2016 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



1 OF 28 National Estuary Programs in U.S.

16 Parishes Represented in Estuarine System

1094 Derelict Crab Traps Removed

418 Volunteers for Habitat Restoration

2080 Volunteer Hours for Habitat Restoration

14,671 Plants Planted

Dear Friends of the Estuary,

In this year's annual report BTNEP would like to share many of the projects we have been working on to protect and preserve our unique estuary. We hope that as you open this issue you will be pleased by the hard work of our team.

BTNEP continues to provide local residents and visitors with an opportunity to get into the field to volunteer their time and talent. The 2016 volunteer events included many diverse accesses to the wetlands including ghost crab trap removals in partnership with the Louisiana Department of Wildlife and Fisheries, helping to propagate plants at our field station located on the Nicholls State University farm, and planting native plants in the southern end of the estuary.

Safeguarding wetlands includes not only planting grasses and trees but also protecting habitat for estuarine species and monitoring the effects of change on indicator species as well as threatened and endangered organisms. For example, BTNEP has been working to monitor a host of birds including Piping Plover, Red Knot, and Prothonotary Warbler.

BTNEP also engages youth and educators alike. This year's BTNEP National Estuaries Week event was Estuary Artworks. Using the theme "Our Estuary ...My Future: Protecting the Colors of the Estuary!" students throughout the estuary were encouraged to create authentic artwork that was then used in our first ever student calendar for 2017. Students also participated in our Marine Debris Prevention Program and teachers from throughout the state were engaged through the Louisiana Science Teachers Association annual meeting.

This year BTNEP also began a new project to improve water quality in the estuary. Water quality is an area we can improve on. We can control pollution entering our waterways. We can reduce pollution. This new project, started in October 2016, will target water in Bayou Folse, a bayou also known as 40 Arpent Canal, and the Lake Fields watershed in Lafourche Parish. BTNEP will be working in partnership with the Louisiana Department of Environmental Quality and many other agencies and stakeholders to help residents better understand their connection to this waterbody and what they can do to improve water.

We also continue to work with the Louisiana Coastal Protection and Restoration Authority as they develop a new 2017 Coastal Restoration Master Plan. BTNEP is also working diligent to update its own Comprehensive Conservation and Management Plan which hasn't been updated since the inception of the program.

As BTNEP continues to use a science-based consensus driven approach to ecosystem improvements and restoration we invite you to join us in our ongoing mission to improve the environment we call home.

Kindest regards,

Susan Destract - 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 reduce 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

WHAT ARE THE ISSUES AFFECTING THE ESTUARY?

- Hydrologic Modification
- Habitat Loss
- Pathogens
- Eutrophication

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



BTNEPSTAFF

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 Coastal Birds Coordinator - Emily Clark 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

2016 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 the Barataria Terrebonne Estuary Foundation (BTEF) between January 1, 2016 and October 31, 2016. Donors have helped BTNEP with a variety of activities including research, education, outreach activities, cleanup, volunteer expenses, farm expenses, equipment and supplies.





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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Volunteer Program

Project Status

Project Year: 1995-PresentStatus: OngoingCategory: VolunteerLocation: Various Locations

Project Partners: The Volunteer Program has a host of partners and works actively with state, federal, and business entities.

Background and Problem Addressed:

Coastal Louisiana is of immense importance to our nation's economy and it should be restored and protected. The Barataria and Terrebonne Basins are vital to coastal Louisiana's seafood production, but due to coastal land loss these resources are being depleted. It is important for people to volunteer with BTNEP to help restore the habitats in the Barataria-Terrebonne Estuarine System.

A major aspect of BTNEP's Volunteer Program is the planting of native species in areas heavily affected by sea level rise and subsidence. Mostly made up of salt, brackish, and freshwater marshes, these affected areas are increasingly transitioning from healthy marsh to shallow open water. In an effort to counter these effects, BTNEP utilizes volunteers for plantings of native marsh species to help stabilize soil and accumulate sediment.

Additionally, people who volunteer with BTNEP come from all over the country and because of this the volunteers also serve as important communicators of the issues and the importance of all the resources coastal Louisiana provides for the nation. Volunteers take home and spread the knowledge of why it is important to restore and protect coastal Louisiana.





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Volunteer Program

Project Description:

Since the 1990's, BTNEP's Volunteer Program has worked to educate the public about issues concerning coastal Louisiana and in getting the public involved in restoration efforts. Annually, BTNEP coordinates 500-800 volunteers to participate in native vegetation plantings as well as coastal and inland debris cleanups. BTNEP volunteers come from all across the nation to help restore areas affected by coastal land loss as well as to learn about the ecological and economical importance of coastal Louisiana.

BTNEP hosts 25 to 30 volunteer events a year in communication with BTNEP's Native Plant Program. The Volunteer Program plugs volunteers into the Native Plant Program that implements restoration of our coast through native vegetative plantings of our barrier islands, salt and fresh marshes, lakes, bayous, and ridges. Critically imperiled habitats and species are protected while volunteers from across the nation are educated about the area's problems and needs. Many of the groups come for a week or sometimes more. Many have been housed and chaperoned by our partners at Bayou Grace Community Services in Chauvin, Louisiana. Typically, volunteers are college, high school or religious groups that work with BTNEP for two to four days of their week long service. During their time with us, they often spend a day in Cocodrie at the Louisiana Universities Marine Consortium (LUMCON) receiving in depth academic education about the estuary and the organisms inhabiting it. The other days BTNEP staff takes volunteers in the field somewhere within our estuaries to do on-the-ground restoration and to receive hands-on education.

An additional aspect of the Volunteer Program involves the facilitation of inland and coastal debris cleanups. In partnership with Louisiana's Department of Wildlife and Fisheries (LDWF) and the National Oceanic and Atmospheric Administration's (NOAA's) Debris Program, BTNEP hosted the 2016 Derelict Crab Trap Rodeo in Lafitte, LA. This volunteer effort removed more than 1,000 abandoned derelict crab traps that increase mortality of blue crabs and other species, as well as, create navigational hazards. In partnership with the Lafourche Parish Game and Fish Commission, BTNEP also hosted the 2016 Lake Fields Cleanup. This volunteer cleanup up event removed close to eight tons of trash and debris from the Lake Fields area near Lockport, LA.





<u>CCMP Action Items Addressed:</u> Citizen Involvement Programs and Activities (Sustained Recognition #3)

Marine Shoreline Stabilization and Induced Sediment Deposition Derelict (Ecological Managment #6)

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

Reduction of Impacts from Exotic Vegetation (Ecological Management #16)





Native Plant Program

Project Status

Project Year: 2009 to presentStatus: OngoingCategory: RestorationLocation: Nicholls State University FarmProject Partners: Nicholls State University, Shell OilCompany, MOSAIC, LLC

Background and Problem Addressed:

The fastest disappearing landmass on earth is occurring in the Barataria and Terrebonne estuaries. This rapid coastal land loss is indiscriminate in the habitats and landforms being washed away. Often overlooked are the remnant chenier ridges and maritime forests, the "high land", in an otherwise vast expanse of wetlands. However, these ridges and maritime forests are critically important habitat to the millions of Neotropical migratory birds that pass through each spring and fall along the Mississippi Flyway. Without these ridges and maritime forests and the food and protection their trees afford, far fewer birds could be supported along this critically important migration route.

Restoring and reforesting ridges and maritime forests then for the migrating birds as well as serving to protect the surrounding wetlands from the effects of storm surge has become an increasing priority. BTNEP has been at the forefront of ridge restoration since the late 1990's, collaborating with partners on the creation of the Fourchon Maritime Forest Ridge and Marsh Restoration and with bird experts in the selection of a suite of native woody species beneficial to the migrating birds. BTNEP collects native seed from local areas prone to periodic salt water intrusions or maritime influence with the expectation that the seeds and trees will exhibit a higher tolerance to the saline soils and conditions found in the restoration areas the seed has been selected for. As a result of the Fourchon ridge restoration project and the ever expansion of our Volunteer Program, BTNEP's Coastal Restoration Native Planting Program has expanded to meet these needs and to increase our restoration planting footprint within the region.



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Native Plant Program

Project Description:

Originally sharing an existing shadehouse with Nicholls State University, BTNEP began building its own shadehouse to grow out native seedlings in 2010 and expanded it again in 2014 to the current size of 4,800 sq.ft. Also, in 2014, BTNEP added a 1,500 sq. ft. greenhouse to our facility to increase our species diversity of both woody and herbaceous plants. The greenhouse provides protection for the woody seedlings from infrequent winter cold snaps that can kill the susceptible young plants such as the black mangrove. Black mangroves provide habitat benefiting fish and avian species, such as rookeries for the brown pelican in our coastal marshes and barrier islands, but require two growing seasons to get to maturity for use in vegetative restoration projects. The addition of the greenhouse has made adding black mangroves to our suite of restoration plants possible.

The greenhouse has allowed the program to maximize our expansion into herbaceous plants utilized for shoreline stabilization and dune creation and that provide habitat for birds, fish and fauna. Dune building species such as railroad vine and beach morning-glory, which would normally die in our pots in the shadehouse during winter, now overwinter in the greenhouse and are available for planting at the first sign of spring.

Finally, the Native Plant Program provides an educational opportunity for the many volunteers and college interns that participate at the farm. These volunteers come from all over the country with an interest to help save the Louisiana coast. The volunteers provide the program with the manpower to pot the thousands of plants that the program utilizes in coastal restoration plantings each year and they leave with an understanding, not only of the plants, but of the plight of Louisiana's land loss and what needs to be done to save this economic, environmental, and culturally important area.





CCMP Action Items Addressed:

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

Shoreline Stabilization and Induced Deposition (Ecological Management #6)

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

Reduction of Impacts from Exotic Vegetation (Ecological Management #16)

Citizen Involvement Programs and Activities (Sustained Recognition #3)





Pípíng Plover Surveying & Monitoring

Project Status

Project Year: 2013-Present Status: Ongoing **Category:** Migratory Bird Location: Caminada Headland, Port Fourchon, La Project Partners: Coastal Protection and Restoration Authority, U. S. Fish and Wildlife Service, LA Department of Wildlife and Fisheries

Background and Problem Addressed:

Currently in construction, the Caminada Headland Beach Over the last two decades, numerous barrier island and Dune Restoration Project in Lafourche Parish, restoration projects have been undertaken through the Louisiana is designed to protect and preserve the structural Coastal Wetlands Planning, Protection, Restoration integrity of the barrier shoreline and provide for restoration Program, the Coastal Impact Assessment Program, the of geologic and ecosystem processes such as longshore State of Louisiana, and others. Our understanding the transport and overwash. Benefits of restoring the headlands impacts during construction and the perceived positive Gulf shoreline would protect and sustain significant and unique coastal habitats important to the threatened and endangered populations of Piping Plover and the many other birds found along Louisiana's shorelines.

The Gulf of Mexico is a key wintering area for the nation's nesting and wintering North American shorebirds. population of Piping Plover. Data from the International Piping Plover Survey, conducted every five years since 1991, indicate that 73-93% of all wintering plovers counted have been on the shores of the Gulf of Mexico. Little is known about habitat requirements of these birds particularly during the winter season. Furthermore, little is known about impacts associated with construction during and after beach and barrier island restoration projects on avian populations. This project provides an opportunity to determine impacts associated with the Caminada Headland Beach and Dune Restoration Project on Piping Plover and a select suite of other North American shorebirds and the benthic communities they rely on.



impacts for birds after construction are poorly understood or documented. While the focus of this project addresses impacts during the active restoration phase, the hope is to continue this work after restoration is complete and document the perceived positive implications to both



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Piping Plover Surveying & Monitoring

Project Description:

In January 2013, the Barataria-Terrebonne National Estuary Program worked in collaboration with the Coastal Protection and Restoration Authority to begin monitoring the distribution and abundance of Piping Plover during construction activities associated with the Caminada Headland Beach and Dune Restoration Project. Numerous surveys have been completed since that time and continue to this day. These surveys occur biweekly through the migratory and wintering seasons (July through May) when most of the North American population of Piping Plover is overwintering along the north gulf. Surveyors cover all available habitats from the gulf beach-front to the back-bay shoreline, including mud flats. Coordinates, number of individuals, and color band combination data are collected from each bird to help assess the influence of short-term habitat changes on Piping Plover habitat utilization.

Shoreline restoration projects have become larger, leading to increased construction duration. These increased durations mean longer possible disturbances throughout multiple nesting and wintering seasons. Results of this project will help in development of best management practices (BMP's) available to the State and the many agencies and organizations that conduct restoration for construction activities. This research will help regulators better assess actual shorebird use and possible impacts of construction activities.

CCMP Action Items Addressed:

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

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









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Youth Marine Debris Prevention & Education Program

Project Status

Project Year: 2015Status: OngoingCategory: EducationLocation: Fourchon, LAProject Partners: Greater Lafourche Port Commission, Terrebonne Parish Public Schools, Lafourche Parish Public Schools, Archdiocese of Houma/ThibodauxSchools

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Background and Problem Addressed:

The most southern edge of the Barataria-Terrebonne Estuary has a marine debris problem. Marine debris is defined as persistent solid material that is manufactured or processed and directly or indirectly, intentionally or unintentionally disposed of or abandoned in marine environments. BTNEP wanted to see a major reduction in marine debris and support EPA's Trash Free Waters Initiative.

Lafourche and Terrebonne parishes in Louisiana are known for their many waterways and outdoor recreational activities. Much of the marine debris found on beaches and in waterways comes from littering and dumping. If fisherman, boaters, travelers, and the people on the roads disposed of their trash properly, our marine debris problem would be minor.

The goal of this program is to bring awareness about marine debris to the youth and public officials of two coastal parishes.

"Our best chance to reach the target audience is through the youth of our communities."





Youth Marine Debris Prevention & Education Program

Project Description:

The purpose of the Barataria-Terrebonne National Estuary Program (BTNEP) Youth Marine Debris Prevention and Education Program is to stop marine debris at the source. The BTNEP Youth Marine Debris Prevention and Education Program engages high school students in understanding marine debris, researching causes, and the writing of a Marine Debris Prevention Plan. Juniors and seniors from nine high schools in Lafourche and Terrebonne Parish spend one day per quarter in the field with BTNEP. The students research marine debris, collect marine debris, analyze the data, prepare "Action Items" to stop it at the source, and then present their plan to their high schools and the Lafourche and Terrebonne parish government officials.

The students travel to Port Fourchon, Louisiana once per quarter and pick up trash on the beach. The students record the trash on data forms and bag it for disposal. Students then gather in a meeting to discuss their findings and determine the sources of the debris and formulate "Action Items" to prevent the trash from entering our waterways. They also use discussion time to prepare the Marine Debris Prevention Plan which may include a video and/ or a PowerPoint presentation. The students also spend a weekend at the Louisiana Universities Marine Consortium. During this time, they take a boat to two uninhabited barrier islands in Terrebonne Parish. Along with the "Plan", the students dissect fish stomachs caught in the Gulf of Mexico off Louisiana's coast to identify ingested plastic pollutants.

After four field trips, the students spend 2 to 3 days traveling to each of their high schools as a group to give their presentation to their peers. Over 10,000 students hear this presentation and learn about the "Action Items" planned to stop marine debris. The students also present their plan to the Lafourche and Terrebonne parish councils.

<u>CCMP Action Items Addressed:</u> Citizen Involvement Programs and Activities (Sustained Recognition and Citizen Involvement #3)

Citizen Monitoring Program (Sustained Recognition and Citizen Involvement #4)

Continuing and Informal Education Program (Sustained Recognition and Citizen Involvement #15)



Marine Debris Tracking GPS Device









Paddle Bayou Lafourche

Project Status

Project Year: 2001-PresentStatus: OngoingCategory: OutreachLocation: Donaldsonville-Lockport, LAProject Partners: Various local business partners,
groups and organizationsBackground and Problem Addressed:

In 2001, Paddle Bayou Lafourche was initially a project

designed to help educate people about the value of the bayou as a drinking water source. Many people were unaware of the value of the source water. By encouraging the public to paddle or kayak down the bayou, with an organized BTNEP group leader, people were better able to understand the value of the resource.

Bayou Lafourche provides drinking water to over 300,000 people in the Barataria-Terrebonne National Estuary system. Parishes that get drinking water from Bayou Lafourche include: Ascension, Assumption, Lafourche, and Terrebonne. The water is also used by offshore oil and gas communities as their potable water. Additionally, the bayou helps to replenish our coastal marshes with much needed fresh water.

The trip now also highlights the work of the Bayou Lafourche Fresh Water District (BLFWD) in partnership with the Louisiana Coastal Protection and Restoration Authority (CPRA) working for years to bring more fresh water down the bayou through a project called the Mississippi River Reintroduction to Bayou Lafourche Project (MRRBL).

While Paddle Bayou Lafourche still has water quality and wetlands education as a mainstay of its mission, the project has grown to include historical, cultural, and economical experiences. Paddle Bayou Lafourche also encourages ecotourism within the estuary.







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Paddle Bayou Lafourche

Project Description:

Paddle Bayou Lafourche is a 52-mile, 4-day adventure that winds its way through a number of rural communities and small cities. Paddlers are treated to scenic natural vistas, and a fascinating "backyard view" of this historic bayou from Donaldsonville to Lockport.

The goal of Paddle Bayou Lafourche is to help create a sense of stewardship and pride for the environment. The trip offers a unique approach to educating the participants about the great gift of Louisiana's wetlands, and helps them recognize that Bayou Lafourche is historically, culturally, economically, and ecologically important to the communities along its banks. The first annual trip made in 2001 was designed to increase awareness of Bayou Lafourche being a drinking water source.

Paddlers can now choose which day or days to participate from one to four days. Participants enjoy the bonding, camaraderie, and sense of accomplishment that comes from going the distance on Bayou Lafourche. Paddlers also get to experience the culture, music and food the area is known for. They take home a sense of pride and knowledge about Lafourche.

Paddlers are locals, from out of state, and sometimes even from out of the country. Paddlers are given the chance to "*Discover the Estuary*" in a very up close and personal way.

CCMP Action Items Addressed:

Citizen Involvement Programs and Activities (Sustained Recognition and Citizen Involvement #3)

Cultural Heritage (Sustained Recognition and Citizen Involvement #5)

Continuing and Informal Education Programs (Sustained Recognition and Citizen Involvement #15)

Nature-Based Tourism and Recreation (Economic Growth #2)









Ecosystem Restoration: Invasive Plant & Animal Removal

Project Status

Project Year: 2016Status: CompleteCategory: Invasive SpeciesLocation: Properties managed by WoodlandsConservancyProject Partners: Woodlands Conservancy,USFWS, NRCS, LDEQ (BEP)Background and Problem Addressed:

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The State of Louisiana is home to many species of invasive vegetation. According to a study done by the Louisiana Department of Wildlife and Fisheries, 55% of Louisiana's forests contain at least one invasive species. After Hurricane Katrina in 2005, many native trees were lost in the 800 acres of forested wetlands within the Barataria Basin on properties managed by Woodlands Conservancy. Without proper reseeding of native plants, invasives grew quicker and began threatening the health of the native forested wetlands that provided habitat for wildlife and migratory birds.

At Woodlands Conservancy, three major invasive species were recognized on the property, which included Chinese Privet, Chinese Tallow, and Chinaberry. The presence of the three invaders in the forest prevented sunlight from reaching native saplings.

Funds requested would be used for the purpose of implementing invasive plant control operations including management and suppression in 800 acres of forested wetlands within the Barataria Basin. Treatment of invasive vegetation with herbicides would be conducted. Restored areas would be reforested with native seedlings and understory vegetation to enhance the habitat for wildlife and birds.



The overall goal of the project was to significantly reduce the invasive species and to supplement the regeneration of the forest by planting native overstory, midstory and understory vegetation. The project aimed to restore the property to encourage the sustainability of wildlife that resides within the bottomland hardwood forest and ensure a forest of high nutritional value for migratory birds that are dependent on this stop over habitat.



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Ecosystem Restoration: Invasive Plant & Animal Removal

Project Description:

Treatment for this project occurred on March 7, 2016-March 16, 2016 on a 205 acre tract of Woodlands Trail and Park Bird Sanctuary, known as Treatment Plot E. A treatment team of ten individuals walked throughout the acreage, applying herbicide to Chinese Tallow, Chinese Privet, and Chinaberry in the bottomland hardwood forest. Herbicides used included Aquaneat (glyphosate), Polaris (imazapyr), Garlon (triclopyr) and Champion as a surfactant. During treatment, three different application methods were utilized which included foliar spraying, basal bark application, and the "hack and squirt" method..

To eliminate smaller shrubs, saplings and seedlings, a 4-gallon backpack foliar sprayer was used. Treatment of larger trees and shrubs required use of the hack-and-squirt method. A machete was used to cut deep grooves circumferentially around the trunk. Using a hand spray bottle, each groove was then filled with herbicide. Basal bark application that involved spraying or painting herbicide on the bark around the entire circumference of the tree was also used.

Approximately 1800 native seedlings were planted at Woodlands Trail and Park Bird Sanctuary utilizing dibbles, tree mats, and tree protectors. Plantings are located along the trail in the southern portion of Treatment Plot B.

On March 16, 2016, treatment of the 250-acre tract was completed and marks the initial treatment for much of Treatment Plot E. Treatment had previously occurred between the existing trail and the Plantar's Canal, within 10 feet along either side of the existing trail and along a swale that measured approximately 40 feet in width and .3 miles in length. The future health of the area is promising as maple, box elder and oak saplings are common and distributed throughout the property.

Any reference to a specific product or service does not constitute an endorsement or recommendation to any commercial product.



CCMP Action Items Addressed:

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

Reduction of Impacts from Exotic Vegetation (Ecological Managment # 16)





Stormwater Infiltration Basin and Pétanque Terrain

<u>Project Status</u> **Project Year:** 2016 **Status:** Completed **Category:** Water Quality **Location:** Peltier Park, Thibodaux, LA **Project Partners:** City of Thibodaux Background and Problem Addressed:

The BTNEP Stormwater Infiltration Basin and Pétanque Terrain is a novel idea that combines water quality improvements with increased recreational opportunities and economic benefits. With increased urban development of the bayou region, there will be an increase in impermeable surfaces, such as streets, parking lots, sidewalks and rooftops leading to an increase of problems with stormwater. Impermeable surfaces increase water runoff and decrease the natural function of water infiltration into the soil. Increased runoff can lead to increased flooding and pollution of surface waters, such as bayous, rivers and lakes.

An infiltration basin is a human-made sump or hollow where stormwater can be temporarily stored until it gradually infiltrates into the surrounding soil. This technique helps improve water quality because it filters the stormwater through the soil and promotes groundwater recharge. Surrounding trees and vegetation will benefit from the capture and slow release of stormwater during rain events.





In addition to retaining and storing stormwater within the infiltration basin, this project will also serve as a recreational surface for the game of pétanque (pātānk). Pétanque is an outdoor game of target bowling that originated in France. In this game, players standing in a ring throw hollow steel balls with an underhanded throw with the goal of trying to be the team closest to a small, wooden target ball. The game can be played by all ages including people with disabilities. As a popular social game easily picked up in an afternoon, the terrain can serve as a local meeting place for family and friends to gather and "pass a good time." With the addition of organized tournaments, tourist dollars can be brought in to the local economy. This innovative idea combining environmental and recreational resources can be promoted regionally in the estuary and nationally throughout the country.



Stormwater Infiltration Basin and Petangue Terrain

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Stormwater Infiltration Basin and Pétanque Terrain

Project Description:

The goal of the Stormwater Infiltration Basin and Pétanque Terrain Project was to build a feature within a local park that would function as a stormwater infiltration basin and as a surface for playing the game of pétanque. As the bayou region becomes more urban with more impervious surfaces, inventive projects such as this one will be needed to decrease the rate and volume of stormwater released to drainage networks and natural waterbodies, while still providing groundwater recharge. Parks and recreational areas have available open areas that can be used to conserve green space by combining stormwater storage with recreation space. Costs for this project included building materials and supplies for construction and educational signs installed at the site about how the feature functions to protect water resources and how to play the game of pétanque.

The Stormwater Infiltration Basin and Pétanque Terrain was built by digging a basin (66' x 66' x 1') and filled with a base of coarse crushed rock to provide pore space and volume for stormwater storage, water filtration and groundwater recharge. The top of the basin was made of fine, compacted, crushed rock for the pétanque playing surface. The BTNEP Stormwater Infiltration Basin and Pétanque Terrain is estimated to be able to store approximately 8,600 gallons of stormwater.



CCMP Action Items Addressed:

Storm Water Management (Ecological Management # 12)

Nature-Based Tourism and Recreation (Economic Growth EG # 2)

Citizen Involvement Program and Activities (Sustained Recognition # 3)

Urban Green Spaces (Sustained Recognition # 6)



ADDITIONAL PROJECTS & COORDINATORS

School Sustainability Project - Alma Robichaux



The objective of this project is to help schools become more sustainable by educating about the benefits of recycling and environmental stewardship. In 2016, three high schools located in the Barataria-Terrebonne Estuarine System were chosen to participate in a recycling program for one year. Those schools included South Terrebonne High School and Ellender Memorial High School, both located in Terrebonne Parish and West Jefferson High School located in Jefferson Parish. BTNEP set up the program, which included having a recycling dumpster placed at the schools and several recycling bins throughout each campus. BTNEP also educated at an assembly about the importance of recycling and will gauge the success of the project throughout the year.

Prothonotary Warbler Project - Natalie Waters

The Prothonotary Warbler conservation and monitoring program with the Barataria-Terrebonne Estuary Estuarine was established to promote the conservation and education of the species. It was also developed to increase productivity of the species by establishing next box trails, collect demographic data, identify factors that limit population growth, identify connectivity between breeding and wintering grounds and engage the public in helping with conservation efforts. Sixteen nests boxes were install along the nature trail in Brownell Memorial Park, in Morgan City, LA. The nests and adults are monitored during the entire breeding season.



Louisiana Arbor Day Tree Giveaway - Matt Benoit



Every year, on the third weekend in January, BTNEP partners with The Nature Conservancy for a native tree giveaway in Grand Isle. BTNEP collects seed from trees growing on The Nature Conservancy property, propagates them at the BTNEP Native Plant Production Facility at the Nicholls State University Farm and grows them out for the tree giveaway to homeowners and camp owners on Grand Isle, Louisiana's only inhabited barrier island. Native tree recipients are given instructions on planting and care so that these seedlings can grow to become trees beneficial to the Neotropical migratory songbirds that fly through each spring and fall along the Mississippi Flyway.

Crab Trap Removal Project - Seth Moncrief

BTNEP, in partnership with the Louisiana Department of Wildlife and Fisheries (LDWF) and the National Oceanographic and Atmospheric Administration (NOAA) held a crab trap removal event in the Barataria Basin near Lafitte. Over 30 volunteers, including boat owners and on the ground volunteers were in attendance to aid in the removal of 844 derelict or "ghost" crab traps from the Barataria Basin. Each volunteer donated approximately seven hours of their time equaling over 200 combined man hours for the event. The event took place at the Jean Lafitte Harbor located at the end of LA 45. In the week that followed the event, BTNEP and LDWF staff picked up an additional 250 abandoned crab traps totaling more than 1000 abandoned traps that were collected and smashed for disposal. The goal of the event was to remove abandoned traps, which increase mortality of blue crabs and other species, as well as, create navigation hazards. The project was funded by the National Oceanic and Atmospheric Administration (NOAA) Marine Debris Program and LDWF.



BTNEP MANAGEMENT CONFERENCE MEMBERS

- •American Sugar Cane League
- •Bayou Lafourche Freshwater District
- •Coalition to Restore Coastal Louisiana
- •Coastal Conservation Association of LA
- •Coastal Protection and Restoration Authority
- •Commercial Fisheries
- •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
- •LA State University Ag Center
- •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 Government
- •The Nature Conservancy
- •US Army Corps of Engineers
- •US Coast Guard
- •US Environmental Protection Agency
- •US Fish & Wildlife Service
- •US Geological Survey
- •US National Marine Fisheries Service
- •US Depart.of Ag's Natural Resource Conservation Service



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