2017 Annual Report

Preserving the Past... Protecting the Future

Photo by: Lane Lefort



Estuary Issues * Scientific Research Water Quality * Community Outreach Education * Events * Habitat Enhancement Ecosystem Restoration * Species Assessments





16 Parishes Represented in Estuarine System



1,099 Volunteer Hours for Cleanups

í í í Restoration Volunteers



Dear Friends of the Estuary,

This year has been a wonderful developmental year for the Barataria-Terrebonne National Estuary Program (BTNEP)! New and old projects have blended together to advance our mission.

A big thanks goes out to all of our donors and the Barataria-Terrebonne Estuary Foundation (BTEF) for their ongoing support of our program. Without the kind donations that so many of you provide, the scope of our work would be limited.

BTNEP started this year with its popular calendars. We had a chance to honor our local student artists with our first ever *Estuary Artworks* calendar which was a big hit. Also, approximately 20,000 tidal graph calendars were picked up by residents and supporters of the estuary. "The Secret Lives of Estuary Fishes: Bait Fish" was extremely well received and provided us all with a chance to pay homage to the "little guys" who keep the estuary food chain going.

This year we have also been working with Shell Oil Company, Port Fourchon, the Army Corps of Engineers, the Coastal Wetlands Planning Protection and Restoration Act Task Force, the Barataria-Terrebonne Estuary Foundation, and a host of colleagues on a partnership project titled Saving Marshes And Ridges Together. The project is also known as SMART. The project is designed to utilize newly created coastal ridges and surrounding marshes as nursery grounds to grow out trees and herbaceous plant species that a variety of native wildlife can use. BTNEP staff and volunteers work to propagate the Louisiana native plants at the Nicholls State University Farm. Once the plants have grown out, staff and volunteers place a variety of species in strategic coastal locations.

During the spring, we worked on two of our signature events. By partnering with the Bayou Lafourche Freshwater District and site captains up and down Bayou Lafourche, over 20 tons of trash were removed from the local waterway making the 2017 Bayou Lafourche Cleanup still a very valuable investment. We do, however, need your help in getting out the word that much of the estuary's drinking water comes from local bayous and the water needs to be clean. We followed the cleanup with the annual Paddle Bayou Lafourche event. The four-day 52-mile trip had over 130 registered paddlers. It was great to see so many local residents along the bayouside out welcoming our guests.

This year we had our 5-year program evaluation by the U.S. Environmental Protection Agency. I am pleased to say that on September 21st we received an official letter stating that our program continues to make significant progress in implementing our Comprehensive Conservation and Management Plan. In other words, we passed!

Bird surveys were conducted throughout the year to assess how key species were adapting to our ever changing ecosystem. Prothonotary Warblers, Red Knots, Piping Plover, and other threatened and endangered species were identified and evaluated. Furthermore, work has begun on a new array of VHF towers that use nanotags to identify birds' migratory patterns. Several partners including CPRA, the Department of Wildlife and Fisheries, ConocoPhillips and other donors are working hard to make these scientific inquiries valuable to the public.

Please take a few minutes to review our annual report and know that we stay committed to a science-based, consensus driven mission to improve our local ecosystem.

With kindest regards,

Susan Destroit -Bergeron

Susan Testroet-Bergeron BTNEP Director

What is an Estuary and Why is it Important?

An estuary is a coastal area where salt water from the ocean mixes with fresh water from rivers, rainfall, and upland runoff. Within an estuary, salt water and fresh water proportions differ daily depending on the season, weather, and tides. Vital coastal ecosystems exist in these constantly changing conditions.

Louisiana's Barataria-Terrebonne Estuary System (BTES) is located between the Mississippi and Atchafalaya Rivers in south Louisiana. Bayou Lafourche separates this complex into two basins, the Barataria Basin to the east, and the Terrebonne Basin to the west. Examples of the dynamic habitats that are included in the BTES are: swamps, marshes, beaches, oyster reefs, mangrove forests, river deltas, and sea grasses. Estuarine environments such as the BTES are among the most biologically productive on Earth. The BTES consists of all or part of 16 Louisiana parishes.

Like other natural resources, the BTES can be viewed as an asset or capital goods that provide a stream of services to humankind. The Barataria-Terrebonne National Estuary Program (BTNEP) strives to use consensus-driven science-based plans to protect the land, water, and people that generate the valuable economics of things as diverse as commercial fisheries, oil and gas production, agriculture, shipbuilding, and recreational hunting and fishing.



Photos by: Lane Lefort

WHAT IS THE MISSION OF BTNEP?

The mission of BTNEP is the preservation and restoration of the estuarine system. BTNEP strives to rebuild and protect the estuary for future generations through the implementation of a science-based, consensus-driven comprehensive conservation management plan that utilizes partnerships focused on the estuary's cultural, economic and natural resources. BTNEP is funded through the Environmental Protection Agency's 320 Clean Water Act, the State of Louisiana, and the Barataria-Terrebonne Estuary Foundation a 501(c)3.

What does BTNEP do?

- Ecological management projects
- Habitat enhancement projects
- Projects that protect native species and control invasive species
- K-12, public education, and outreach
- Production of science-based publications for public education
- Provide an open forum to discuss estuary issues

- Water quality projects
- Scientific research
- Species assessments
- Promotion of nature-based recreation
- Volunteer activities



- Hydrologic Modification
- Habitat Loss
- Pathogens
- Eutrophication

- Change in Living Resources
- Toxic Substances
- Reduction in Sediment Availability



BTNEP Staff

Director - Susan Testroet - Bergeron Deputy Director - Dean Blanchard Office Coordinator - Nicole Babin Water Quality Coordinator - Andrew Barron Habitat Restoration Coordinator - Matt Benoit Senior Scientist - Richard DeMay Migratory Bird Coordinator - Delaina LeBlanc Invasive Species Coordinator - Michael Massimi Public Involvement Coordinator - Seth Moncrief Media/Public Relations Coordinator - Kristy Monier Education/Outreach Coordinator - Alma Robichaux Bird Conservation Coordinator - Natalie Waters Water Quality Scientist - Siva Nunna

2017 BTNEP Funding Sources

BTNEP funds its work through several sources including the Environmental Protection Agency (EPA) and the State of Louisiana. Many thanks go out to over 400 different donors who have helped BTNEP through BTEF between November 1, 2016 and October 31, 2017. Donors have helped BTNEP with a variety of activities including research, education, outreach activities, cleanup, volunteer expenses, farm expenses, equipment, and supplies.

Additional Funding Sources:

- State of LA DEQ Water Quality (2017) \$70,266
- State of LA CPRA Shorebirds (2015-2018) -\$362,760
- State of LA CPRA Piping Plover and Nesting Birds (2015-2018) - \$385,486
- USFWS Red Knots (2017-2018) \$11,000
- GOMA Gulf Star Marine Debris Prevention (2017-2018) \$10,000

MISSION OF BTEF

PAP Federal Funding = \$625,000
 State of LA In Kind Funding = \$155,075
 BTEF = \$568,812

The mission of the Barataria-Terrebonne Estuary Foundation (BTEF) is to involve a representation of a broad base of people to support the Barataria-Terrebonne National Estuary Program (BTNEP). This includes supporting the mission of stewardship of the cultural, economic, and ecological resources of the Barataria and Terrebonne Basins. Formed in 1995, the Foundation is the fund-raising organization for the benefit of the BTNEP. For more information on BTEF, visit www.supportBTNEP.org.

BTEF BOARD OF DIRECTORS

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Bayou Folse Watershed Restoration Project

Project Status

Project Year: 2016-presentStatus: OngoingCategory: Water QualityLocation: Bayou Folse & Lake Fields, Lafourche ParishProject Partners: Louisiana Department of
Environmental Quality (LDEQ)

Background and Problem Addressed:

According to Louisiana's 2012 Integrated Report, Bayou Folse (subsegment 120302) is fully meeting Secondary Contact Recreation but is *not* meeting Primary Contact Recreation and Fish and Wildlife Propagation due to high concentrations of fecal coliform bacteria, nitrate/nitrite, total phosphorus, and low dissolved oxygen. Suspected sources of impairment include forced drainage pumping and failure of on-site waste water treatment systems.

So what does this mean? There are two main standards on this waterbody: 1) Primary Contact Recreation is designed to protect people who swim in the water. Fecal coliform bacteria are used as an indicator of the presence of disease causing organisms. 2) Fish and Wildlife Propagation is designed to protect fish that live in the water. Temperature, excess nutrients, and excess organic matter can lower dissolved oxygen in the water, which affects the ability for fish to survive and thrive.









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Bayou Folse Watershed Restoration Project

Project Description:

The main goal and focus of this project is to reduce nonpoint source (NPS) pollution, or pollution carried by rainfall runoff. The main objective is improving surface water quality, restoring support for Clean Water Act (CWA) designated uses, and maintaining healthy waters.

There are two planned phases to this project. In the first phase BTNEP staff will monitor the Bayou Folse watershed for field parameters (pH, dissolved oxygen, water clarity, and salinity) and collect grab samples for laboratory analysis (fecal coliform, phosphorus, and nitrogen) on a twice-monthly basis at 10 sites for the duration of the project. This will provide a baseline of values at each site and for the watershed as a whole. During the second phase, best management practices (BMPs) will be established and implemented in the watershed. Then the monitoring data will be used to evaluate the effectiveness of the BMPs in reducing NPS pollution.

The Bayou Folse watershed originates in eastern Thibodaux and follows the route of the old 40 Arpent Canal, which runs parallel to Bayou Lafourche between the Lafourche ridge and the Bayou Blue ridge. The 40 Arpent Canal becomes Bayou Folse where it crosses Theriot Canal. Bayou Folse runs down along the northeast side of Lake Fields to Company Canal. Much of the flow from the watershed is shunted into Commercial Canal, Bayou DuMar, and into the northern part of Lake Fields. The Bayou Folse watershed includes a network of flood levees and pumps, managed by the North Lafourche Levee District, and is the source water protection area for the Terrebonne Parish Consolidated Waterworks No. 1 drinking water intake in Schriever, La.

Flow from the Bayou Folse watershed was redirected into and through Lake Fields when the Commercial Canal was dug in the 1960s. Lake Fields is a very popular recreational area managed by the Lafourche Parish Game and Fish Commission. Nutrient and sediment loads from Bayou Folse has caused increased levels of turbidity in Lake Fields affecting the habitat for sight-feeding fish and submerged aquatic vegetation for waterfowl.

Restoration of the watershed is paramount to providing safe water for all activities including fishing and swimming.





CCMP Action Items Addressed:

Nutrient, Bacteria and Toxic Contaminant Load Evaluation (Ecological Management # 8)

Reduction of Sewage Pollution (Ecological Management # 10)

Reduction of Agricultural Pollutions (Ecological Management # 11)

Stormwater Management (Ecological Management # 12)





Cítízen Science Marine Debris Monitoring and Outreach

Project Status

Project Year: 2017 **Status:** Ongoing **Category:** Education **Location:** 5 Gulf Coast States **Project Partners:** Gulf of Mexico Alliance (GOMA), Mississippi State University, Mississippi-Alabama Sea Grant Consortium, Dauphin Island Sea Lab, AL, Charlotte Harbor National Estuary Program, FL, Texas State Aquarium, TX, Natures Academy, FL, International Ocean Institute, FL, UF/IFAS Sea Grant Extension, FL, Gulf of Mexico Alliance and Dauphin Island Sea Lab, AL

Background and Problem Addressed:

Marine debris is a global issue that significantly reduces the quality of life in coastal environments. However, few education, outreach, and research projects address marine debris and public perception of debris issues has remained relatively unchanged (Eastman et al. 2013). The public is hesitant to alter their attitudes toward responsible debris disposal due to the lack of proven links to aspects of coastal life they care about (Wyles et al. 2015). The primary goal of this project is to increase awareness of marine debris issues by connecting with and involving the public in a citizen science-based monitoring project and developing educational materials to be distributed by project partners and trained volunteers.

One increasingly abundant type of plastic marine debris is mircoplastic; plastic pieces smaller than 5mm. Microplastics are a growing environmental problem and are prevalent in coastal sediments of the northern Gulf of Mexico (Wessel et al. 2016).



Microfiber found among plankton from a plankton trawl in surface water in the Gulf of Mexico. (Microscope 40x)



Students collecting sediment sample for microplastic analysis.



Citizen Science Marine Debris Monitoring and Outreach

Project Description:

BTNEP's Marine Debris Education and Prevention Program participants collected water and sediment samples at Elmer's Island in Grand Isle, LA monthly. The samples are then processed and analyzed for microplastics. The data collected was sent to National Oceanic and Atmospheric Administration (NOAA) and goes towards further research in finding out where microplastics are orignating and how we can possibly prevent them from entering our oceans.

Microplastics come from:

- Large pieces of plastics that are broken down from sun, wind, and waves,
- Tiny plastic particles that have been used for industrial purpose in plastic shipping,
- Personal care items such as toothpaste and facial scrub,
- Microfiber from clothes that are released in washing machines or,
- Plastic nets/fishing gear

The overall deliverables from this project include tangible and intangible products. Tangible products include an open access map and database for the Gulfwide citizen science based microplastic sampling portion of the project. Other tangible products include informational posters on microplastics, an environmental stewardship group training presentation, a how-to-guide to sample and process microplastics, and educational materials developed during the Master Naturalist training. Knowledge gained and changed behaviors are the intangible products captured through robust surveys of each project activity and pre/post surveys of applicable activities.

<u>CCMP Action Items Addressed:</u> Continuing and Informal Education Program (Sustained Recognition and Citizen Involvement #15)

Financial Support for Eductional Initiatives (Sustained Recognition and Citizen Involvement #16)



Sediment sample containing microplastics.



"Limitless Vista" student conducting water filtration analysis.

Students participating *in peer-teaching* activity related to microplastics.



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Apple Snails in the BTES

Project Status

Project Year: 2017Status: OngoingCategory: Invasive SpeciesLocation: Throughout the Barataria-TerrebonneEstuary System (BTES)Project Partners: Nicholls State University BiologyDepartment

Background and Problem Addressed:

The Maculata apple snail has been dramatically increasing its range in the BTES and into other parts of Louisiana. It is likely to have impacts on submerged aquatic vegetation, which will in turn have impacts on fisheries habitat, water quality, and aesthetics. It is also likely displacing native mollusks, and may even have human health impacts, as it is a host for a parasite called rat lung worm that can infect humans. Management actions are extremely limited at this point. The project aims to better understand the range, reproductive rate, and depredation rate of apple snails in order to inform and help develop management actions.





An apple snail in the act of laying eggs.



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Apple Snails in the BTES

Project Description:

The project's title is Monitoring, Enumeration, and Natural Depredation Assessment of Maculata Apple Snails in the BTES and contains three objectives.

The first objective is to evaluate the most recent range and density of apple snail habitation within the BTES. BTNEP will concentrate survey efforts at the boundaries of the last known occurrences. Therefore BTNEP plans to focus along the GIWW from the locks at its intersection at the Atchafalaya River to the west, to the locks that separate the Harvey Canal and the Gulf Intracoastal Waterways (GIWW) from Mississippi River in the east. BTNEP will also pinpoint the southern extent of the snails' occurrences, which is hypothesized to be due to salinity sensitivity. And finally, BTENP will examine the extent of its range within the wetlands lying adjacent to Lake Palourde and Lake Verret.

The second objective is the development of enumeration methods. BTNEP will test the efficacy of several methods to estimate and enumerate the extent of infestation of the snail. BTNEP will measure the rate of oviposition in several test plots and will also compare the occurrence of egg clutches to the number of snails collected using conventional trapping methods. The completion of this method allows the development of a sampling assay to estimate the total population number within an enclosed pond.

The final objective is to measure the natural depredation rates. BTNEP will monitor several natural feeding stations that have been established within BTES wetlands, where a cache of snail shells has been documented. Measurement of the deposition of new snail shells at several sites will be used to estimate a natural depredation rate.

BTNEP will also deploy camera traps with tethered apple snails to determine which animals are preying upon the snails as well as the percent contribution to depredation.



Despite a statewide ban on transport or sale of live apple snails, they are still occasionally sold to home aquarists. Enforcement action was taken by the Louisiana Department of Wildlife and Fisheries on this violator in 2013.



A scientist prepares apple snails for the depredation study.

Apple snail egg masses may contain over 1,000 eggs each, and are deposited above the waterline.



<u>CCMP Action Items Addressed:</u> Reduction of Impacts from Invasive Species (Ecological Management #16)

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SMART Project Saving Marshes and Ridges Together

Project StatusProject Year: 2016Status: OngoingCategory: RestorationLocation: Multiple locationsProject Partners: Shell Oil Company and BTEF

Background and Problem Addressed:

While Louisiana has the largest contiguous area of wetlands in the lower United States, it's also losing these wetlands at a breakneck pace. The fastest disappearing landmass on Earth is occurring within the two estuaries that make up the Barataria-Terrebonne National Estuary. These estuaries are some of the most ecologically productive places on the planet due to their changing salinity regimes and varying landforms.

On average, coastal Louisiana is losing a football field size area of land every 90-100 minutes. These losses include barrier islands, saline, brackish and fresh marshes, swamps, and chenier ridges that provide habitat for wildlife. Barrier islands, marshes, and ridges act as speed bumps to storm surge and wind from tropical events while providing critically important habitat for many species of Neotropical migratory songbirds. As these landforms are lost, so is the critical habitats of over 338 migrating bird species depend upon traveling the Mississippi Flyway each spring and fall.

BTNEP provides leading research and on the ground habitat enhancement concerning ridge/marsh habitat in Louisiana. BTNEP has also played an instrumental role in the advancement of private, corporate, and public collaboration leading to unique partnerships resulting in meaningful restoration for coastal Louisiana.



There are various coastal projects coming online that combat this loss by restoring or rebuilding land that is being lost. The newly created/restored bare land needs to be protected and managed for biodiversity, that's where BTNEP and Shell Oil Company come in. The Saving Marhes and Ridges Together - SMART restoration project will utilize newly created ridges and surrounding marshes for the establishment of trees and herbaceous species that will protect the land from washing away while also providing habitat diversity for a variety of animals.



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SMART Project Saving Marsh and Ridges Together

Project Description:

In 2016, Shell Oil Company and BTNEP came together to form the SMART (Saving Marshes and Ridges Together) Program, which also incorporates the BTNEP Volunteer Program and many additional partners. The SMART program is designed to utilize newly created ridges and surrounding marshes for the establishment of trees and herbaceous species to enhance wetlands that can be used by a variety of wildlife.

BTNEP volunteers using experimentally-designed plantings, will utilize a number of beneficial native woody species and herbaceous plants to help restore these newly created marsh and ridge habitats. Through SMART, funds were allocated from Shell Oil Company for ridge and marsh restoration in Lafourche and Plaquemines parishes. Projects include plant propagation at the BTNEP Native Plant Production Facility on the Nicholls State University Farm, the Port Fourchon Ridge and Marsh and Port Fourchon-Mars Pipeline Wetland Projects, the USACE Tiger Pass/Spanish Pass Ridge and Marsh Project, and the CWPPRA Bayou Dupont and Grand Liard Ridge and Marsh Projects.

In order to insure the best use of funds, personnel, and physical resources, primary goals were developed jointly for the SMART program. Some of these goals include:

- using Louisiana native plant propagation for ridge and marsh restoration.
- using seeds of native plants known to grow on chenieres and marshes that would be collected, germinated, and grown out to be plant-able size,
- planting woody and herbaceous plants across the sites ,according to needs of each project and/or BTNEP scientific study parameters,
- conducting multiple volunteer activities related to ridge/marsh restoration, and
- the creation of scientific and public documents that describe the joint ridge and marsh restoration projects.



CCMP Action Items Addressed:

Community Engagement (Sustained Recognition and Citizen Involvement #1)

Media Engagment (Sustained Recognition and Citizen Involvement #3)

Public Engagment (Sustained Recognition and Citizen Involvement #4)

Protection and Enhancement of Native Biological Resources (Ecological Management #15)

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Estuary Artworks

Project Status

Project Year: 2014-PresentStatus: OngoingCategory: OutreachLocation: Parishes within BTESProject Partners: The Purple Penguin Art Company,Audubon Nature Institute, Barataria-TerrebonneEstuary Foundation, and various local business partners

Background and Problem Addressed:

Because no other place on Earth is disappearing as quickly as the Barataria-Terrebonne Estuary system, it is important to document the estuary as it is today.

The Barataria-Terrebonne National Estuary Program (BTNEP) wants the youth of the area to value these unique wetlands. Using original art created by local K-12 students, BTNEP captures the beauty of forests, swamps, marshes, islands, bayous, local wildlife, and culture in an annual calendar for residents. Created with attention to details, this educational tool provides an important venue for students and the public to value the aesthetics of the estuary.



Artwork by Nicholas D., 12th grade



Artwork by Nikita A. 12th grade

Artwork by Dawn S. 8th grade





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Estuary Artworks

Project Description:

In 2014, BTNEP set a goal to reach students located in the 16 parishes within the BTES. The Estuary Artworks event and contest was designed to do this, while working in conjunction with National Estuaries Day that is held at the end of every September. For the next three years, an afternoon event was held at The Purple Penguin Art Company located in Thibodaux, LA, that allowed students to come in and draw their favorite estuary scene. The artwork was then divided into the following categories: Kindergarten-2nd, 3rd-5th, 6th-8th, and 9th-12th. Artwork was judged and four winners were chosen in each category. Those winners received prizes and their artwork was displayed at the Bayou Country Children's Museum for the month of October.

In 2016, BTNEP expanded the contest by allowing those students who could not attend the day event, to submit their work via mail or delivered to the BTNEP office. The contest was also given a theme, *Our Estuary...My Future: Protecting the Colors of the Estuary*. A 2017 calendar featuring the four first place winners plus an additional nine pieces were selected to be featured as a calendar month and cover. Four drawings were awarded an honorable mention and were featured on the back cover of the calendar. By allowing outside submittals, BTNEP was able to reach more students. In 2016, the number of submittals increased from 40 to 125. One thousand calendars were printed and distributed to the public and schools.



In 2017, BTNEP discontinued the day event, but continued with the art contest. Estuary Artworks Art Contest was again opened to all students in the BTES. A 2018 calendar was produced and will be distributed throughout the estuary. Over 400 pieces of art from 31 different schools were submitted.

Information regarding Estuary Artworks was given to the public via press releases sent to newspapers throughout the BTES, letters sent to principals, posts made on Facebook and Twitter, and emails sent out to past participants. Students and teachers who were interested received packets with rules and regulations, the history of BTNEP, information about estuaries, and an entry form.

The goal is to continue this outreach event with the hopes of young artists returning to the contest and to continue to reach out to new students, their families, and teachers.



Artwork by Elizabeth H., 6th grade

<u>CCMP Action Items Addressed</u>: Community Engagement (Sustained Recognition and Citizen Involvement #1)

Public Information (Sustained Recognition and Citizen Involvement #4)

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Evaluation of Shorebird Nesting Use of Restored Beach Habitat

Project Status

Project Year: 2016-PresentStatus: OngoingCategory: Migratory BirdLocation: Caminada Headland, Port FourchonProject Partners: Coastal Protection and RestorationAuthority, Greater Lafourche Port Commission, WisnerLand Trust

Background and Problem Addressed:

Louisiana's barrier shoreline serves an important societal function through the protection of coastal communities and infrastructure by absorbing storm energy, but also provides critical habitat for numerous species of wildlife. Millions of birds utilize these habitats each year either as a stopping grounds to refuel on long migratory journeys, or to breed and raise their young.

The Caminada Headland in southeast Louisiana was identified as essential habitat due to its role in the preservation and protection of gulf shoreline, inland wetlands and bays, as well as a significant and unique foraging and nesting area for threatened and endangered bird species.

Surveys conducted by BTNEP since 2005 have documented extensive breeding bird use along the Caminada Headland by Wilson's Plover (*Charadrius wilsonia*) and Least Tern (*Sternula antillarum*). The Wilson's Plover has been identified by the Gulf Coast Joint Venture as a priority bird for conservation management and by the U.S. Shorebird Conservation Plan as a species of high concern. The Least Tern is considered endangered in many parts of its range and is facing population decline due to lack of available nesting habitat.



Over the last several decades, the Caminada Headland has experienced significant shoreline erosion and land loss due to anthropogenic impacts, storm over-wash, saltwater intrusion, wind and wave induced erosion, sea level rise, and subsidence. This reduces the availability of prime foraging and nesting habitat for shorebirds.

To combat this issue, Louisiana and the federal government have developed funding streams meant to help restore these important habitats. One such endeavor, The Caminada Headland Beach and Dune Restoration Project (BA-45), was designed by Coastal Protection and Restoration Act (CPRA) to protect and preserve the structural integrity of the barrier shoreline and to restore hydrologic conditions, ecosystem processes, and habitats. The project restored approximately 6 miles of shoreline beach along the Caminada Headland through dredging and pumping sand from an offshore location to the new beach. CPRA and BTNEP are in the process of evaluating the impacts of the restoration from the construction phase to the long-term effects of the completed project on the foraging and breeding ecology of shorebirds.

BARATARIA-TERREBONNE BARATARIA-TERREBONNE MATIONAL ESTUARY PROCESAM (Use of Restored Beach Habitat

Project Description:

BTNEP is conducting an experiment to evaluate nest site selection and hatching success of Wilson's Plover and Least Tern at restored beach habitat along the Caminada Headland. In addition to examining how birds utilize the new habitat created by restoration, BTNEP will supplement the beach with placement of additional substrates that are known to attract nesting shorebirds. Nine experimental plots of approximately 45,000 sq. ft. have been delineated along the beach. The project will last for a duration of three years beginning in April, 2016, and continuing through December, 2017. Year one will consist of a pre-treatment evaluation through monitoring breeding activity within our control study plots, followed by placement of the substrate treatments in the fall of 2016. During year two, 2017, BTNEP conducted the experiment using the supplemental material.

Nest predation by mammals, ghost crabs, and other birds can have devastating impacts on the success of ground nesting shorebirds. The study recorded habitat use of nest predators through identifying their tracks and use of motion sensor cameras to log their daily activity. The study evaluated the substrates placed on the study area to determine if one type of substrate make it more difficult for predators to find the nests, leading to greater hatching success. The data collected helps define nest fate associated with each substrate type through use of a nest survivorship model. Statistical analysis of the data will also determine whether there are any significant differences in the selection of nesting substrate and any significant differences in nest fate. The results of this study, which will be available in early 2018, will be used to guide the management of future beach restoration projects to include the application of supplemental material that would benefit nesting birds on the Louisiana coast.

CCMP Action Items Addressed:

Preservation and Restoration of Barrier Islands (Ecological Management #5)

Protection of Habitat for Migratory and Resident Birds (Ecological Management #15)



Shorebirds have many predators including ghost crabs, coyotes, gulls, etc.

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2017 International Coastal Cleanup

Project Status

Project Year: 2017 Status: Completed
Category: Volunteer
Location: Elmer's Island, Grand Isle, LA
Project Partners: Louisiana Department of Wildlife and Fisheries (LWDF), and Nicholls State University

Background and Problem Addressed:

Ocean trash or marine debris is a serious pollution problem that affects the health of people, wildlife, and local economies. Marine debris injures and kills marine life, interferes with navigation safety, and poses a threat to human health. Oceans and waterways are polluted with a wide variety of marine debris ranging from plastic water bottles, soda cans, and plastic bags to derelict fishing gear and abandoned vessels.

According to the National Oceanic and Atmospheric Administration (NOAA), marine debris is any persistent solid material that is manufactured or processed and directly or indirectly, intentionally or unintentionally, disposed of or abandoned into the marine environment. A majority of the trash and debris that covers our beaches comes from storm drains and sewers, as well as from shoreline and recreational activities such as fishing and beach going. Abandoned or discarding fishing gear is a problem because this trash can tangle, injure, maim, and drown marine wildlife and damage property.



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2017 International Coastal Cleanup

Project Description:

On Saturday, September 16, 2017, in conjunction with the Ocean Conservancy's 31st annual International Coastal Cleanup Day, over 200 volunteers removed more than 4,000lbs. of debris from Elmer's Island in Grand Isle. The event cleaned up approximately 1,145 acres or 2.5 miles shoreline. The event's goal was to increase awareness of the problem of marine debris. BTNEP, LDWF and the Biological Sciences at Nicholls State University coordinated the event.

Volunteers collected, categorized, and weighed over two tons of debris items, enough to fill a 30-yard dumpster. The data from the cleanup was sent to the Ocean Conservancy for inclusion in an annual International Coastal Cleanup Day report. The most common debris item collected was plastic beverage bottles at 3,441 followed by 2,246 tiny plastic pieces (less than 2.5cm diameter). In total, volunteers removed 15,814 items of debris including an 80lb tar ball. Although some of the debris was from visitors of Elmer's beach not disposing of their trash properly, the majority comes from other places. For example, because the island is so close to the mouth of Bayou Lafourche, items could have washed down the bayou or come in from offshore.





BTNEP is honored to participate in the International Coastal Cleanup, which is the world's largest volunteer effort for our oceans and waterways. People from all over the world remove trash from the shores and document what they find. The data is compiled and published in an annual global report on marine debris by the Ocean Conservancy.

CCMP Action Items Addressed:

Citizen Monitoring Program (Sustained Recognition and Citizen Involvement #3)



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BTNEP CCMP UNDER REVISION

BTNEP operates under a Comprehensive Conservation and Management Plan, also known as the CCMP. The CCMP was developed through consensus by the BTNEP Management Conference and is a formal management plan with specific action plans that was developed to promote and preserve the Barataria-Terrebonne estuarine complex. The original CCMP contained 51 action plans that were designed with the following 12 goals:

- Preserve and restore wetlands and barrier islands,
- Realistically support diverse, natural biological communities,
- Develop and meet water quality standards that adequately protect estuarine resources and human health,
- Promote environmentally responsible economic activities that sustain estuarine resources,
- Create national recognition and support,
- Implement comprehensive education and awareness programs that enhance public involvement and maintain cultural heritage,
- Create an accessible, comprehensive database with interpreted information for the public,
- Create clear, fair, practical, and enforceable regulations,
- Develop/maintain multi-level, long-term, comprehensive watershed planning,
- Be compatible with natural processes,
- · Forge common ground solutions to estuarine problems, and
- Formulate indicators of estuarine ecosystem health and balanced use.

The CCMP is currently being rewritten to address the dynamic ecosystem and its users. The revised CCMP now contains 36 action plans. Public review will open up sometime in the month of January and will be open for comments for approximately 60 days. BTNEP is scheduled to deliver the final document to EPA in early 2018.

BTNEP would like to thank all committee members who took time out of their busy schedules to aid in the redevelopment of our CCMP.



BTNEP MANAGEMENT CONFERENCE

- •American Sugar Cane League
- •Bayou Lafourche Freshwater District
- •Cajun Music Preservation Society
- •Coalition to Restore Coastal Louisiana
- •Coastal Conservation Association of LA
- •Coastal Protection and Restoration Authority
- Commercial Fisheries
- •Governor's Office of Coastal Activities
- •Greater Lafourche Port Commission
- •Iberville Parish Government
- •Jefferson Parish Government
- •LA Department of Agriculture & Forestry
- •LA Department of Culture, Recreation & Tourism
- •LA Department of Economic Development
- •LA Department of Education
- •LA Department of Environmental Quality
- •LA Department of Health & Hospitals
- •LA Department of Natural Resources
- •LA Department of Wildlife & Fisheries
- •Lafourche Parish Government
- •LA Association of Conservation Districts
- •LA Association of Levee Boards
- •LA Forestry Association
- •LA Independent Oil & Gas Association
- •LA Landowners Association
- •LA Mid-Continent Oil & Gas Association
- •LA Oil Spill Coordinators Office
- •LA Science Teacher's Association
- •LA Wildlife Federation
- •LSU Ag Center and Sea Grant
- •LUMCON
- •National Park Service

- •Nicholls State University
- •Plaquemines Parish Government
- •Pointe Coupee Parish Government
- •Sassafras Louisiana
- •South Central Planning & Development Commission
- •Louisiana Universities Marine Consortium
- •South Louisiana Economic Council
- •South Louisiana Wetlands Discovery Center
- •St. Charles Parish Government
- •Terrebonne Parish Consolidated Government
- •The Nature Conservancy
- •US Army Corps of Engineers
- •US Coast Guard
- •US Depart.of Ag's Natural Resource Conservation Service
- •US Environmental Protection Agency
- •US Fish & Wildlife Service
- •US Geological Survey
- •US National Marine Fisheries Service
- •US National Park Service



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