

THE MAGAZINE OF THE CHARLOTTE HARBOR NATIONAL ESTUARY PROGRAM



HARBOR HAPPENINGS

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



Water on our Watershed

“One of the most interesting things about this landscape that we live on is water. Water drives the distribution of plants and animals,” explains Win Everham, FGCU professor. “In just a matter of inches one plant appears and another one disappears, and the animals that are associated with those plants appear and disappear.”

The centerfold poster provides information on our watershed.

Photo of Harns Marsh Preserve in Lehigh Acres submitted by John Holmes, JohnCarol Photo.

Fall 2013: Volume 17, Issue 3

Program update

by Dr. Lisa B. Beever, CHNEP

On Sept. 26, CHNEP hosted our 2nd Annual Conservation Lands Workshop. Ever since moving to Florida in 1988, I have celebrated each new acquisition of conservation lands. When Maran Hilgendorf, our Communications Manager, asked me to give a retrospective on conservation lands acquisition and restoration, I leapt at the opportunity.

Preparation for the workshop had me rifling through a cabinet of old CDs to find the oldest geographic information system themes (now called layers) that I could find. I found a 1994 conservation lands layer created by the Florida Fish and Wildlife Conservation Commission. The year 1994 was when the Southwest Florida Regional Planning Council and Mote Marine Laboratory, Inc. began preparing the packet to nominate Charlotte Harbor as “an estuary of national significance.” Of course, they were successful and the Charlotte Harbor National Estuary Program is active nearly two decades later. Also in 1994, Polk County created the first annually funded environmental lands acquisition program in the study area. It was a wonderful year for conservation in southwest Florida!

In 1994, CHNEP’s study area included 187,000 acres of managed conservation lands. Nearly two decades later, we are able to enjoy 453,000 acres of the managed conservation lands. Federal, state, regional, local and nonprofit agencies have worked very hard to make this remarkable accomplishment happen.

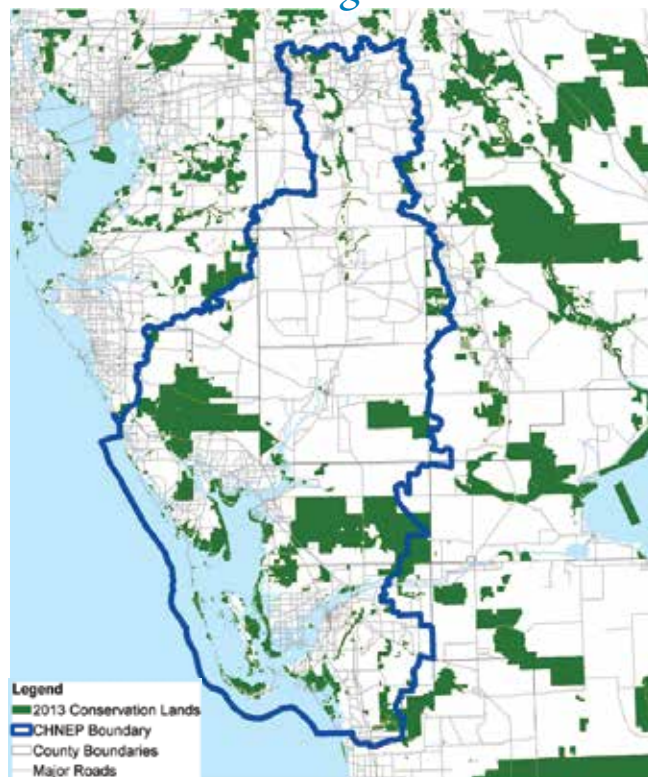
The heroes of this story are our citizens who rallied to support every successful land

acquisition program and big land acquisition effort. Every acre improves our air and water quality. Every acre provides a reservoir of plant and animal diversity. Every connected acre allows animals to move and native plants to spread.

Our CHNEP *Comprehensive Conservation and Management Plan* (CCMP) vision for land conservation included 871,000 acres. The vision includes ample urban buffers and projected rivers and stream floodplains. I found it very interesting that most of the remaining areas to be acquired to reach our vision were identified in the 1980s through the Save Our Rivers program. In the last few years, the state’s Acquisition and Restoration Council (ARC) added another 48,000 acres to that vision through the Florida Forever list. Many of these areas were requested by the property owners to be added to the list.

Acquired lands are being managed. Since CHNEP began tracking restoration projects in 2001, 163,000 acres have been restored. Most conservation lands acquisition and restoration occurred in our coastal and urban communities. The costliest restoration projects tend to be hydrologic restoration projects with far-reaching benefits to streams, rivers and estuaries. These projects also benefit habitats and water quality.

2013 Managed Lands



Our citizen heroes are still hard at work. On the very day of CHNEP’s Conservation Lands Workshop, the Florida Supreme Court agreed that the Water and Land Conservation constitutional amendment satisfies legal requirements for placement on the 2014 ballot. Florida’s Water and Land Legacy, the amendment’s sponsor, is urging all Florida voters to sign a petition if they have not already done so. To learn more about the Water and Land Conservation amendment and download a petition, visit FloridaWaterLandLegacy.org.



CHNEP Friends

PO Box 2245, Fort Myers FL 33902-2245

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).



Charlotte Harbor National Estuary Program

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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 2013: Volume 17, Issue 3

The CHNEP publishes this free quarterly magazine in cooperation with the CHNEP Friends 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 magazine is typically distributed in 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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BOBCAT, DEEP CREEK/ John Elias/ 2011

See the importance of estuaries once a week through Tumblr

The photo and text to the right is a sample of a message that would be received once a week.

For 10 years, people have submitted photos and artwork that reveal the treasures of south-west Florida for the Charlotte Harbor National Estuary Program's annual calendar, and we will begin sharing them through weekly messages from Tumblr with fun, helpful captions. The images chosen respectfully represent the unique connections within the CHNEP, the marine and wildlife that depend upon it, the recreation opportunities it allows, and its importance to Florida's environmental, economic and cultural prosperity. Sign up at www.tumblr.com to begin receiving weekly reminders from the CHNEP of the beauty of this region and learn more about what is depicted in each image. Messages will begin December 1.

While bobcats are equally at home in deep forests, swamps and hammock lands, they have also adapted well to neighborhoods in Florida. Thick palmetto patches and dense shrub thickets are their preferred den and resting sites. Though they usually hunt at night, seeing a bobcat in daylight is not uncommon since they sleep for only 2 to 3 hours at a time.



Thank you to everyone who has made a donation and to the following donors who provided \$100 or more by Sept. 30, 2013 to The Friends of Charlotte Harbor Estuary, Inc. The CHNEP is grateful for your support.

Patricia Blackwell, Coastal Wildlife Club, David A. Coxton, Marlene Diane Donaldson, Maija Gadiant, Herman Gauggel Trust, Gulf Coast Cleaners, Sandra Heacock, Robert Hilgendorf, Miguel Hnatow, Susan Ion Hogan DDS, Thomas V. and Gina D. Hoying, Al & Carol Hufschmidt, Lou Kovach, Beverlie M. Langieri, Joan Maupin, Shannon McGinnis, R.E. Mennell, Robert & Nancy Miles, Carol L. Miller, Johannes G. Mooyman, John Nyhus, Pies & Plates, Punta Gorda Garden Club, Marion McNeely Smith, George and Yvonne Stevens, Sharon S. Taylor, Dr. Timothy W. Wright, Joyce G. & Louis Zuck and an anonymous donor.

Donations of \$100 or more received by Sept. 15, 2014, will be acknowledged in the 2015 calendar. Checks may be made payable to The Friends of Charlotte Harbor Estuary and mailed to P. O. Box 2245, Fort Myers, FL 33902-2245. To make a donation by credit card or PayPal, visit www.CHNEPfriends.org.

CHNEP Special Places: We need your help

From the Lake Wales Ridge to the Gulf of Mexico, throughout the watersheds of the Myakka, Peace and tidal Caloosahatchee rivers, there are many amazing natural features to behold. The Summer issue of *Harbor Happenings* showcased a few places people can visit to enjoy the beauty of the environment and learn from guides. There are diverse habitats found in the 146-mile drive between Boca Grande to Lake Alfred and 65 miles of coastal community driving from Estero to Englewood.

Thanks to Amy Hoyt with Lee County GIS, an online map of nearly 500 places in southwest Florida has been developed. We need your help to make sure every site with public access is listed and the details about those sites are included. Please let us know if there is a site you'd like included or a resource to add to the website by sending an email message with the details to mhilgendorf@swfrpc.org. We're also seeking a few people to volunteer to enter information.

Get outdoors and enjoy!

Do you have a song to share?

Entries sought for the second CHNEP Song Contest

It doesn't take much prompting for people to recall *Suwannee River*, the official state song of Florida since 1935. The state's official anthem was designated in 2008—*Florida, Where the Sawgrass Meets the Sky*—after a contest that received 243 submissions.

Have you written and performed a song that captures the beauty or issues of the natural environment of southwest Florida (as defined by the CHNEP)? The CHNEP would like you to submit your songs for use on the CHNEP Citizens Academy and elsewhere. Prizes up to \$600 will be awarded.

The rules are simple. Each person may submit up to three entries by Aug. 1, 2014, either electronically to mhilgendorf@swfrpc.org or by mail to: CHNEP Songs, 1926 Victoria Ave., Fort Myers FL 33901-3414.

There is no fee to enter. This contest is open to amateur and professional songwriters of

CHNEP Special Places



For the tenth time, people very generously gave of their time and talent to submit three entries for consideration in the CHNEP calendar. We hope you'll enjoy the 2014 calendar and submit your own photographs and paintings for the CHNEP 2015 calendar!

Seaside Gentian at Cedar Point Environmental Center | *Al Squires*



likeability, creativity, originality, melody and arrangement. Production/recording quality and vocal ability may also be considered.

The CHNEP will email all entrants to confirm their entry was received and to announce the entries selected for recognition. Get your foot tapping!

Congratulations to the winners of the first CHNEP Song Contest:

- Gordon Mac Martin for his song Save Our Estuaries
- Papa Tommy for his song In The Mangroves
- Papa Tommy for his song Day Excursion
- Bobby Covington for his song It's Always Sunny In Southwest Florida

Project Design and Evaluation Training

Tuesday-Wednesday, Dec. 10–11, 2013

Venice Community Center (326 Nokomis Ave. S.)

This instructor-led course provides resource management professionals with the knowledge, skills and tools to design and implement projects that have measurable impacts on the target populations they want to reach. This interactive curriculum can help participants increase the effectiveness of their projects by applying instructional design theory to the project's design. Instructional design allows participants to adapt and “adjust as you go” as they evaluate the success of their projects. It also helps build in accountability, reveal assumptions, create a targeted effort, think strategically and better articulate the impacts of the project on the issue.

The CHNEP is able to offer this training because of the generosity of NOAA Coastal Services Center, who is teaching the course, and Sarasota County, who is providing the facility. Visit www.chnep-pde.eventbrite.com to register and pay the \$40 registration fee. Refreshments and lunches will be provided.

CHNEP at ...

Throughout the year, the CHNEP participates in many public events. Oct. 20 is Family Fun Day at “Ding” Darling National Wildlife Refuge. Dec. 7 is the Great Outdoor Adventure Day at Lovers Key State Park. Feb. 22 is the Burrowing Owl Festival in Cape Coral. We’re planning to show several of our videos at Circle B Bar Reserve this winter. Please contact mhilgendorf@swfrpc.org if there is an event where you would like the CHNEP to be an exhibitor.

Charlotte Harbor Watershed Summit

March 25-27, 2014

Charlotte Harbor Event & Conference Center (75 Taylor Rd., Punta Gorda)

The CHNEP hosts the Charlotte Harbor Watershed Summit every three years to learn about current research and restoration efforts as well as critical environmental issues affecting the Charlotte Harbor watershed and to review progress since the preceding summit. The theme of the 2014 summit is “our vision in action.”

The CHNEP is able to hold this event in part because of the generosity of sponsors. Thanks to Charlotte County, CF Industries, Mosaic, Atkins, Peace River Manasota Regional Water Supply Authority, Science and Environment Council of Southwest Florida, Friends of Charlotte Harbor Estuary, Inc. and the Charlotte Harbor Event & Conference Center for being the first to sponsor the 2014 program. If you are able to help as a sponsor, contact Maran Hilgendorf (mhilgendorf@swfrpc.org). Guidance on how to register will be included in the winter issue of *Harbor Happenings*.

“Save the Date!”
1-day workshop
Sustainable Communities
Wednesday, Dec. 18, 2013
Join us for the 8th Annual Sustainable Communities Workshop “Investing in Our Future”

Learn
Individuals, organizations, businesses, institutions and government agencies will gather to learn and share solutions for a renewable and sustainable community.

The Dec. 18 workshop will be held from 8 a.m. - 4:30 p.m. \$30 includes continental breakfast, lunch and afternoon break. Student Rate: \$20. For information on last year's (2012) workshop, visit www.scpgov.net/SustainableCommunities.

Questions?
Call 941-861-5000 and ask for the Sustainable Communities Workshop or e-mail us at sustainablecommunities@scgov.net.

Sarasota County
regional | 941.861.5000 | 171

Girl Scouts of Gulfcoast Florida Event and Conference Center, 4740 Gattameloni Road, Sarasota, FL 34233
Sarasota County prohibits discrimination in all services, programs or activities on the basis of race, color, national origin, age, disability, sex, marital status, familial status, religion, or genetic information. Persons with disabilities who require assistance or alternative means for communication of program information (braille, large print, audiobook, etc.), or who wish to file a complaint, should contact: Sarasota County ADA/Civil Rights Coordinator, 1662 Ringling Blvd., Sarasota, Florida 34236. Phone: 941-861-5000, TTY 941-861-5071, Email: ada@co.sarasota.fl.us

CHNEP Meetings and Events

The CHNEP partnership is guided by its Management Conference of four committees. The Policy Committee establishes general policies and goals for the Program and executes ultimate authority in program administration. The Management Committee develops and reviews work plans, funding requests, work products and other activities. The Citizens Advisory Committee (CAC) provides a mechanism for citizen input and helps develop and promote public information and education programs. The Technical Advisory Committee (TAC) is the scientific and technical voice of the program.

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

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.

2013

Management Committee	Nov. 1
Policy Committee	Nov. 15
Charlotte Harbor Nature Festival	Nov. 23
Project Design and Evaluation Training	Dec. 10-11
www.eventbrite.com , search for CHNEP	

2014

Conservation Landscaping Workshop for Hardee and DeSoto	Feb. 1
Technical Advisory Committee (TAC)	Feb. 13
Citizens Advisory Committee (CAC)	Feb. 19
Management Committee	Feb. 21
Policy Committee	March 13
Charlotte Harbor Watershed Summit	March 25-27
Technical Advisory Committee (TAC)	April 10
Citizens Advisory Committee (CAC)	April 16
Management Committee	April 25
Policy Committee	May 8
Environmental Education Network at “Ding” Darling NWR	May 30
www.eventbrite.com , search for CHNEP	
CHNEP 2014 Calendar entries due	July 15
Technical Advisory Committee (TAC)	July 17
Management Committee	August 1
CHNEP Song Writing Contest entries due	August 1
Citizens Advisory Committee (CAC)	August 6
Policy Committee	August 14
Public Outreach Grant applications due	Sept. 3
Environmental Education Network at Turner Center, Arcadia	Sept. 5
www.eventbrite.com , search for CHNEP	
Conservation Land Conference	Sept. 11
www.eventbrite.com , search for CHNEP	
Technical Advisory Committee (TAC)	Oct. 9
Citizens Advisory Committee (CAC)	Oct. 15
Management Committee	Oct. 31
Policy Committee	Nov. 13
Charlotte Harbor Nature Festival	Nov. 22

How to help

Reduce your use — irrigation. Use native landscape plants that require little or no additional water. Collect water in rain barrels for watering plants.

Reduce your use — household. Install water-conserving faucets, showerheads, toilets and washing machines.

Reduce your use — electricity. One kilowatt hour takes 42 gallons of water to produce. Use less.

Support businesses that voluntarily conserve water through programs such as Florida Water Star™.

The centerfold poster provides a few suggestions on how to help protect the natural environment of southwest Florida we cherish. Here's a few more ways you can make a difference.

LEARN MORE:

CREW's Strolling Science Seminars

The CREW Land & Water Trust Strolling Science Seminars are scholarly nature walks for adults about key watershed topics and led by professional biologists, land managers, and professors. They are designed for adults to gain in-depth knowledge and hands-on field experiences that they can share with others.

This year's series includes the following strolling seminars:

- Nov. 15: Florida Black Bears: The Bear Essentials with Kathleen Smith, FFWCC Biologist
- Dec. 14: The Lives of Fungi at CREW with Dr. William Sanders, FGCU
- Jan. 11: Strolling Science in a Day with Dr. Billy Gunnels, FGCU
- Jan. 31: Hydrology; How It Directly and Indirectly Controls the Distribution and Characteristics of Southwest Florida Plant Communities with Mike Duever, Natural Ecosystems, LLC
- Feb. 22: Paleo-Plants that the Dinosaurs Ate: Ferns of SWFL with Jack Berninger
- March 29: American Alligators: Ecological Engineers of the Everglades Ecosystem with Ian Bartoszek of the Conservancy of Southwest Florida

Registration is required. Learn more and register at <http://crewtrust.eventbrite.com>.

The CREW Land & Water Trust is a non-profit 501(c) 3 organization dedicated to the preservation of water resources and natural communities in and around the Corkscrew Regional Ecosystem Watershed (CREW). Learn more at www.CREWtrust.org. The CHNEP has helped sponsor these seminars with public outreach grants

You can make a difference

Our quality of life has changed considerably in the past 100 years. Consider these few facts:

- According to the U.S. Census Bureau, in 1908 the population in the entire state of Florida was 528,542. In April 2007, the population of Lee County alone was 615,728, with more than 18 million people in the state.
- In 1908, Ford released the famous Model T car, the first affordable automobile that “put America on wheels.”
- The 1920s were considered “the dawn of air travel and air freight.”
- The first regular television broadcasts began in the United States in 1939.
- The development of the personal computer occurred in the 1970s.

The increased population and increased goods and services provided strain the environment. To help combat this, several programs are now in place to guide consumers to make more environmentally friendly decisions.

Design for the Environment



Look for the label!

The U.S. Environmental Protection Agency launched www.epa.gov/greenerproducts, a tool to provide Americans easy access to information about everyday products such as home appliances, electronics and cleaning products that can save money, prevent pollution and protect people's health. Consumers can find electronics and appliances that have earned EPA's ENERGY STAR label, browse WaterSense products that help save energy and water, and find information about cleaning products that are safer for the environment and people's health. These products bear the EPA Design for the Environment (DfE) label. The website also provides manufacturers and institutional purchasers with information on standards and criteria for designing greener products.

Boating: With more than 2,000 marine facilities and 1,000,000 registered vessels in Florida, environmental education within the boating community is crucial to safeguarding the state's natural resources. About 15 percent of boats registered within the state are located in the seven counties that participate in the CHNEP. The Clean Boating Partnership is a liaison between the State of Florida and the marine industry. The Partnership has developed four specific programs to encourage environmentally friendly practices beyond regulatory requirements in and around Florida's waterways. They are the Clean Marina, Clean Boatyard, Clean Retailer and Clean Boater programs.

Marine facilities earned Florida Clean Marina designation by implementing environmental practices designed to protect Florida's waterways. These practices include, but are not limited to, protecting sensitive habitats, properly managing waste, preparing for emergencies and using cleaning methods that prevent the release of pollutants.

Lodging: The Green Lodging Program was established in 2004 by the Florida Department of Environmental Protection to recognize and reward environmentally conscientious lodging facilities in the state.

Tour operators: The Society of Ethical Ecotourism Southwest Florida (SEE SW FLA) is dedicated to establishing and maintaining a professional code of ecotourism ethics in order to encourage an awareness and stewardship of Southwest Florida's natural heritage by endorsing compliance with Federal, State and local laws regarding the protection of natural resources and customer safety.

Certified SEE SW FLA members' product or service is backed by a commitment of best practice for ecological sustainability, natural area management and the provision of quality ecotourism experiences.

Information on this page was reprinted from the Summer 2012, Summer 2010 and Winter 2008 issues of *Harbor Happenings*.

Water resources in Florida

Almost every facet of life in Florida has a close association with water. Florida has 1,197 miles of coastline, 7,700 lakes greater than 10 acres, more than 1,700 streams, 3 million acres of wetlands and 27 first-magnitude springs. These resources are intricately and delicately interwoven into an interactive system.

Nearly all of Florida's ground water originates from precipitation. Part of this precipitation percolates to the water table and recharges the groundwater reservoir.

Florida is underlain virtually everywhere by aquifers. Aquifers are defined on the basis of rock types, geological confinement and groundwater flow. An aquifer system consists of two or more hydraulically connected aquifers. Three aquifers in Florida are used for water supply: the surficial aquifer system, the intermediate aquifer system and the Floridan aquifer system.

The surficial aquifer system includes aquifers present at the land surface. The majority of surface water bodies are supplied by discharged ground water that underlies most of the peninsula and forms more than 90 percent of the base flow of surface waters. Rivers flow to estuaries and maintain the salinity regimes necessary for the growth and survival of aquatic organisms and vegetation.

The intermediate aquifer system consists of those water-bearing units separated by confining units. In southwestern Florida, the underlying Floridan aquifer system contains nonpotable water, thus the intermediate aquifer system is a major source of water supply for Charlotte, Lee and Sarasota counties.

The Floridan aquifer system underlies a total area of about 100,000 square miles of the entire state of Florida and portions of Alabama, Georgia and South Carolina. As one of the most productive aquifers in the world, it has been called "Florida's rain barrel." It is defined on the basis of permeability: it is at least 10 times more permeable than its upper and lower confining units. It is composed of a thick sequence of carbonate rocks of limestone and dolomite.

Florida's five water management districts and the Department of Environmental Protection worked to compile all aspects of our state's most precious resource — water — in the 1998 book *Water Resources Atlas of Florida*. This information and the aquifer graphic are from this book. Visit www.CHNEP.org for links to free PDF files of the book.

People often wonder why Florida, with an average rainfall of 53 inches annually, still has water problems. Florida's water problems can be traced to a few facts.

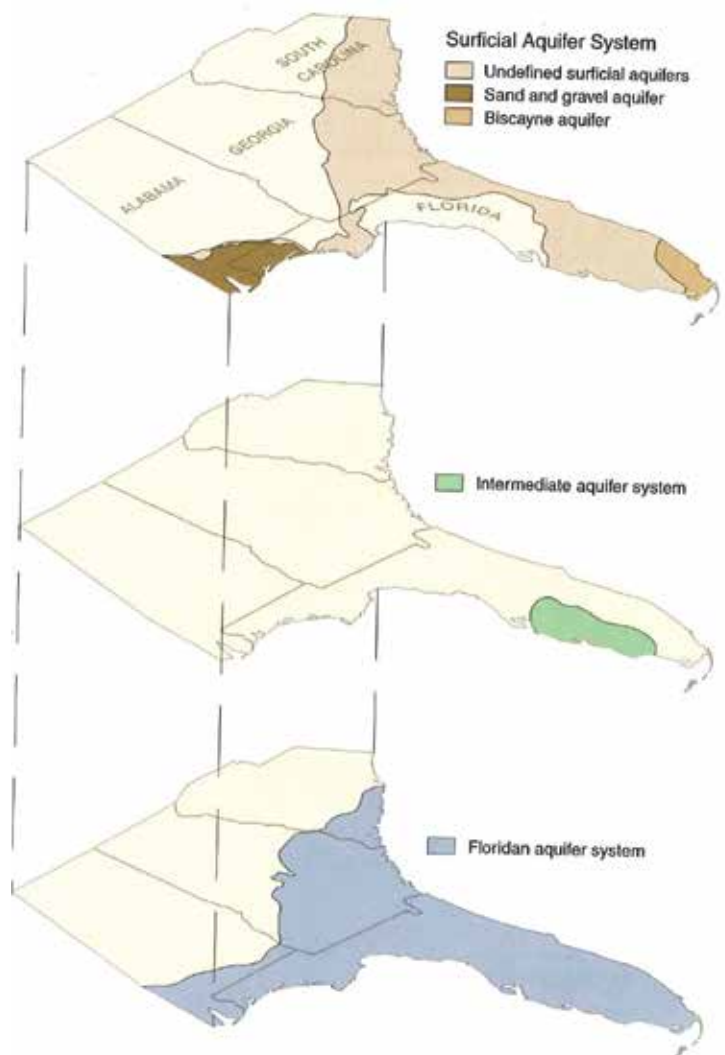
- Rainfall in Florida is unevenly distributed in time and space. The southern half of the state south of Cedar Key and New Smyrna Beach gets all its fresh water from rain that falls on it.
- Florida's population grew from 1.8 million in 1940 to 14 million in 1990 and 18.8 million in 2010.
- Large areas of the state were altered both ecologically and hydrogeologically to accommodate the needs of agriculture and industry.
- Florida's aquatic environment is one of the most ecologically sensitive areas in North America, if not the world. According to the Environmental Protection Agency, 9 out of the 21 most threatened ecosystems in the country are located in Florida.

The Charlotte Harbor Watershed poster

Artist Dawn Witherington has created several amazing posters. The CHNEP commissioned her to create a poster explaining our local estuaries (printed in the Winter issue) and a poster explaining water flow in the Charlotte Harbor watershed that is the poster in the center of this issue. She has created posters on the wrack community, loggerhead sea turtles and oysters have been provided to *Harbor Happenings* readers in the Winter 2012, Fall 2011 and Summer 2011 issues. All these posters are also available as PDF files from www.CHNEP.org/posters.html and from the organization that had each created.



Sequence of Aquifers



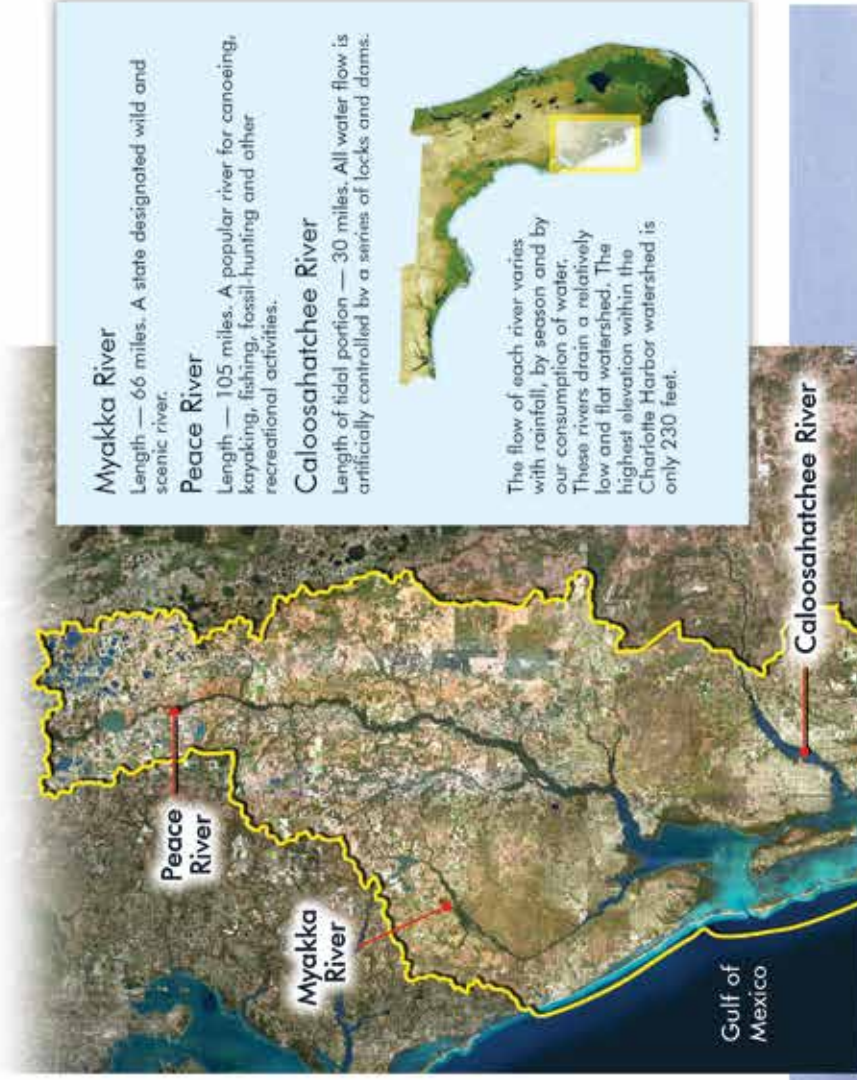
Reprinted from Fall 2010 issue of *Harbor Happenings*.

The Charlotte Harbor Watershed

The Charlotte Harbor watershed covers a land area of 4,700 square miles in portions of seven counties. Approximately 1.34 million people live within its boundaries. Throughout this living space, water flows in sheets over the land, seeps underground through sandy soil, trickles into streams, rushes through man-made ditches and is carried by three major rivers into the Charlotte Harbor estuary.

What is a watershed?

A watershed is an area of land that water flows across as it moves toward a common body of water, such as a stream, river, lake or estuary. Watershed boundaries in southwest Florida are not distinct. They vary depending on locations and intensity of storms. For example, Lake Trafford is sometimes in the Estero Bay watershed. All living things within a watershed share the water within it and are inextricably linked by a common drainage. As part of this system, humans have both a great need for water and a unique capacity to purposefully and inadvertently alter its course and quality.



in many ways across the watershed to reach our estuaries, then the Gulf of Mexico



Natural features that are modified by man:

1 Rivers, Streams and Lakes

Before humans altered the landscape, rainwater flowed from tiny streams into larger rivers and lakes. Now, much of that water flows within artificial ditches and large canals.

2 Sheetflow

During heavy rains, water flows in broad sheets over flat ground. This flow transports pollutants, makes seemingly dry ground into temporary streams and directly connects uplands to the sea.

3 Groundwater Flow

Water flows underground through sandy soil and porous limestone. This water supplies tributaries and shallow wells. It also carries septic tank effluent, lawn fertilizer and other pollutants.

4 Wetlands

These water-holding areas filter out pollutants that would reach rivers and estuaries, and they allow water to percolate into the ground. Wetlands are also habitats for diverse plant and animal species.

5 Reservoirs and Lakes

Artificial lakes store water by blocking or diverting the flow of waterways. This water storage controls flooding and provides water for household use and agriculture. Lakes are also dug to mine phosphate and gravel.

6 Roads, Ditches and Canals

Roads are raised surfaces that act like dams to interrupt sheetflow. Ditches lining roads permit fast, direct flow without time for the water to seep underground or for pollutants to be filtered.

7 Stormwater Ponds

These ponds are dug to retain water and to detain water during heavy flow. Artificial ponds store water like a wellhead, but they require maintenance and lack diverse plant and wildlife habitat.

Man-made additions that affect water flow:

Just add water...

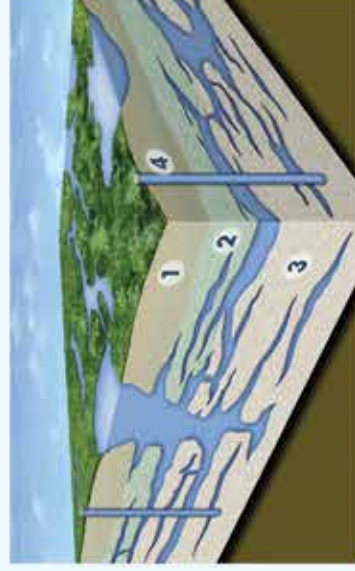
Water drives the ecological system we fit into, our economic activity and the quality of life we enjoy. These functions rely not just on some water, but on sufficient water of good quality delivered at the right time. We use water flowing over our watershed to drink, irrigate and wash away waste. To supply ourselves with just enough water—but not too much—we've engineered a complex plumbing system for our watershed. Within this system, a balance is needed to provide flows and levels that are required for the living things that share our neighborhood and make us want to live here.



Sharing water is vital. Water provides for the living things in our neighborhood, which in turn provide economic value and enhance our quality of life. Wetland forests, clean rivers, wading birds and abundant healthy fish populations contribute significantly to our overall happiness.

The Aquifer System

Our aquifer is recharged by surface water, as long as the water is not forced to rush across our watershed. The aquifer that supplies us with clean drinking water is made of porous limestone, which soaks up water like a rocky sponge. Our aquifer water levels are falling, which means we are using more water than we are allowing to recharge.



1. Sandy soils allow water recharge
2. Impermeable soils seal off groundwater
3. Porous limestone holds water
4. Wells extract water

How to help

Reduce your use — irrigation. Use native landscape plants that require little or no additional water. Collected water in rain barrels for watering plants.

Reduce your use — household. Install water-conserving faucets, showerheads, toilets and washing machines.

Reduce your use — electricity. One kilowatt hour takes 42 gallons of water to produce. Use less. Support businesses that voluntarily conserve water through programs such as Florida Water Star™.



A partnership working to protect the natural environment of Florida from Venice to Bonita Springs to Winter Haven.

www.CHNEP.org

Eco-Voice

Communication tool to help protect the natural environment of southwest Florida

Eco-Voice is a practical method of communication among environmentalists in south Florida and beyond.

Every day before 6 A.M. a selection of news items, photos and announcements of environmental events relevant to south Florida, with links to sources and additional information, is emailed to subscribers. This daily digest is also posted on EcoVoice's website and Facebook page.

While Eco-Voice sponsors have a common cause—saving the local environment—they belong to many different organizations, each with its own rules, objectives and methods of communication. Eco-Voice allows for the exchange of information between members of those different groups—freely and without restriction. Everyone is invited to

post photos and details of green events and offer comments or “likes” on the Eco-Voice Facebook page. The Eco-Voice website has an interactive map, a calendar of events, a listing of jobs, volunteer opportunities and links to sources of environmental news.

Subscribe to the free Eco-Voice daily digest through the website www.Eco-voice.org or send an email to info@eco-voice.org. Addresses provided to Eco-Voice are not shared, rented or sold.

Now in its fourth year, Eco-Voice is a 501(c)3 not-for-profit corporation run entirely by volunteers and supported with grants and donations. The CHNEP is a founding member of Eco-Voice and an annual sponsor. If your organization or green company would like to help sponsor Eco-Voice, please send an email to sponsorship@eco-voice.org.



You are invited to a free public film screening of the new sea level rise documentary “*Shored Up*” with film Director and Producer Ben Kalina at FGCU Nov. 6 from 6:30-9:30 P.M. in Edwards Hall room 112.

Shored Up is an urgent call to action in the face of accelerating sea-level rise, presenting the devastation of Hurricane Sandy as a window into the future. Set in Long Beach Island, N.J. and the Outer Banks of N.C., the film explores the political conflicts and personal stakes of communities along the shore. *Shored Up* talks to scientists, politicians, residents and a wide range of experts to expose major shortcomings in coastal management and the immediate need for change. Filmed over three years and culminating in the impact of Hurricane Sandy, it becomes an eerie foretelling of the storm's devastation and a witness to its dramatic aftermath. *Shored Up* is a look at what happens when we ignore the realities of geology in our drive to inhabit and profit from our coastlines.

The free screening is presented by Florida Gulf Coast University and the Union of Concerned Scientists in partnership with the Charlotte Harbor National Estuary Program, the Science and Environment Council of Southwest Florida and the Rising Seas initiative.

Pine Island preserve offers slice of green

Lee County Parks & Recreation is pleased to report that a Conservation 20/20 land purchase called Galt Preserve is helping restore native habitat on the southern end of Pine Island. The site will also offer outdoors options such as hiking, wildlife viewing and fishing.

Conservation 20/20 Program bought the final parcel of Galt Preserve in 2007. Then staff applied for and was awarded a \$1.5 million Florida Communities Trust grant for restoration of the preserve and construction of amenities.

Design and permitting was completed with the South Florida Water Management District and the U.S. Army Corps of Engineers in 2012, and construction of amenities will begin this fall. Amenities will include hiking trails, wildlife observation platforms, fishing platforms, a paddlecraft launch on a small lake and a picnic pavilion.

Restoration of the native plant communities has been in full swing. In 2011, melaleuca and Australian pines were logged from the site at no cost to taxpayers and follow-up herbicide applications were done thanks to a \$63,000 grant awarded by the Gulf of Mexico Foundation in 2012. This grant was highly competitive—only three were awarded nationally.

Volunteers from throughout Lee County assisted with a planting project where there were once only invasive exotic plants. Then in June this year, the Lee County Board of County Commissioners accepted an additional \$40,000 from the Gulf of Mexico Foundation to assist with the construction of three low-water crossings. This project will help improve the tidal flow across a powerline that is located on the preserve.

“After six short years, restoration of the site has dramatically transformed this 265-acre Conservation 20/20 preserve,” said Cathy Olson, manager for Lee County Parks & Recreation and Conservation 20/20. “The amenities that will be built in the fall of 2013 will soon be available for the citizens of Lee County and the tourists who visit



Bayheads in southwest Florida's landscape

Photo by Carol Mahler.

John Reynolds

Bayheads occur in a depression underlain by a poorly drained layer of soil, clay or perhaps marl (clay with shell). There are three species of trees that give the plant community its name: sweetbay, redbay and loblolly bay. A fourth species frequently found is swamp bay.

Bayheads are important as water recharge and storage areas. They are also a unique habitat for many species of plants and animals. They are probably one of the least studied of all Florida plant communities because they are heavily vegetated and, in some cases, are almost impenetrable.

Environmentally, bayheads are not only very important as water storage areas but also as habitat for many plant and animal species.

This information was abstracted from an article in DeSoto County Historical Society's *Recollections IV*. To buy a copy of *Recollections IV*, send a check for \$10 (\$8 plus \$2 S&H) to DeSoto County Historical Society, P.O. Box 1824, Arcadia, FL 34268. It will also be available from select retail outlets listed at www.historicdesoto.org.



Sweet bay blossom. Photo by Carol Mahler.



The 2012 USDA Plant Hardiness Zone Map is the standard by which gardeners and growers can determine which plants are most likely to thrive at a location. The map is based on the average annual minimum winter temperature, divided into 10-degree F zones.

Compared with the 1990 version, zone boundaries in the 2012 edition have shifted in many areas. The new zone is generally one half-zone warmer than the previous zones throughout much of the United States.

For the first time, the map is available as an interactive GIS-based map, for which a broadband Internet connection is recommended, and as static images for those with slower Internet access. Users may also simply type in a ZIP Code and find the hardiness zone for that area.

SOURCE: <http://planthardiness.ars.usda.gov/PHZMWeb/>

Photo by Al Smoke.



Florida-Friendly Yards Grow Smart.

Conservation Landscaping Workshop *and native plant sale*

Saturday, February 1, 2014

Registration begins at 7:45 A.M. Program begins at 8 and ends at noon.

Turner Center, 2250 Roan St, Arcadia

- Add to your knowledge on how to use plants adapted to Florida.
- Transform your property into a beautiful oasis for people *and* wildlife.
- Conserve precious water resources and reduce pollution.
- Understand the value of bugs and the challenges of invasive plants.
- Grow your own vegetables with little watering and no pesticides.
- Get your questions answered during an Ask-the-Experts session.

This *free* workshop for residents of Hardee, DeSoto and Highlands counties has been organized by the CHNEP, in cooperation with many others, since 2005. Find out about these workshops and those that serve other counties at www.CHNEP.org. Did you attend a previous workshop? Let us know how you have incorporated what you learned into your yard.

www.CHNEP.org • Toll-free 866/835-5785, ext. 240

Valuing Commercial Fisheries in Charlotte Harbor

Joy Hazell and Betty Staugler, Florida Sea Grant

Many residents of and visitors to southwest Florida know that fishing is popular but may not have made the connection between the seafood they eat and the estuary they value. The Charlotte Harbor region has a long history of commercial fishing in its rivers and bays and is a temporary, yet crucial home, for many species caught in the Gulf of Mexico. In 2010, more than 530 saltwater product licenses were held in Charlotte and Lee counties alone. Nearly 150 wholesalers and 400 retailers bought and sold seafood in this region, contributing to Florida's multi-billion dollar seafood industry. Many species are harvested from our waters, including stone crab, mullet, grouper and mackerel. The two most important species in terms of volume and dollars are blue crab and pink shrimp.



Photo by Bryan Fluech, Florida Sea Grant.

Blue Crab

- The latin name, *Callinectes sapidus*, means "beautiful, savory swimmer."
- Blue crabs are crustaceans, related to lobsters and shrimp.
- Blue crabs can replace lost appendages (legs) and will deliberately shed an appendage to escape a predator.
- In Florida, male blue crabs spend their time in lower salinity water in the upper bays or mouths of rivers. Females prefer saltier water but will move into brackish water to mate, then out to the Gulf to spawn.
- The commercial fishery is predominantly a trap fishery. It is open year round with the exception of a biennial 10-day closure to retrieve lost or derelict traps.
- In 2010, more than 1.6 million blue crabs were landed in southwest Florida, representing approximately 20% of the state's total landings.

Pink Shrimp

- Pink shrimp, like blue crabs, are crustaceans.
- Juvenile pink shrimp live in seagrass and algae beds in estuarine waters.
- U.S. shrimpers must install turtle excluder devices in their nets to reduce incidental by-catch of sea turtles.
- In 2010, 40% of pink shrimp harvested in Florida were landed in Lee County.
- Shrimp is the most popular and valuable seafood product in the U.S. but 80% are imported.

Changing Times

While the region continues to harvest a variety of wild-caught seafood commodities, the size of its commercial fleet and infrastructure to support it has declined dramatically in the past several decades. Regulation changes, coastal development and loss of working waterfronts, competition from imports, natural disasters and attrition have contributed to these declines. Despite these trends, several communities still have a strong commercial fishing presence. For instance, San Carlos Island is officially designated as a Waterfronts Florida community by the state of Florida because of its commercial fishing heritage.

Eating Seafood

Seafood is an important part of a healthy, well-balanced diet. According to medical experts, consuming fish just two times a week can significantly help to reduce the risk of heart-related death. Florida seafood, like all U.S. seafood (both domestic and imported), must follow protocols to ensure the safety and quality of the product. In addition, Florida-harvested products must adhere to local food safety regulations as well. Buying fresh seafood directly from reputable



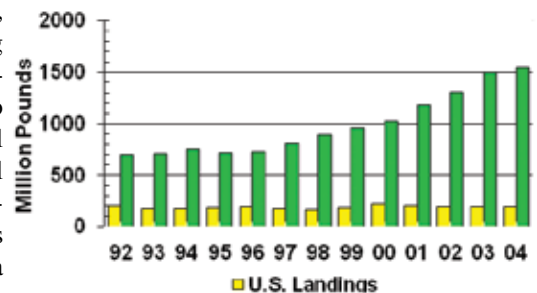
Shrimp boats docked at San Carlos Island. Photo by Joy Hazell.

2010 Saltwater Landings

Commercial saltwater fishing impacts Florida's economy with more than \$5.7 billion and provides more than 100,000 jobs (2008).

Lee Co. - \$10,252,968		Charlotte Co. - \$1,119,984	
Finfish	Invertebrates	Finfish	Invertebrates
Mullet	Pink Shrimp	Mullet	Blue Crab
Red Grouper	Stone Crab	Mojarra	Stone Crab
Ladyfish	Blue Crab	Jack Crevalle	Pink Shrimp
Top 3 Val - \$798,062	Top 3 Val - \$8,270,866	Top 3 Val - \$360,504	Top 3 Val - \$658,394
Tot Val - \$1,165,862	Tot Val - \$9,087,106	Tot Val - \$461,592	Tot Val - \$664,992

U.S. Landings and Imports of Shrimp



SOURCE: Fisheries of the United States, National Marine Fisheries Service. Landings and imports as head-off conversion.

dealers makes the process from "sea to the table" more transparent, which has become a major concern for a lot of imported products. Florida seafood is not only safe and good for you, but delicious too!

Seafood recipes featuring blue crab, pink shrimp or another Florida seafood product are available at www.freshfromflorida.com/Recipes/Seafood.

A Unified Conservation Easement Mapping and Database for the State of Florida

James (Jim) Beever, Southwest Florida Regional Planning Council

There is no complete map and database for all conservation easements in Florida.

The CHNEP, in cooperation with the Southwest Florida Regional Planning Council, has been funded by the U.S. Environmental Protection Agency (USEPA) District IV to identify and map all conservation easements in the state of Florida. This includes all conservation easements held by federal, state, regional and local government, private land trusts, conservation organizations, corporations and individuals.

The project will collect existing geographic information system (GIS) layers, and unmapped conservation easement information and map it into a single GIS project that will be useful for regulatory agencies, land-planning entities and private uses. This mapping tool will provide a more complete picture of the extent and connectivity of landscape-scale conservation in the state of Florida and assist in identifying critical gaps in wetland watersheds conservation planning that could potentially be addressed by public, public-private partnership and private conservation efforts. The map will also assist public and private planners' infrastructure and development and regulators from encountering unexpected conflicts with existing conservation lands that they may currently not be unaware of.

The CHNEP will partner with the Florida Gulf Coast University GIS program and coordinate with the U.S. Army Corps of Engineers, USEPA, National Resources Conservation Service, U.S. Department of Agriculture, Florida's four National Estuary Programs, Florida Department of Environmental Protection, Florida Fish and Wildlife Conservation Commission, Northwest Florida, South Florida Water, Southwest Florida, St. Johns River and Suwannee River water management districts, 67 Florida counties (20 of which have their own acquisition programs) and the 21 Florida Land Trusts.

The map products will include metadata and a GIS query tool to find and identify conservation easements through the different attributes of the properties, such that one could find the easements by type, location, types of habitat, identity of easement holders, year of designation, etc.

The project will be completed by Sept. 2015.

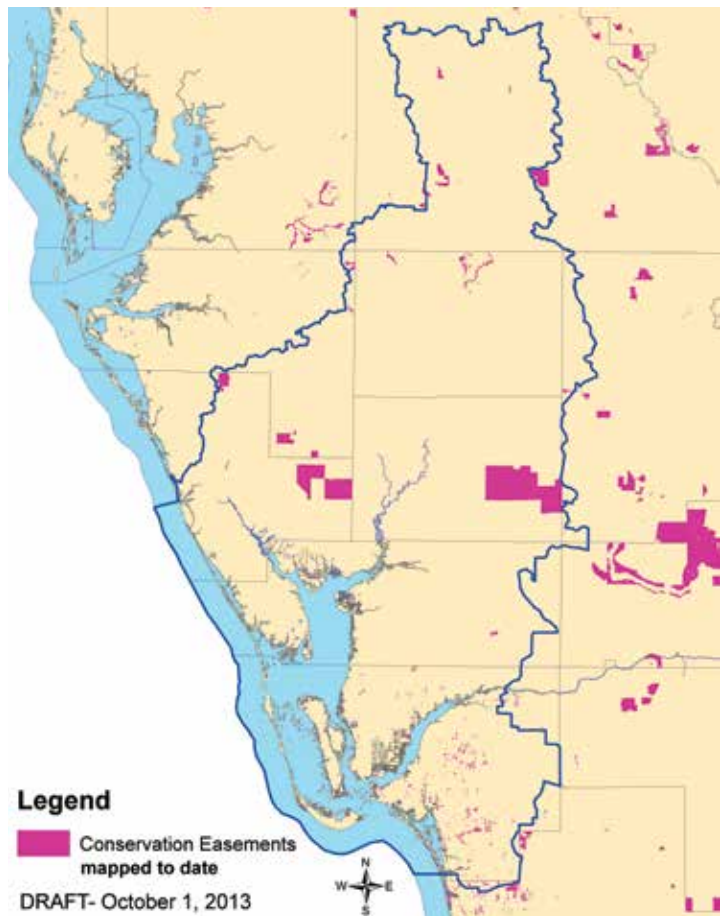
A conservation easement is a restriction placed on a piece of property to protect its associated resources.

A History of Conservation Easements

Since the 1930s, government agencies have used easements for conservation purposes (Lipman 2003). In 1956, Massachusetts became the first state to adopt conservation easement legislation; and California followed several years later (Tapick 2002). Today, at least 48 states and the District of Columbia have enacted enabling statutes reflecting the appeal and appreciation for the conservation easement as a land conservation device (Tapick 2002). Statutory enabling legislation typically reflects the consensus reached by the citizens of those states about the importance of protecting particular lands and the desirability of using conservation easements to do so (Eitel 2004).

In 1989, 290,000 acres across the United States were protected by conservation easements (Stockford 1990). As of Dec. 31, 2000, local and regional land trusts throughout the United States held approximately 2.6 million acres in conservation easements, roughly a 476% increase over the 450,000 acres protected by conservation easements as of 1990 (McLaughlin 2002). As of March 2002, the Nature Conservancy, a private nonprofit organization, alone held more than 1.4 million acres in conservation easements in the United States (Sigurani 2003). The laws enacted during the past 57 years to "facilitate and encourage the use of conservation easements are among the most powerful and effective of environmental protection laws" (Sigurani 2003). Many commentators and authors believe that conservation easements are now the most important tool for protecting privately held land in the United States (Lipman 2003).

Visit www.CHNEP.org to read a longer article on this topic and for links to additional information.





CHARLOTTE HARBOR



NATURE FESTIVAL

Charlotte Harbor National Estuary Program

Saturday, Nov. 23

10 A.M. to 3 P.M.

Charlotte Sports Park

2300 El Jobean Rd./SR 776

2.5 miles west of US 41 in Port Charlotte

Thanks to sponsors, admission and parking are free; tote bags will be given as a gift while supplies last. The art on this page will be reinterpreted for printing on the tote bags.

See www.CHNEP.org/CHNF.html for more details. Visit YouTube (CHNEP 1995 channel) to see videos of the last few festivals!

Changes with the CHNEP Harbor Happenings magazine

In the last 17 years, the CHNEP has published 65 issues of *Harbor Happenings*. Except in 2004, the year of the hurricanes, four issues have been published each year with information on the environmental “happenings” in southwest Florida as a tool to educate, inform and motivate. We’ve made significant changes over the years: printing in full color since 2007, making it easier to read and graphics to interpret; expanding most issues to 16 pages since 2008; providing 11”x17” posters in most issues published since 2009, and beginning with the Summer 2012 issue, adding an editorial cartoon by Doug MacGregor. The magazines are mailed to subscribers, supplies are provided to others for distribution and each issue is available from our website www.CHNEP.org.

Our goal is to mail *Harbor Happenings* in early January, April, July and September and to mail the calendar by November. To help manage costs, in 2013, the fall issue of *Harbor Happenings* (this issue) was postponed from September so that it can be distributed with the calendar.

The magazine and the annual calendar are provided at no charge but, in 2008, we began asking for donations. *Thank you to all who have been able to contribute.* (See page 3.)

One challenge of a free subscription is keeping the mailing list current. With the Summer 2013 issue, we required everyone who had been a subscriber before 2009 to renew their subscription. Starting next year, a special Summer issue will be sent



to everyone who has been a subscriber for more than three years, requiring they renew their subscription. The CHNEP will mail one reminder postcard to those who haven’t renewed. Renewals may be made at any time but to receive the next calendar in the mail, the renewal must be received by Sept. 15. No action to continue your subscription is required from you at this time.

The magazine and calendars are available at www.CHNEP.org as PDF files. We will soon have an option of subscribing to receive *Harbor Happenings* as a digital file. However, the calendar will only be mailed to those who receive the magazine through the mail.

