



HARBOR HAPPENINGS

Working together to protect the natural environment from Venice to Bonita Springs to Winter Haven



CHNEP Virtual wading trip videos

Many animals that live in our oceans, including the Gulf of Mexico, live near or travel through our estuaries. Other animals live their entire lives in an estuary. In the CHNEP newest video project, 15 experts will tell you about a few of the animals from the big to the small to the very, very small that live in the waters of our estuaries. Check page 13 and our website www.CHNEP.org for more details.



Program update

by Dr. Lisa B. Beever, CHNEP Director

As I write this, the *Charlotte Harbor Seven-County Watershed Report* is at the press. Hooray!

The report is quite an achievement of our Management Conference (all of our committee members). Elected officials, resource managers, scientists, industry representatives and citizens were all involved at the “nitty-grittiest” of levels but simultaneously at the mile-high view. The respect and honor that each group gave to one another in the production of the report was a joy to behold. The elected officials and citizens wanted the report to be grounded in the best science available. Scientists and resource managers wanted the report to communicate effectively to all groups. I point to this shared ambition and reliance on one another as strengths of the National Estuary Program.

This kind of work cannot be rushed. The required “infrastructure” included an update of the *Comprehensive Conservation Management Plan* (CCMP), complete with a vision section, updated environmental indicators and targets, selection of the most important of the environmental indicators, a strategy on how to collect new information where we had gaps in data, collection and analysis of the new information, discovery of datasets and a clear vision for the report document function and look. It also required a consensus regarding the display and description of the various analyses.

The day we were putting the final touches on the document, I received a new data source. We opted to report our new findings here rather than delay the watershed report.

The Florida Department of Agriculture and Consumer Services (DACS) Office of Agricultural Water Policy (OAWP) adopted 12 best management practices (BMP) manuals for various commodities and is working on more. Producers participate in OAWP BMP programs by submitting Notices of Intent to implement the BMPs, along with a checklist of practices applicable to the acres being enrolled. Nearly 150,000 acres in the CHNEP area have been enrolled: 77,000 acres in citrus, 44,000 acres in cow/calf operations and 15,000 acres in vegetable/agronomic crops.

Some of the acres under the OAWP BMP program are also under the Facilitating Agricultural Resource Management Systems (FARMS) Program funded and managed by the Southwest Florida Water Management District. Between the OAWP and FARMS programs, nearly 200,000 agricultural acres are managed to conserve water and improve water quality.

In the watershed report, we identified 460,000 acres managed for conservation purposes and 250,000 acres that are subject to city and county urban fertilizer ordinances. Between land management agencies, urban residential and commercial property owners and agricultural producers, nearly 1 million acres are under some form of active conservation management. From 1998 to the end of 2010,

Nearly 1 million acres are under some form of active conservation management, a four-fold increase from 1998 to the end of 2010!

we have documented more than a four-fold increase in conservation management!

Not only is the area under management impressive, but management techniques are improving. In June, the Charlotte County Board of County Commissioners joined many other local jurisdictions by voting to reduce the maximum application of nitrogen and restricting application of fertilizer during the rainy season. The county cited the CHNEP’s CCMP as the now state-required “comprehensive plan to reduce nonpoint-source pollution.” During testimony concerning the ordinance, Michael Juchnowicz, president of Gardenmasters of Southwest Florida, Inc., reported that his company uses 200 tons less fertilizer annually in Sarasota County alone as a result of that county’s fertilizer ordinance. He has more than 10,000 clients from Hillsborough County to Collier County. Mike said that the ordinance forced his company to use better applied science and to approach fertilizer application in a more intelligent way.

The story of the Charlotte Harbor seven-county watershed continues to evolve. In the last five years, there have been extraordinary efforts to reduce water pollution in both the rural and urban landscapes. It will be exciting to see the improved water quality that will come as a result of these efforts!



CHNEP Friends

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www.CHNEPfriends.org

The CHNEP enjoys the assistance of the 501(c)3 not-for-profit known as the Friends of Charlotte Harbor Estuary (aka CHNEP Friends).



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The CHNEP is a partnership that protects the natural environment from Venice to Bonita Springs to Winter Haven.

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Harbor Happenings Fall 2011: Volume 15, Issue 3

The CHNEP Friends publishes this free quarterly newsletter on behalf of the CHNEP to provide information about the environmental “happenings” in the CHNEP study area. News items, photographs and letters are welcome and may be submitted to the editor by mail or email. Deadlines are February 1, May 1, August 1 and November 1. The newsletter is typically distributed by January, April, July and September.

The views expressed herein are those of the authors and do not necessarily reflect the views of the CHNEP Friends or CHNEP or its cooperating agencies and associations. The mention of trade names or commercial products does not constitute, in any way, an endorsement or recommendation for use.

Request a free subscription by contacting the editor.

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CHARLOTTE HARBOR

nature festival



The Twelfth Annual Charlotte Harbor Nature Festival

Saturday, Nov. 19 • 10 a.m. to 3 p.m.

Charlotte County
Sports Complex
2300 El Jobean Rd.
SR 776 in
Port Charlotte,
2.5 miles
west of US 41



Admission and
parking are **FREE**.

Enjoy the day exploring and learning about the natural environment of southwest Florida. The festival will once again be filled with activities and exhibits for people of all ages to enjoy, including more than 50 nature exhibits, local artists and the Mote Marine Laboratory mobile exhibit with its touch tanks. The Children's Discovery Zone will be packed with games and activities, including a fossil dig. Children will also learn about fish and fishing and then receive a free fishing pole while supplies last! Refreshments and lunch will be available for purchase.

The festival is organized and supported by a dedicated group of volunteers representing a diverse number of organizations, associations, businesses and agencies. It has remained free to the public due to the generous support of sponsors and proceeds from a raffle held at the festival.

Go to www.CHNEP.org for more details, including field trips to other locations.



Thanks to sponsors, admission is free and tote bags will be given as a gift (1 per car while supplies last).

Family Fun Day, birding tours, art day highlights at “Ding” Days 2011

“Ding” Darling Days birding and eco-festival, will be held the week of **Oct. 16–22**, 2011, on Sanibel Island, and will celebrate the birthday of J. N. “Ding” Darling National Wildlife Refuge’s namesake.

This year’s 22nd annual event kicks off at the famous birding refuge on Sunday, Oct. 16, with Family Fun Day, from 10:30 A.M. to 4 P.M., featuring free activities such as narrated refuge tram tours, live wildlife presentations, kids’ nature crafts, a touch tank, butterfly house and more.

The Duck Stamp Artist presentation headlines Saturday’s Conservation Art Day, which also includes a photography tram tour and nature art activities with free nature journals and art supplies.

Throughout the week, people can join free biking and birding tours, take advantage of discounted kayaking and nature boat excursions, and sit in on free author lectures at the refuge and nature deck talks at Tarpon Bay Explorers, the refuge’s official recreation concession (www.tarponbayexplorers.com).

New this year, Monday’s activities will celebrate Technology in the Outdoors with iNature Trail, eBird and geocaching demonstrations at the refuge.

Water, Wings & Wild Things NatureFest

Tabitha Biehl-Gabbard, Polk County Natural Resources

On **Oct. 8**, come celebrate all things nature at Water, Wings & Wild Things, Polk NatureFest 2011 at Circle B Bar Reserve from 10 A.M. until 2 P.M. This free event features native Florida animals, nature-based art vendors and hands-on activities such as tree climbing (for six-year-olds and up), kite making, birding, butterfly basics and more. As you and your family celebrate nature, experience Polk’s Nature Discovery Center, which offers a variety of interactive exhibits about water and Polk County’s natural resources, nature-based activities, wildlife viewing areas and guided tours of the reserve. Circle B Bar Reserve is located between Winter Haven and Lakeland just off Hwy. 540.

This year, event organizers are expanding the ways both residents and visitors can explore Polk County’s natural wonders. In addition to the free one-day NatureFest, Polk County will be offering exciting eco-



The National Wildlife Refuge’s mascot, the Blue Goose, attends Family Fun Day.

For a full “Ding” Darling Days schedule, visit www.dingdarlingdays.com or call 239/472-1100, ext. 226.

This project is sponsored by “Ding” Darling Wildlife Society, Tarpon Bay Explorers, the U.S. Fish & Wildlife Service and other private and business partners. The CHNEP is pleased to support this project with a microgrant. See www.CHNEP.org to learn more.

excursions highlighting the county’s natural resources. Participants will need to register and sign up for specific VIP field excursions. These eco-tour excursions will take place October 6–9 and are designed to provide personalized, entertaining, educational and behind-the-scenes tours of Polk County’s unique natural beauty. Tours will be led by local field biologists, volunteer naturalists or expert guides. For more information, go to www.visitcentralflorida.org.

Water, Wings & Wild Things NatureFest is a collaborative effort of Polk County government agencies, local municipalities, state agencies and nonprofit organizations. Funding support for the one-day event is provided by the Charlotte Harbor National Estuary Program and the Southwest Florida Water Management District. Event organizers aim to educate local citizens on the importance of our natural resources. For more information, please call 863/668-4673.

Sustainable Communities

The sixth annual Sustainable Communities Workshop will be held on **Oct. 6** at the Girl Scouts of Gulfcoast Event and Conference Center (4740 Cattlemen Rd, Sarasota).

Challenging times in growth and water management

The annual Lakes Education/Action Drive (LE/AD) will be held on **Oct. 19** at the USF Polytechnic Lakeland Campus. For details, contact lakeseducation@hotmail.com.

Conservation Lands Economic Value

The Estero Bay Agency on Bay Management and others will hold a conference on **Nov. 2** at FGCU to identify and discuss the economic value of conservation lands in the Estero Bay watershed. To learn more, contact Nora Demers (ndemers@fgcu.edu, 239/590-7211).

Calusa Blueway Paddling Festival

Eco-themed fun will flow freely at the Lee County’s Calusa Blueway signature event. Enjoy kayak and canoe races, a fishing tournament, paddling demos, guided tours and much more from **Nov. 3 through 6**. Go to www.calusabluewaypaddlingfestival.com for details.

To learn more about these and other events, go to www.CHNEP.org.

Refuge iNature Trail debuts

Using QR-code-scan technology, iNature Trail is first of its kind

Chelle Koster Walton, “Ding” Darling Wildlife Society—Friends of the Refuge



If you have a smartphone that downloads apps, you are ready to hit J. N. “Ding” Darling National Wildlife Refuge’s latest innovation that was unveiled on June 28, 2011. Designed to appeal to the next generation’s techie side and to get them outside, the Refuge iNature Trail along Wildlife Drive has two components — one for kids and one for adults.

The iNature Trail uses a set of QR (Quick Response) codes that smartphone users can scan with free downloadable apps such as Neoscan or QR Scan. Check out the QR code provided on this page.

Similar in appearance to common bar codes, QR codes typically send scanners to websites for more information. The refuge’s iNature trail goes a step further and incorporates short YouTube videos, making it more interactive and engaging. Users experience a free tour that is unique from any other current refuge offering.

For instance, one of the 22 QR codes along the iNature Trail takes you to a YouTube video of Refuge Manager Paul Tritaik welcoming guests to the refuge, while another jumps to the “Ding” Darling Wildlife Society — Friends of the Refuge (DDWS) homepage, www.dingdarlingsociety.org.

The iNature signs will be easily recognizable along the trail and can be accessed while walking, biking or driving along Wildlife Drive.

“This is the first such interactive trail in the 550-plus national wildlife refuge system,” said Supervisory Refuge Ranger Toni Westland. “We also believe this to be the first interactive QR wildlife trail in the nation.”

“While QR codes are not yet known to everyone, they are starting to create a buzz in the marketing world,” said DDWS Executive Director Birgie Vertesch. “Currently, nearly 40 percent of U.S. adults own a smartphone, and it is estimated that there will be more online visits from mobile devices than from PCs by 2014,” said Westland. “Our refuge is moving into the mobile world, which helps us

educate thousands of people about wildlife and wildlife protection in a whole new way.”

“The iNature Trail is a significant advancement in nature interpretation,” said Tritaik. “It not only takes advantage of the latest improvements in communication technology, but it is environmentally responsible because it allows us to reduce paper waste from brochures. We are very proud to introduce this exciting opportunity for our technologically savvy visitors to learn about and enjoy the wildlife at ‘Ding’ Darling National Wildlife Refuge.”



Funding for the iNature Trail along Wildlife Drive was made possible by private contributions to the DDWS, a nonprofit 501(c)3 organization that supports the refuge’s mission of conservation, wildlife and habitat protection, research and public education.

Posters available

The Sea Turtle Conservancy has produced a series of beautiful posters on the life history of the five sea turtles found in Florida. The loggerhead poster is provided in this issue of *Harbor Happenings* as the 11” x 17” centerfold. The creation of the 2’ x 3’ posters was funded by a grant from the Sea Turtle License Plate Program. You can order the set of five for \$5 to help defray shipping and handling expenses. Learn more at www.conserveturtles.org or call 1-800/678-7853.



In addition to the oyster poster featured in the summer issue of *Harbor Happenings*, the Loxahatchee River Environmental Center also has posters on the life histories of bonefish, tarpon and land crab. These are available as PDF files from their website and as 2’ x 3’ posters. To request the poster, email rivercenter@loxahatcheeriver.org or call 561/743-7123. A \$5 donation is requested to help defray shipping and handling expenses. These posters were funded in part by The Nature Conservancy and the National Oceanic and Atmospheric Administration (NOAA) to help further educate people about the importance of protecting habitats and species vital to our ecosystems.



Upper Peace River open for recreation paddling

Glenda Mink, Polk County Parks and Natural Resources

Heritage Peace River Landing in Homeland has become a popular and busy place since its grand opening on April 30. The new public access point to the upper Peace River might have remained on the drawing board were it not for a public-private partnership forged by dedicated individuals, private companies and civic groups who joined forces to assist Polk County with manpower and heavy equipment to make the dream a reality.

The Landing is used regularly and promises to remain popular as more and more lovers of this historic waterway are made aware of the two additional access points along the official, now 70-mile Peace River Paddling Trail. Designated by Florida Greenways and Trails, the extension north of the Fort Meade Outdoor Recreation Area adds another 13 miles to the former 57-mile length of the Paddling Trail (www.dep.state.fl.us/gwt/guide/designated_paddle/Peace_guide.pdf).



The upper 13-mile extension begins at Polk County Parks and Recreation's canoe launch on the outskirts of Bartow at the SR 60 bridge. Also maintained by Polk County Parks and Recreation, Heritage Peace River Landing (3301 Homeland-Garfield Rd.) is six miles south on US Hwy 17 to CR 640, and then east to the entrance just over the Peace River bridge on the south side.

Neither Polk County access sites have restrooms or camping facilities, although a covered shelter and picnic tables encourage a restful break at the Heritage midway point of an easy day trip south to Fort Meade. Fishing from the floating dock or from the bank is an option for those without a small boat, canoe or kayak.

Day paddling from either of the Polk County launch sites can be done even at low water levels. However, paddlers should be prepared to porter vessels when water levels are low or immediately following extreme weather. From the SR 60 bridge in Bartow down to Heritage Peace River Landing, be sure to check the USGS gauge at Bartow (http://waterdata.usgs.gov/fl/nwis/uv?site_no=02294650) for a flow rate minimum of 30 CFS. From the section beginning at the Landing to the next access point in Fort Meade, a minimum USGS gauge level (http://waterdata.usgs.gov/fl/nwis/uv?site_no=02294898) of 72 feet is recommended.



Members of the Florida Paddling Trails Association (<http://floridapaddlingtrails.com/>) are partnering with Polk County Parks and Natural Resources to monitor and keep the upper Peace River free from weather-related and naturally occurring fallen trees, along with other obstacles that might inhibit passage. The summer issue of *Harbor Happenings* recognized these dedicated volunteer stewards of Florida's waterways.

In its historic and natural state, the upper Peace River was spring-fed and flowed crystal clear during dry periods. Over the years, due to groundwater depletion, this portion of the river has become solely dependent on rainfall, while lower portions of the Peace River still receive significant groundwater inflows.

Major restoration initiatives are under way in the river's headwaters to enhance the hydrology and ecology of the river's upper portion, which is a vital section that contributes downstream to the overall health of the Charlotte Harbor estuary.

Peace River Paddling Trail

Access Point 1 Mile 0: Peace River Canoe Launch, SR 60 bridge: N: 27.9022 W: -81.8169

Access Point 2 Mile 6.5 Heritage Peace River Landing: N: 27.8128 W: -81.7936

Access Point 3 Mile 13 Ft. Meade Outdoor Recreation Area: N: 27.7515 W: -81.7822

Access Point 4 Mile 16 CR 657: N: 27.7234 W: -81.7895

Access Point 5 Mile 23 CR 664: N: 27.6462 W: -81.8009

Access Point 6 Mile 26 CR 664-A bridge: N: 27.6246 W: -81.8027

Access Point 7 Mile 30 Lower CR 664-A bridge: N: 27.5760 W: -81.8045

Access Point 8 Mile 32.5 Crews Park: N: 27.5507 W: -81.7936

Access Point 9 Mile 33.5 CR 652 bridge ramp: N: 27.5405 W: -81.7919

Access Point 10 Mile 37 Pioneer Park: N: 27.5037 W: -81.8057

Access Point 11 Mile 56.5 Gardener Boat Ramp: N: 27.3465 W: -81.8264

Access Point 12 Mile 60.5 Brownville Park: N: 27.2979 W: -81.8465

Access Point 13 Mile 70 DeSoto County Park: N: 27.2242 W: -81.8819

SOURCE: www.dep.state.fl.us/gwt/guide/designated_paddle/Peace_guide.pdf

Unraveling Riddles of the Ridleys

Jeffrey R. Schmid, Conservancy of Southwest Florida

When mentioning sea turtles in southwest Florida, most people think of the female loggerheads that come ashore to nest on our beaches. However, collaborative studies by myself as the research manager at the Conservancy of Southwest Florida and Dr. Tony Tucker, program manager for the Sea Turtle Conservation and Research Program at Mote Marine Laboratory, have identified the Charlotte Harbor estuary as vital feeding grounds for the world's most endangered sea turtle, the Kemp's ridley.

The researchers spend long days aboard the *RV McQueggie*, a 24-ft. mullet skiff, plying the waters of Pine Island Sound in search of sea turtles. Turtles are air breathers and must surface to catch a breath. When a turtle is sighted, a large-mesh entanglement net is deployed off the stern of the research vessel at high speed, encircling the turtle. The net is hauled once the turtle becomes entangled or 20 minutes has passed without sighting the animal. Captured turtles are measured, flipper-tagged, tagged with a Passive Integrated Transponder (PIT) and skin samples are collected for stable isotope analysis. Loggerheads and greens are processed at the capture site, while Kemp's ridleys are transported to Mote's Charlotte Harbor Field Station and temporarily held for diet studies prior to release.

More than 400 sea turtle sightings or captures have been recorded in the Charlotte Harbor complex, including earlier work supported by Earthwatch Institute and CHNEP public outreach grants. Subadult Kemp's ridleys are the dominant species in the Pine Island Sound study area, as documented in other coastal areas of west Florida. Loggerheads have the second highest abundance and their aggregation is primarily composed of adult-size turtles. Green turtles are the least abundant, perhaps owing to their more cryptic behavior or use of different foraging habitat.

Cursory examination of the Kemp's ridley diet indicates they are primarily eating spider crabs with a few also consuming purse, calico or blue crabs. Testing the concept "you are what you eat" in one of the first and most comprehensive investigations, Schmid and Tucker will compare the stable isotope composition of Kemp's ridleys to that of their prey and habitat components.

Two Kemp's ridleys have also been instrumented with satellite transmitters. "Kyra" (see below) exhibited seasonal fidelity to the study area by leaving Charlotte Harbor in late fall, heading south and wintering off the Florida and Marquesas keys and returning to within a few kilometers of her capture site in early spring. Additional turtles will be tracked this fall. Their movements can be followed by visiting the Charlotte Harbor-Kemp's ridley webpage at www.seaturtle.org/tracking/?project_id=569.

These studies are supported in part by grants awarded from the Sea Turtle Grants Program, which is funded from proceeds of the Florida Sea Turtle License Plate. Learn more at www.helpingseaturtles.org. Satellite transmitters are funded through private donations. (See the spring 2007 issue of *Harbor Happenings* that is available as a PDF file at www.CHNEP.org.)



Photo of arribada (nesting aggregation) June 2011. © All rights reserved by Comisión Nacional de Áreas Naturales Protegidas

Kemp's ridley sea turtle

Lepidochelys kempii

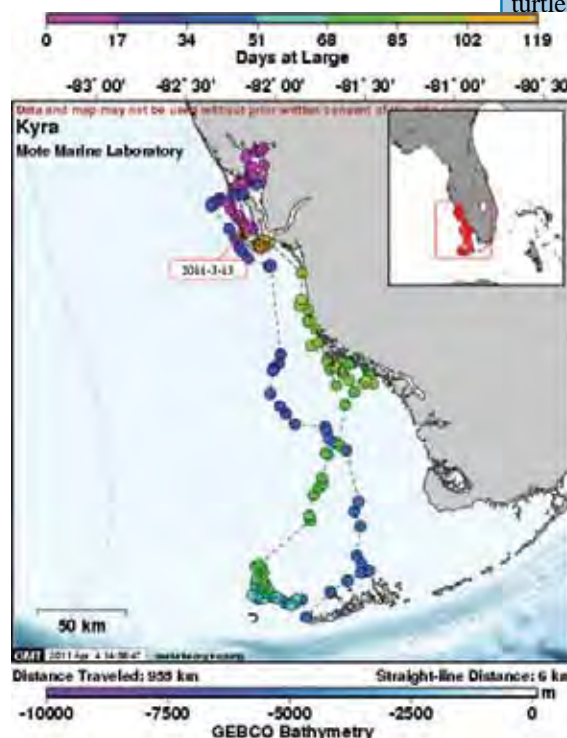
This is the rarest and smallest of the five species found near Florida. It can reach 3 feet and 99 pounds.

Subadult Kemp's ridleys inhabit coastal waters from Texas to Massachusetts, and the adults reside in offshore waters of the Gulf of Mexico. The location of Kemp's ridley nesting beaches was unknown prior to 1961 until a documentary film made in 1947 was discovered. In this film, an estimated 40,000 females nested on an isolated stretch of beach on the Mexican gulf coast in a nesting aggregation known as an "arribada." By 1966, when the first protection camp was established at Playa de Rancho Nuevo, these arribadas only reached 2,000 turtles. This rapid population decrease was

attributed to heavy human exploitation of the eggs. Despite intensive protection of the nesting beach, the population steadily declined to a low of 702 nests in 1985. Accidental capture in shrimp trawls was identified as the major source of mortality, hindering the species recovery. By 1994, legislation was enacted requiring use of turtle excluder devices (TEDs) in all shrimp trawlers operating in U.S. and Mexican waters. These binational conservation efforts have brought the highly endangered Kemp's ridley turtle back from the brink of extinction and 21,144 nests were documented in 2009.



Photo by Kim Bassos-Hull, Mote Marine Lab



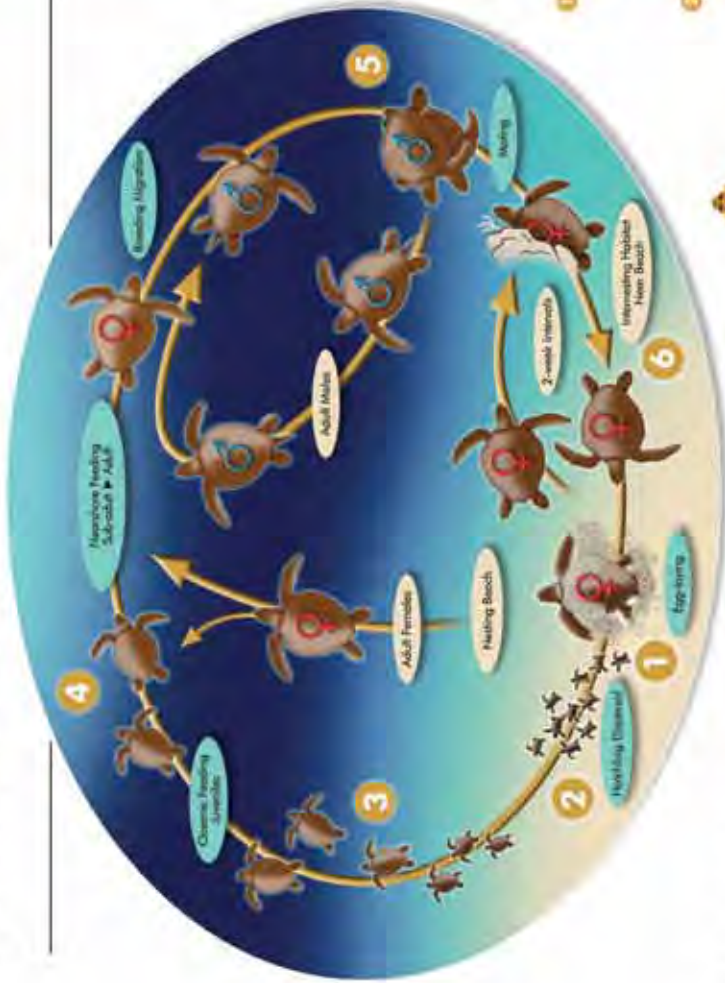
LOGGERHEAD SEA TURTLE

Caretta caretta

Although they are Florida's most commonly observed sea turtle, loggerheads are rare throughout most of their global range. They are found in marine waters from warm-temperate seas through the sub-tropics. Loggerheads are named for their overly proportioned head.



A loggerhead's shell is often covered with algae, large barnacles, and other varied animal tag alongs.



Nesting/hatching season: May–October
Adult shell length: 31–43 in (80–110 cm)
Adult weight: 155–375 lb (70–170 kg)
Age at maturity: 30–35 years
Status: Threatened

Life Cycle

A loggerhead's journey through life spans tens of thousands of miles around entire oceans and results in a 6000-fold change in weight over several decades.

Nests average 115 eggs and incubate under sand for 50–60 days. Warmer sands produce mostly female turtles and cooler sands result in mostly males.

A few days after they hatch, the hatchlings emerge together from the nest at night, scramble quickly to the sea, and are dispersed by ocean currents.

Juveniles live near the surface of deep ocean waters and are carried by ocean-spanning currents.

At sub-adult size, turtles swim into nearshore waters and inhabit reefs, lagoons, and bays. Sub-adults nearing maturity move into warmer subtropical waters.

Diet

Loggerheads eat a wide variety of animals and are one of the few predators of large hard-shelled invertebrates. Examples of food items are pictured below:

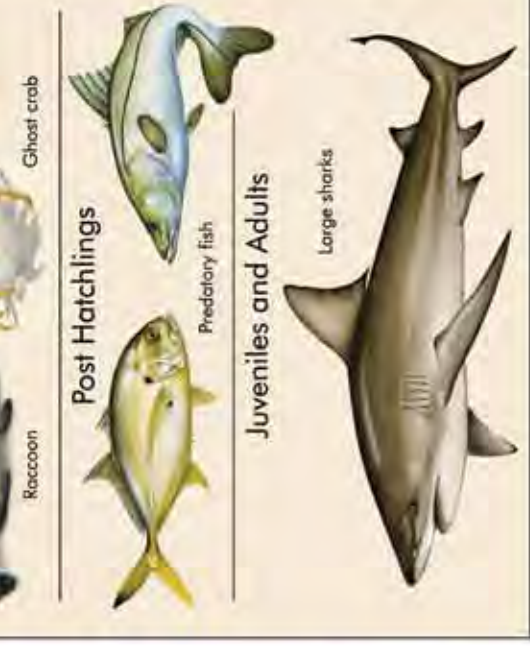


Natural Predators

Although eggs and small loggerheads have many natural predators, large loggerheads have few.

Eggs and Hatchlings





Routes migrate along migration routes between foraging and nesting areas.

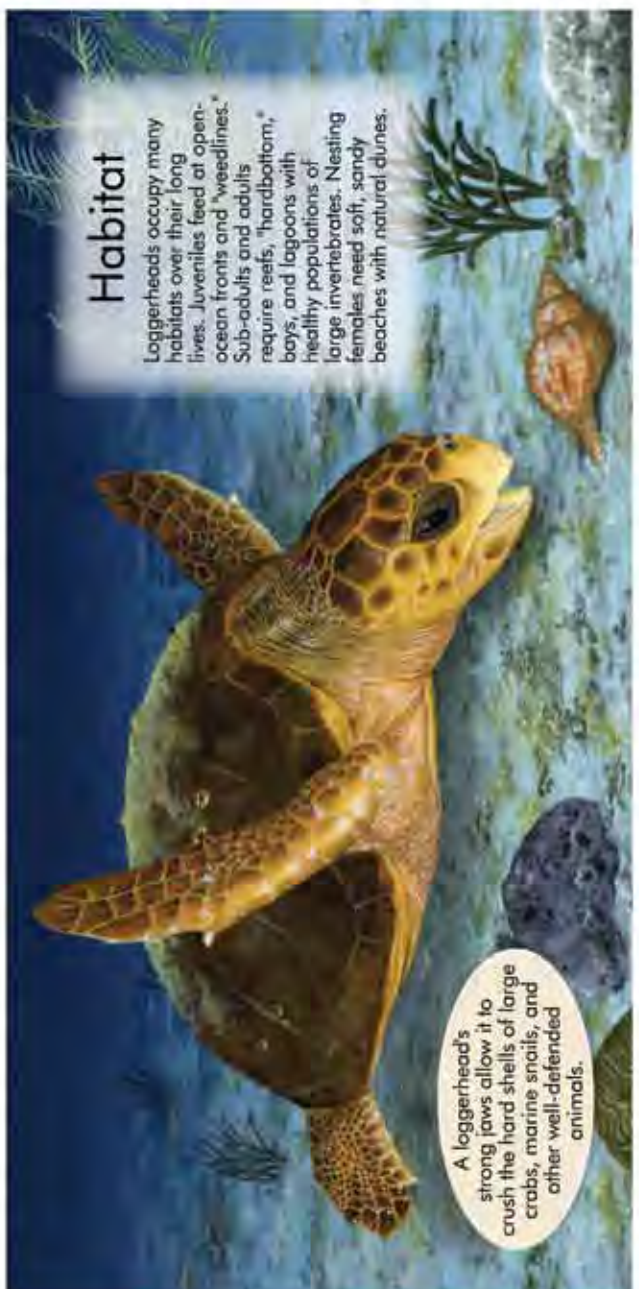
- Every 2-4 years, adult females migrate to the beach where they hatched and make about 3-6 nests at two-week intervals.

Hatching to Post-hatching
 First year, 1-35 oz (20-1000 g)

Juvenile
 1-10 years old, 2-55 lb (1-25 kg)

Sub-adult
 10-30 years old, 55-200 lb (25-91 kg)

Adult
 to 60+ years old, average 260 lb (120 kg)



Habitat

Loggerheads occupy many habitats over their long lives. Juveniles feed at open-ocean fronts and "weedlines." Sub-adults and adults require reefs, "hardbottom," bays, and lagoons with healthy populations of large invertebrates. Nesting females need soft, sandy beaches with natural dunes.

A loggerhead's strong jaws allow it to crush the hard shells of large crabs, marine snails, and other well-defended animals.

Conservation

One important conservation effort has been the acquisition of coastal land for parks and refuges. These beach and dune systems provide sea turtle nesting habitat, protect other rare species, and are equally valuable as wild and scenic places for public visitation.



Nesting

Females take about an hour to dig a body pit and egg chamber, lay their eggs, and scatter sand to camouflage their nest.



Tracks

Alternating rear-flipper swirls are at the margin of a wavy track center with no tail-drag mark.



Regional Distribution

Florida provides nesting beaches for the largest loggerhead population in the Western Hemisphere. Juveniles live in deep ocean waters. Larger sub-adults and adults tend to be coastal but may also feed in the open sea.



- Oceanic juveniles
- Large juveniles and adults
- Major nesting beaches
- Other important Florida nesting beaches

Threats

Coastal armoring (seawalls, rock revetments, sandbags) sand fences, and other barriers block access to upper beach nesting areas.



Other important threats:

- Marine plastics are an ingestion hazard
- Longline Fisheries hook and drown turtles
- Light Pollution misleads and kills hatchlings
- Trawler Fisheries capture and drown turtles
- Fishing Debris entangles and injures turtles
- Boat Strikes kill and injure turtles

How to Help

Although loggerheads are international marine animals that need help throughout their range if they are to survive, there are many things we can do for them here at home. Make informed seafood choices, hide lights visible from beaches, pick up marine litter, observe nesting turtles only with a trained guide, contribute to marine conservation organizations, purchase a sea turtle license plate, and share your interest in sea turtles with others.

SEA TURTLE CONSERVANCY Celebrating over 50 Years of Sea Turtle Conservation

Sea Turtle Conservancy
 4424 NW 13th St, Suite B-11, Gainesville, FL 32609
 Phone: 352-373-6441 • Fax: 352-375-2449
 1-800-678-7853 • www.conservaturtles.org

Funded by The Sea Turtle Grants Program with proceeds from the sale of the Florida Sea Turtle License Plate. Learn more at www.helpingseaturtles.org.

Water resources improving thanks to summer rains

Robyn Felix, Southwest Florida Water Management District

Our aquifers, rivers and lakes are starting to show some signs of improvement, thanks to our annual summer rainy season that got under way in late June.

While much of the state has been suffering from a severe drought and water shortages, the 16-county region of the Southwest Florida Water Management District was able to weather the last several months of the dry season due to above-normal rainfall in March.

Now that we are starting to receive regular summer rainfall, aquifer levels are rising, river flows are increasing, and lakes and reservoirs are beginning to fill up again. This summer rainfall pattern usually lasts until the end of September. However, extra rainfall from tropical activity can sometimes help extend our summer rainy season into October and November.

Watch the weather, wait to water

The District is encouraging residents who irrigate their lawns to take advantage of the summer rains and “watch the weather, wait to water.”

During the summer months of June, July, August and September, yards need no more than 3/4 inch of water every 2 to 3 days. If your lawn has received enough water from rainfall, then you can turn off your irrigation system and turn it back on when needed.

The simplest way to determine if your yard needs water is to look for these visual clues:

- Grass blades are folded in half lengthwise on at least one-third of your yard.
- Grass blades appear blue-gray.
- Grass blades do not spring back, leaving footprints on the lawn for several minutes after walking on it.

Follow these tips when you “watch the weather, wait to water”:

- If your yard is showing signs that it needs water, check your local forecast to see if rain is on the way.
- Use a rain gauge to determine how much rain your yard has received.

Aquifer Levels

23JUL2011 to 29JUL2011 (week 30)
Relation to Normal Range (feet)

County	This Week	Last Week	Last Year	Normal Range (ft)
Polk	3.89	4.58	5.79	0 to +7
Manatee	-2.44	-2.76	1.41	0 to +6
Hardee	2.69	2.39	7.98	0 to +9
Sarasota	-1.1	-1.07	0.23	0 to +4
Desoto	-0.36	-0.57	1.23	0 to +3

- If you have a rain sensor, make sure it is working properly.
 - Take full advantage of the rain. Make sure gutter downspouts are directed into landscaped areas or lawn.
 - Install a rain barrel to capture excess rain-water.
- For additional information and a chance to win a free rain barrel, visit WaterMatters.org/WatchTheWeather/.

Stormwater website

Tools to implement and evaluate educational programs

Florida has a new tool at www.watersheded.com to assist in stormwater management and public education.



WatershedED™ is an interactive, web-based storage site that houses digital educational materials as well as data and results of social marketing research and projects related to stormwater management. The site provides the tools for nonpoint-source and stormwater managers and others to successfully implement and evaluate education programs. Contained within this dynamic information clearinghouse are thousands of digital educational materials as well as data, research results, guidance documents, programs and policies relevant to stormwater management. A community forum invites discussion on pertinent topics, brainstorming education strategies and innovative methods. Resources on WatershedED™ are indexed by topic, type and audience to help you find what you need quickly. Contributions to WatershedED™ are welcome and more features are being added.

WatershedED™ is managed by the University of Central Florida Stormwater Management Academy and funded in part by a Section 319 Nonpoint Source Management Program Implementation grant from the US Environmental Protection Agency through a contract with the Florida Department of Environmental Protection. Information on how the site was developed was provided in the spring 2009 issue of *Harbor Happenings*.

Nuts and bolts of rain barrels

Allison Turner, Charlotte County UF/IFAS Extension Florida-Friendly Landscaping™

Water conservation is one of the most requested topics for information from the UF/IFAS Extension office here in Charlotte County. Conserving water in the home landscape can be accomplished a number of ways, including selecting appropriate Florida-friendly plants, using organic mulch to hold moisture and irrigating conservatively. In addition to micro-irrigation, rain barrels are one of the easiest ways to keep plant beds well watered while ensuring that precious potable water is not wasted. By harvesting roof runoff into a rain barrel, residents also play an active role in reducing water runoff into surrounding water bodies of canals, rivers, estuaries and the Gulf of Mexico.

Prefabricated rain barrels can often be found in big box stores, but many people prefer to assemble their own barrels using 55-gallon recycled food grade plastic drums. These repurposed drums are available at farm stores, recycling centers and at many county UF/IFAS Extension offices. Visit the IFAS website at <http://solutionsforyourlife.com> to find the contact information for your county's Extension office. In their previous life, these rain barrel drums typically held juice or soda concentrate, flavorings or pickles. Additional hardware needed for a completed rain barrel assembly includes a hose bib (spigot) and a PVC overflow attachment. These items can be purchased separately at local hardware stores but are often included with the drum as part of the "rain barrel kit" at Extension offices. For detailed information on the appropriate hardware and instructions for rain barrel construction, please visit www.WaterMatters.org to download or request a printed copy of the Southwest Florida Water Management District's *Rain Barrels: A Homeowner's Guide*.



After a quick clean with a mild bleach and water solution, your rain barrel will be ready to assemble. Rough up the sides of the plastic drum with fine-grained sandpaper and wipe clean with an ammonia-based cleaner. This will prime the plastic for painting, if you choose to do so. Any outdoor plastic-grade spray paint, or even leftover house paint, will coat the barrel well. Top the paint with a few layers of polyethylene for weather protection. You will then want to decide where you plan to install the barrel. Trace around your downspout on the top of the barrel (see photo) before cutting out the hole. This will allow your downspout to fit snugly into the barrel, minimizing space for critters to crawl



into the barrel. It is best to create a sturdy base for the rain barrel using cement blocks or large stepping stones. Your rain barrel relies on water pressure to create flow out of the spigot, so it is recommended you raise it a few feet off the ground. This will also create room under the spigot to place a watering can. Use a saw or metal snippers to cut the aluminum downspout so it fits into the top of your barrel. It does not seem like much, but a 55-gallon rain barrel, when attached to a downspout, can fill during just a ½-inch rain event. During a 1-inch rainfall, it is estimated that about ½ gallon of water per square foot of roof area runs into the gutter and out the downspouts. That is a lot of water available for you to collect!

Install the spigot a few inches from the bottom of the barrel and the overflow attachment in a direction to allow water to spill away from your home. Seal both attachments to the barrel with a little silicone caulk or PVC cement. Allow the adhesive to dry according to the label. You are ready to start harvesting rainwater!



Hardware stores sell many different downspout attachments that you may want to use to customize your rain barrel specific to your house.

Although a properly installed rain barrel seldom allows mosquitoes to infiltrate, garden centers do sell rings or "dunks" of *Bacillus thuringiensis* (Bt) that you may add to the rain barrel if mosquitoes become a problem. The Bt is a natural bacterium that targets and kills mosquito larvae, but it will not harm the plants you irrigate with your rain barrel water.

A short hose may be attached to the spigot to water nearby plants and beds or to fill water features in your landscape. The water is perfect for cleaning gardening tools or work shoes and for keeping your compost pile moist. Think twice before turning on the irrigation system or hose, since the rain barrel water is soft, additive-free and not subject to local watering restrictions.

Conserving water in the home landscape is an important part of being a responsible homeowner in southwest Florida. For more information about water conservation, Florida-Friendly Landscaping™ and rain barrels, please visit <http://fyn.ifas.ufl.edu> or www.WaterMatters.org.

Myakka: Our wild and scenic river

The Charlotte Harbor estuarine system is mostly influenced by its large rivers. The amount of salt in each estuary varies dramatically, depending in part on the large fluctuations of river and streamflows from the Myakka, Caloosahatchee and Peace rivers between wet and dry seasons.

The Myakka River is the only river in Florida to be designated a Florida Wild and Scenic River. This designation provides for preservation and management of the 34-mile portion of the river within Sarasota County, 12 miles of which flow through the Myakka River State Park. (The Loxahatchee and Wekiva rivers are designated wild and scenic by the federal government.)

Much of the 66-mile river's watershed lies to the north in Manatee County, but the Myakka River does not become well-defined until numerous tributaries coalesce near the park. Two lakes and extensive marshes are prominent features of the park, which is famous for its diverse wildlife. While agriculture use dominates the majority of the upper basin and urban development in the lower basin, many acres of this watershed are protected as parks, forests and preserves.

The Myakka River was designated wild and scenic by the state of Florida in 1984. The Myakka River Management Coordinating Council was then established by the Myakka River Wild and Scenic Designation and Preservation Act to provide interagency and intergovernmental coordination in the management of the river. The Florida Department of Environmental Protection (FDEP) staffs the council of state agencies, local governments, regional planning councils, agricultural interests, environmental organizations, landowners, businesses and other stakeholders.

The Council holds three meetings a year to review and make recommendations on all proposals for amendments to the Designation Act, Myakka Wild and Scenic River Management Plan, Chapter 62D-15, Florida Administrative Code, Myakka River Wild and Scenic River Rule (Rule), as well as on other matters that may be brought before the Council by the FDEP, any local government



Reflecting on the Myakka River | David Blewett

or any member of the Council. The Council can then render its nonbinding advisory opinion to the Southwest Florida Water

Management District, the FDEP and affected local governments. Visit <http://myakkarivermanagement.org/> for more information.

"The Myakka River is one of the most unique and amazing rivers that one can visit. This place . . . will take you back in time and out of the busy world we are all used to. The peaceful scenery, wildlife and recreational opportunities give this exceptionally conserved location much to offer its visitors." — <http://www.floridamariner.com/wcms/content/210.php>



SOURCE: <http://www.swfwmd.state.fl.us/projects/myakka/>

Areawide EIS for Continued Phosphate Mining in the Central Florida Phosphate District

The U.S. Army Corps of Engineers (USACE) is preparing an Areawide Environmental Impact Statement (AEIS) to address the environmental issues associated with proposed expansion of phosphate mining within the Central Florida Phosphate District (CFPD). Work on the AEIS was initiated during the first quarter of 2011, with the major activities focused on mobilization of the third-party contractor team working under the direction of the USACE and preparations for and facilitation of two public scoping meetings held to brief the public on the AEIS start-up activities. (Additional information was provided in the previous issue of *Harbor Happenings*.)

Public comments were formally received in writing through the end of April 2011. By the end of the formal scoping period, more than 5,000 comments were received through just fewer than 3,000 separate submissions of comments from agencies, other stakeholder groups and members of the public. These comments were compiled into summaries aligned with the 24 issue categories included in the web form, and the summaries were incorporated into a Public Scoping Report document during the second quarter of 2011. This report has been posted to the project website at www.phosphateaeis.org.



The public comments were compiled and reviewed to refine AEIS scope definition in terms of study area as well as topical boundaries. Additionally, comments were reviewed to identify types of alternatives

that stakeholders thought should be included under the AEIS evaluations. Many of the submittals of comments included attached technical reports or reference information, and these types of materials have been incorporated into the reference library that will be used in AEIS preparation. Public comments received after the end of the formal scoping period are being reviewed and considered by the USACE but are not included in the Public Scoping Report document; generally, these supplemental comments have been aligned with others received prior to the end of the April deadline.

During the second quarter of 2011, the AEIS team also continued review of reference documents and information provided by various agencies and stakeholder groups. Focused communications with prospective participating agencies continued as the team solicited input from agencies believed to have responsibilities as well as important relevant information pertinent to some of the prioritized technical issues. Examples of such issues include the influence of phosphate mining operations on surface water and groundwater hydrology and/or water quality, ecological resources, the regional economy and human populations within the overall study area. Information exchange with participating agencies continues, and expanded communications and meetings are anticipated in the next several months as the USACE seeks to complete compilation of key data and reports viewed as needed to help address the prioritized technical issues. These communications and meetings will serve the dual purpose of providing briefings on AEIS analytical plans as well as gaining further insight into other information that might yet be identified as useful to support the AEIS evaluations.

In light of the USACE's desire to allow time for the referenced communications and meetings as well as the performance of the technical analyses ultimately included under the AEIS, the revised schedule now projects release of the Draft AEIS toward the end of March 2012, with completion of the Final AEIS targeted by December 2012. Future AEIS updates will be provided through the project website, email information releases corresponding to website postings and the CHNEP newsletter *Harbor Happenings*.

CHNEP virtual wading trip video experts



Three of the experts in the CHNEP virtual wading trip videos are Phil Stevens (top) with FWC Charlotte Harbor Field Station, Pamela Jones-Morton (middle) with Lovers Key State Park and Bobbi Rodgers (bottom) with Charlotte Harbor Environmental Center.

One longer video (about 30 mins.) and multiple 1–2 min. videos will be created to help viewers appreciate the value of our local estuaries. Visit www.CHNEP.org to learn more about this project and how to obtain copies of these videos.

Photographs by Maran Hilgendorf.

Clean Water Act

The Clean Water Act (CWA) is the cornerstone of surface water quality protection in the United States. The statute employs a variety of regulatory and nonregulatory tools to sharply reduce direct pollutant discharges into waterways, to finance municipal wastewater treatment facilities and to manage polluted runoff. These tools are employed to achieve the broader goal of restoring and maintaining the chemical, physical and biological integrity of the nation's waters so they can "support the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water."

For many years following the passage of CWA in 1972, the focus was mainly on the chemical aspects of the "integrity" goal. During the last decade, however, more attention has been given to physical and biological integrity. Also, in the early decades of the CWA's implementation, efforts focused on regulating discharges from traditional "point-source" facilities, such as municipal sewage plants and industrial facilities, with little attention paid to runoff from streets, construction sites, farms and other "wet-weather" sources.

Starting in the late 1980s, efforts to address polluted runoff have increased significantly. For "nonpoint runoff," voluntary programs, including cost-sharing with landowners, are the key tool. For "wet-weather point sources" such as urban storm sewer systems and construction sites, a regulatory approach is being employed.

CWA programs have evolved to holistic watershed-based strategies. Under the watershed approach, equal emphasis is placed on protecting healthy waters and restoring impaired ones. A full array of issues are addressed, not just those subject to CWA regulatory authority. Involvement of stakeholder groups in the development and implementation of strategies for achieving and maintaining state water quality and other environmental goals is another hallmark of this approach.

SOURCE: www.epa.gov/owow/watershed/wacademy/acad2000/cwa/

The National Estuary Program was established by Congress in 1987 to protect and restore water quality and living resources of estuaries of national significance. The Clean Water Act Section 320 directs EPA to identify estuaries of national significance and to convene a management conference that then develops a plan for attaining or maintaining water quality in the estuary. The Charlotte Harbor ecosystem is one of 28 estuaries designated an "estuary of national significance." Learn more at www.CHNEP.org.

What is good water quality?

Good water quality depends on the water and how we use it. Our expectations of good water for drinking are different from what they are for swimming or for what is needed by plants and animals. The U.S. Clean Water Act (see related article) defines goals and protection needs to achieve the chemical, physical and biological integrity of our nation's water.

Chemical integrity: Water is a universal solvent because of its ability to dissolve so many substances. As water moves, it picks up a variety of dissolved and particulate materials. Water is found on the surface of the planet, in the ground and in the air — as well as in every living creature! Three-fourths of the earth is covered by water, which is mostly in oceans. The oceans are the repository for all the minerals that have dissolved from rocks, which is why they are salty. (Water varies in the amount of salt, from 0 parts per thousand (ppt) for fresh water to 35 ppt for seawater.) What happens with salt happens with all the substances that water moves or dissolves.

The right concentration of a chemical or nutrient for one species might be too much or too little for another.

Chemical habitat includes macronutrients (needed in large quantities, including

nitrogen, phosphorus and potassium), micronutrients (needed in small quantities, including sulphur, silicon, manganese, cobalt, calcium, magnesium), salts, dissolved inorganic carbon, dissolved organic carbon, pH, suspended clay and organic solids, and oxygen. The air we breathe has 200,000 parts per million (ppm), while the air available to aquatic plants and animals is, at its best, only 15 ppm, so any reduction in oxygen levels in water is of concern. Additional concerns include fecal coliform, pesticides, metals, pharmaceuticals and other manufactured introductions in the environment.

Physical integrity: Important physical parts of all aquatic habitats are substrate, structure, water depth, water flow, vegetation and water temperature.

Biological integrity: If the chemical and physical integrity are good, the biotic quality is probably good.

The National Water Quality Inventory Report to Congress (305[b] report) is the primary vehicle for informing Congress and the public about general water quality conditions in the United States. The report characterizes water quality, identifies widespread water quality problems of national significance and describes various programs implemented to restore and protect our waters.

World Water Monitoring Day™ builds awareness and involvement in protecting water resources by engaging citizens to conduct basic monitoring of their local water bodies. A core set of parameters — temperature, acidity (pH), clarity (turbidity) and dissolved oxygen (DO) — are sampled in the field. Results are shared around the world through a website. Visit www.WorldWaterMonitoringDay.org to learn more. There are many other opportunities to become a water quality volunteer in the CHNEP study area. Visit www.CHNEP.org to learn more.

Watershed Academy was developed by the USEPA as a distance learning program (<http://cfpub.epa.gov/watertrain/index.cfm>). A set of self-paced training modules represent a basic but broad introduction to watershed management. Web modules resemble interactive guest lecturers. The length and complexity of each module varies, but most are at the college freshman level of instruction and require ½ hour to 2 hours each to complete. Completing all 15 modules earns the Watershed Academy Web Training Certificate. Additional online training programs are listed at <http://water.epa.gov/learn/training/>.

Wetland assessments assessed

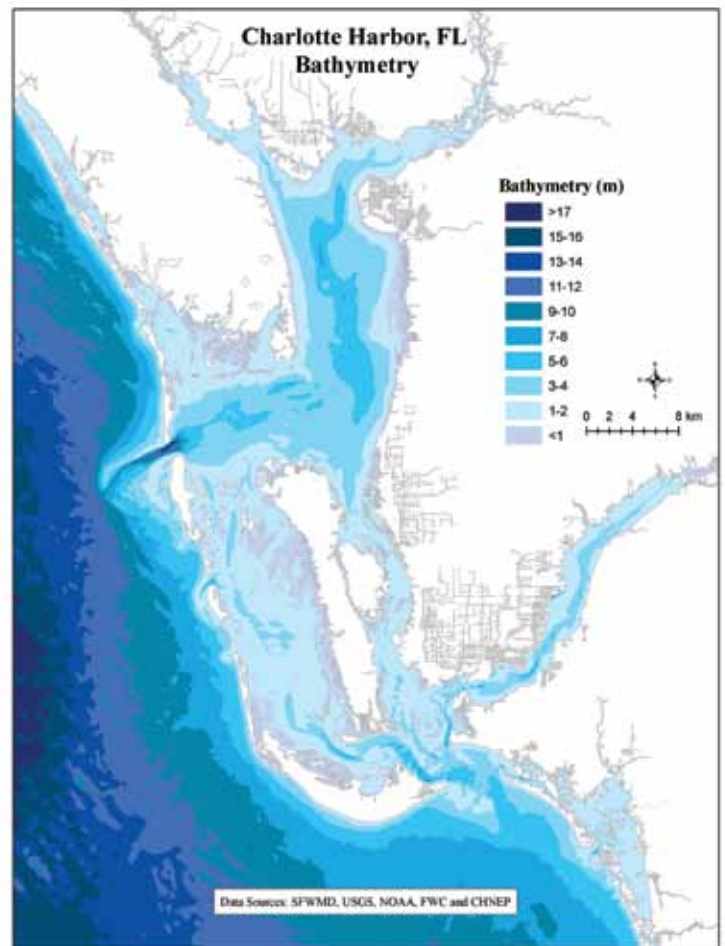
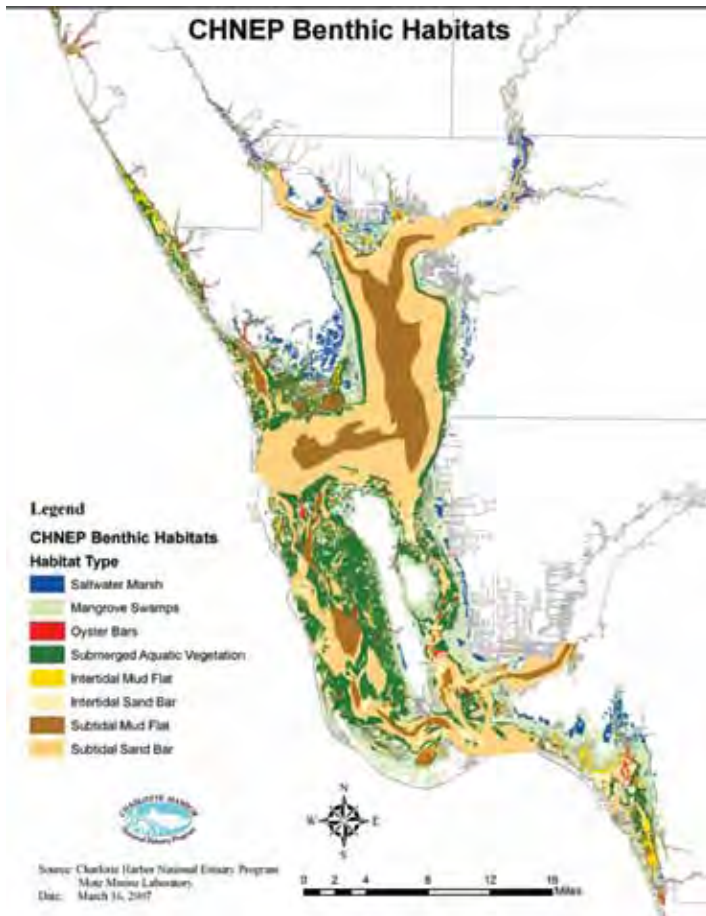
James Beaver III, SWFRPC

The Watershed Analysis of Permitted Coastal Wetland Impacts and Mitigation Methods project evaluates the successes of and problems with state and local mitigation strategies. The project focused on strategies implemented in the CHNEP study area, focusing on coastal marine and estuarine habitats, including mangroves, salt marshes, seagrass beds, oyster hard bottom and tidal freshwater emergent shoreline.

The project identifies the regional impacts on coastal wetlands of the current environmental resource permitting process and program of compensatory wetland mitigation within the CHNEP study area. This is a cooperative effort of the Southwest Florida Regional Planning Council, the CHNEP and the U.S. Environmental Protection Agency.

Management criteria and implementation success are assessed for both private and public mitigation lands. The result is an evaluation of the performance of three wetland functional assessment methods — wetland rapid assessment procedure (WRAP), uniform mitigation assessment method (UMAM) and hydrogeomorphic method (HGM) — the distribution of mitigation and, in some cases, the fate of long-term on-site mitigation. Recommendations for protocols and practices for improving the effectiveness of compensatory mitigation in coastal and estuarine habitats are examined.

During the 2004–2008 study period, 10,186 environmental resource permits (ERP) actions occurred within the total CHNEP study area.



The majority occurred in the Peace River, Caloosahatchee River and Estero Bay watersheds. Of all the permit actions, 1,834 occurred on the shoreline or in emergent estuarine wetlands. The majority of these occurred in the Caloosahatchee River, Pine Island Sound/Matlacha Pass and Estero Bay watersheds.

All three wetland functional assessment methods function as designed and produce a result that is similar, if not exact, in its assessment of coastal wetlands, but they yield somewhat different mitigation results.

The total area of wetland acreage and functional decrease can appear relatively small; however this permitted wetland elimination is gradually reducing the total extent of coastal wetlands. The general perception both by the public and the regulatory entities is that no wetland functional loss is occurring in the balancing process of the use of functional assessment tools. Wetland mitigation sometimes occurs in a different watershed than the one impacted, further reducing the function of the impacted wetland.

The 392-page report is available as a PDF file at www.CHNEP.org. Two of the 73 figures are provided on this page.

The U.S. Environmental Protection Agency has awarded a two-year project to the Southwest Florida Regional Planning Council for the development of a functional assessment method to evaluate the water quality benefits of wetland restoration and designed freshwater and brackish water ecosystems used for water quality treatment. The project will begin in October 2011.



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Please let us know of any address corrections by sending an email to mhilgendorf@swfrcp.org.

Harbor Happenings en Español: Cada publicación de *Harbor Happenings* será traducida al español y publicada en el website del Charlotte Harbor National Estuary Program www.CHNEP.org. Por favor anime a sus amigos que hablan español a darle un vistazo.

Grants are available

The Charlotte Harbor National Estuary Program (CHNEP) is a *partnership* that protects the natural environment from Venice to Bonita Springs to Winter Haven. This partnership gives citizens, elected officials, resource managers and commercial and recreational resource users in the 4,700-square-mile watershed a voice to address diverse resource management concerns, including fish and wildlife habitat loss, water quality, water flow and stewardship. The watershed includes all or portions of Charlotte, DeSoto, Hardee, Lee, Manatee, Polk and Sarasota counties.

The CHNEP is pleased to offer two types of grants to support *your* efforts to protect the natural environment of southwest Florida. All projects must help fulfill the CHNEP *Comprehensive Conservation and Management Plan (CCMP)*. These grants are open to everyone from citizens to organizations to businesses to governments to schools, colleges and universities.

The **CHNEP public outreach grants** are available once a year. The maximum grant request is \$5,000. The deadline to submit the draft application is Sept. 7.

The **CHNEP micro-grants**, usually for up to \$250, are available throughout the year. Funding is available for projects that can begin after Oct. 1, 2011, and that can be completed by Aug. 31, 2012. Apply by completing an online application on the CHNEP website.

Additional guidance about the CHNEP and these grants is available www.CHNEP.org.

CHNEP 2012 calendar to be mailed by November



Green Tree Frog, *Hyla cinerea* / Bob Bachand

This year, 180 people generously donated 490 photographs and paintings to consider for inclusion in the CHNEP 2012 calendar. With their generosity and your help, this calendar will again show the beauty and the diversity of the natural environment of southwest Florida.

See www.CHNEP.org to learn more about the calendar and, if you aren't already receiving this newsletter and calendar, subscribe. (After Sept. 14, it will cost \$15 to have a calendar mailed to you.) The 2012 calendar will be mailed by November to all those who subscribe, and it will be available for pickup from select locations throughout the CHNEP study area. Visit the website for a list of locations.

Environmental education meeting

The CHNEP invites *everyone* with an interest in environmental education in the CHNEP region to attend a day-long program tentatively planned for September or October in Charlotte County. If you would like more information, please email mhilgendorf@swfrcp.org.

CHNEP Meetings and Events

These dates are tentative. Confirm dates and obtain locations and agendas at www.CHNEP.org. Additional meetings and events are also posted on this website, as are grant deadlines.

All meetings are open but the public is encouraged to join the Citizens Advisory Committee. Membership is open to anyone interested in protecting the natural environment bounded by Venice, Bonita Springs and Winter Haven.

Public outreach grant applications due	September 7
TAC/Science Forum	October 13
Environmental Education Workshop	September TBD
Citizens Advisory Committee (CAC)	October 19
Management	November 4
Policy	November 18
Charlotte Harbor Nature Festival	November 19