrupling the human population in the watershed during that time.

• After decades of loss, we saw a net increase of 433 acres of emergent tidal wetlands from 1995-2007.

• Islands in the bay annually host as many as 40,000 pairs of nesting shore and wading birds, including one third of all the roseate spoonbills nesting in Florida.

The Tampa Bay Estuary Program is proud of its role in fostering broad-based partnerships to facilitate this ongoing recovery. We also are mindful of the trust the region has placed in us over the years as an "honest broker" in finding consensus on sensitive and sometimes controversial issues. Recently, our collaborative public-private alliance known as the Nitrogen Management Consortium was given a prestigious Gulf Guardian Award in recognition of its success in reducing harmful levels of nitrogen in the bay.

This collaborative spirit must be sustained as we look toward our next 20 years of service to the region. The problems facing the bay in the future – continued habitat loss and nitrogen pollution associated with growth, along with emerging threats like climate change and sea level rise – will become more complex and costly to address, at a time when government resources have shrunk rapidly and substantially. Innovative partnerships that nurture cooperation among different interest groups have tremendous potential to generate cost-effective, lasting solutions. We all are doing more with less, so pooling our resources, our energies and our ideas just makes sense.

And we all need to do our part to protect and improve the bay. From multinational corporations to suburban families -- we all are part of the problem and we all can be part of the solution.

We invite you to learn more about Tampa Bay, our own "Estuary of National Significance," and the Tampa Bay Estuary Program at www.tbep.org. Join us in 2012 as we embark on our next 20 years!

Letters to the Editor

Loved the Summer 2011 issue of Bay Soundings, particularly the section "The Truth about Night Lights" (a pet peeve). It mentions "studies now suggest that light pollution around lakes and shores prevent zooplankton from eating surface algae, potentially boosting the algal blooms that kill off fish and lower water quality." I'd love to read the studies. Are they available?

Mary Judge,
Barnegat Bay Partnership, Ocean County College, NJ

Dear Ms. Tidmore,

Your article entitled "Unintended Consequences" struck a responsive note with me especially "the truth about night lights."

I am a beef cattle rancher (retired) living in Sarasota County for over 60 years. I have lived and worked with nature while producing cattle and timber.

Since the advent of I-75 there has not been a dark or quiet night in East Sarasota County. The interchange at Toledo Blade is six plus miles from our headquarters. The cluster of very tall night lights at the interchange illuminates the entire area (many thousand acres of mostly undisturbed native lands) and the noise is constant.

I have often wondered what the long-term consequences of this situation would be on the fauna which resides here. Any existing scientific studies on the subject would be appreciated.

I can offer no solution to the problem, however it would be very helpful if the DOT could somehow limit the lighted to the designated area and require more stringent muffling of vehicles.

Thank you for your contributions to a better and more sustainable Florida.

B.T. "Buster" Longino

We respond:

Thanks so much for asking! We're planning a follow-up story on light pollution for 2012.

Marianne V. Moore, Stephanie M. Pierce, Hannah M. Walsh, Siri K. Kvalvik and Julie D. Lim (2000). "Urban light pollution alters the diel vertical migration of Daphnia" (PDF). The International Society of Limnology online at http://www.wellesley.edu/Biology/Faculty/Mmoore/Content/Moore_2000.pdf

Much more can be found at http://en.wikipedia.org/wiki/Light_pollution#cite_note-51 specifically the section on the disruption of ecosystems.

Dear editor,

I read your article on "Unintended Consequences" and that made the hair on the back of my neck stand up. I had been experiencing the same feeling every time I see a new cell phone tower.

I do not know if it is my imagination or not but cell phone towers are appearing in the horizon where they have never been before and at an alarming increase in numbers. They seem to appear overnight (as I have never experienced one going up). My friends tell me that I must not have noticed them before, or we need them so there will not be any dead spots in phone reception...

I am a person who likes to look at nature, at the sky and I am always taking pictures. The places where I have been seeing the new towers are places I go often and would notice a giant tower right in my view of the sky, no matter how they try to disguise them. I am beginning to notice the disconnect others really are having with Mother Nature.

Keep writing the *Bay Soundings* as it may inspire and spark more people to be aware, and eventually more connected to Mother Nature.

Joyce Maxwell, Tampa

inside this issue

Fall 2011

Bay Soundings
BAYSOUNDINGS.COM
COVERING THE TAMPA BAY WATERSHED

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See Another Side of Our National Emblem

By Victoria Parsons

If you visit Boyd Hill Nature Preserve expecting to see a majestic bald eagle like those posed in patriotic photos with the American flag, you'll probably be disappointed.

But if you visit at dinnertime, you'll see a side of our national symbol that will likely strike home even more deeply. Abiaka is a juvenile bald eagle who fell from a pine tree on Honeymoon Island last winter. The fall broke important tendons in his wing, so he'll never be able to live in the wild.

Instead, he's being trained as an ambassador to visit schools and festivals where he can inspire people – particularly children – to protect his brethren in the wild.

"People who have a connection to nature are much more likely to protect it," says Gabe Vargo, a retired professor of biological oceanography at the University of South Florida and head of the birds of prey aviary at Boyd Hill. "Once you've seen a bird like this, you won't want to let anything harm them."

Although some birds can be trained in three to five months, Vargo expects to spend at least three years before Abiaka is ready to venture into a classroom.

Abiaka is named for a Seminole medicine man who led his people to victory in several important battles. He also was the only major Seminole chief to remain in Florida after the Trail of Tears forced thousands of native Americans to relocate to Oklahoma. Operating from a camp deep in the Big Cypress Swamp, Abiaka's leadership helped ensure that native Americans had a permanent presence in Florida.

"Eagles spend as much time training us as we spend training them," he quips.

As a juvenile, Abiaka is nearly all brown. The white feathers that give bald eagles their distinctive appearance won't emerge until he's mature at about age five. He's as large as he'll ever be, though, because young eagles actually have longer wing feathers than adults. "They've been sitting in a nest being fed for months – then they need to learn to fly."

Although Vargo is reluctant to anthropomorphize Abiaka, there's a clear bond between the bird and his trainer. "He's not tame, he's trained," he says. "All the birds here are wild animals, not pets."

In late August, Vargo was training Abiaka to step off his wire perch and onto a scale so he can easily be weighed. "He's in the midst of his terrible twos, we'll make some progress then he'll decide he just doesn't want to do any more and we take a couple of steps backward."

Training is accomplished using positive reinforcement – in the case of an eagle, that's a little less than a half-pound of frozen rodent. "If he's hungry he'll do more than if he's not," Vargo notes.

Abiaka already has learned to climb onto Vargo's arm and tolerates him placing a PVC support under it to help him hold the 7-pound bird longer. But even tiny changes can create problems – Vargo slipped a pen in his shirt pocket one afternoon and Abiaka refused to climb onto his normal perch. "It took me a couple of tries to figure out exactly what was upsetting him."

Just a few months ago, a visitor outside his large screened aviary might have distracted Abiaka entirely, but Vargo says that spectators are welcome now. "It's good for him to be near different people – we've got to get him ready for the wide and wonderful world of classrooms.

When you go:

Vargo feeds Abiaka every afternoon starting about 4:30 or 5 p.m. except Saturdays. Spectators are welcome although he does request that visitors remain calm and quiet to avoid upsetting Abiaka. Get there early to explore one of the region's most spectacular parks with five unique ecosystems connected by three miles of trails and boardwalks. Admission is $3 for adults or $1.50 for children under 16.

Vargo also schedules two eagle walks each year to show people eagles living in the wild. The first is usually held in late February shortly after the eggs have hatched with the second scheduled in April, just before the eaglets are ready to fledge. Dates will not be determined until the eagles actually lay their eggs. Visit www.stpete.org/boyd or email Vargo at pandion2@yahoo.com for more information.