

# Entergy's Environmental Initiatives Fund | History and Highlights



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# Introduction

On May 3, 2001, Entergy made history when it became the first U.S. electric utility to announce a greenhouse gas emissions target. Partnering with Environmental Defense, Entergy pledged to take voluntary actions to stabilize its domestic carbon dioxide (CO<sub>2</sub>) emissions at year-2000 levels through 2005 and to develop a long-term target to include additional reductions that would help combat climate change.

To help accomplish its emissions-reduction goal, Entergy dedicated \$25 million in supplemental funding through an Environmental Initiatives Fund (EIF), with 80% allocated for changes in Entergy-owned assets and 20% for the purchase of CO<sub>2</sub> offsets.

From 2002-2005, Entergy exceeded its stabilization commitment and reduced CO<sub>2</sub> emissions by 23% under the established target while simultaneously increasing electrical sales by 21% over the same period. Entergy achieved its goal through both internal and external greenhouse gas reduction strategies, including 61 internal projects and 13 external projects that encompassed carbon sequestration on company-owned property and greenhouse gas emission trades.

In May 2006, Entergy announced a second five-year commitment to stabilize CO<sub>2</sub> emissions from its owned facilities at a level 20% below year 2000 from 2006-2010. Entergy also included controllable purchases as part of the commitment since they had become a significant portion of its portfolio. The commitment included \$3.25 million in funding to participate actively in GHG offset markets and to help develop new markets, products, and innovations to address emission reductions. Entergy's cumulative CO<sub>2</sub> emissions through the years 2006, 2007, and 2008 were 122.9 million tons, 4% better than its stabilization goal of 127.7 million tons.

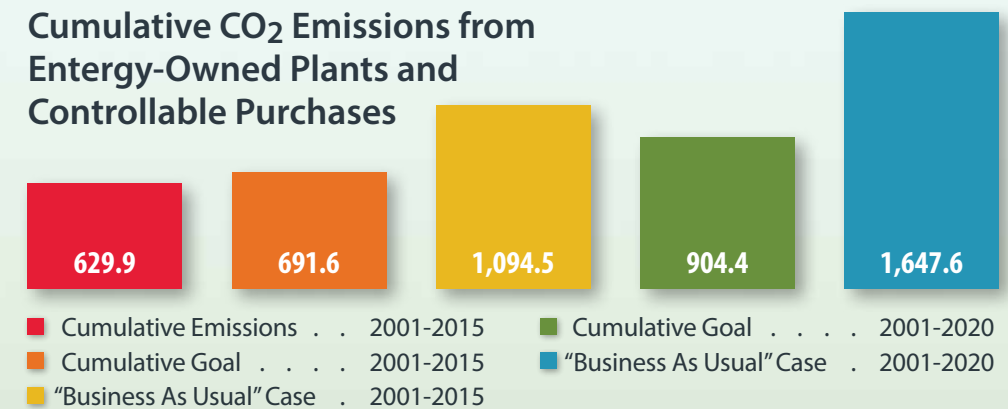
Through 2015, since the first stabilization commitment in 2001, Entergy has emitted nearly 9% below its cumulative stabilization goal of 691.6 for the 15-year period.

In March 2019, Entergy set forth a new decade of action. The company announced a new greenhouse gas emissions goal. By 2030, the company intends to reduce its emissions rate by half what it was in 2000. The EIF is currently funded by an annual appropriation of shareholder dollars used to fund a variety of environmentally beneficial projects. Through the EIF, Entergy has made emission-reduction improvements on its existing fossil fleet, including coal plants, to improve efficiency. The variety of other projects funded by the EIF over the years is highlighted below.

The summaries on the following pages are of EIF program highlights by year. The final section includes initiatives and accomplishments not affiliated with EIF.

-  Alternative Energy/Solar
-  Energy Efficiency
-  Beautification/Cleaning/Recycling
-  Greenhouse Gas Reduction
-  Coastal & Wetlands Restoration
-  Tree Planting/Reforestation
-  Education
-  Wildlife/Environmental

## Cumulative CO<sub>2</sub> Emissions from Entergy-Owned Plants and Controllable Purchases



In 2013, the process utilized to identify potential projects and approve selected projects for funding from the EIF was modified. A formal request for proposals (RFP) was developed and sent to organizations external to Entergy for their consideration. After the initial use of the RFP process, it was expanded to include potential projects internal to Entergy. Once the proposals are received, an initial review is conducted by Environmental Strategy & Policy to determine which projects will move to the next level in the approval process. The proposed list of projects nominated for funding each year is reviewed by the environmental lead team, Vice Presidents of Public Affairs, State Presidents, and Entergy Wholesale Commodities (EWC). The final list of projects is presented to the EIF approval committee, which is comprised of Entergy senior executives, for authorization to proceed with funding.

## 2001

### Du Pont N<sub>2</sub>O Abatement Project in Orange, Texas

Entergy purchased 100,000 metric tons of vintage CO<sub>2</sub>e emission reductions from **E. I. du Pont de Nemours and Company** that was generated from its nitrous oxide (N<sub>2</sub>O) abatement project at Sabine River Works in Orange, Texas. Because N<sub>2</sub>O has a global-warming potential 310 times that of CO<sub>2</sub>, emissions of approximately 366 metric tons of N<sub>2</sub>O were actively reduced to support this transaction, which totaled \$200,000 from the EIF.



### Trees Planted at Company Facilities

Entergy planted more than 20,000 trees at two of its facilities in Louisiana — **Little Gypsy** in LaPlace and **Willow Glen** in St. Gabriel — to improve the removal of carbon dioxide from the atmosphere and provide natural habitat for local wildlife.

By reducing the amount of grassland area to maintain, the facilities also benefitted from a reduction in operating expenses. Planting projects were funded by a \$100,000 grant from the EIF.

The 23,500 saplings and seedlings included Nuttal's oak, cypress, willow oak, green ash, and pecan, all species that are indigenous to the area. Trees were chosen for soil suitability, high growth potential, and ecological value.



### Toromont Energy Waterloo Landfill Methane Plant

Entergy purchased 50,000 metric tons of CO<sub>2</sub> equivalent (e) emission reductions from Toromont Energy in Ontario, Canada with \$107,000 provided by the Environmental Initiatives Fund.

Reductions were derived from the combustion of methane gas from Toromont Energy's Waterloo Landfill Gas Power Plant.



### Entergy Conducts First Trade in Danish GHG Allowances

Entergy and Danish electricity supplier **Elsam SA** executed the first-ever international trade in greenhouse gas allowances under the Danish climate change program. Elsam is a Danish electricity supply company that owns generation plants in the Nordic region, including wind-powered facilities. At the time, Denmark and the United Kingdom were the only nations that had developed formal greenhouse gas trading programs.

Under the transaction, Elsam sold 10,000 Danish allowances to Entergy, which removed the allowances from the market and thereby eliminated 10,000 metric tons of emissions. Natsource LLC brokered the transaction. The purchase of Elsam's allowances helped demonstrate that global trading markets were an efficient and economical way to reduce greenhouse gas emissions.

# 2002

## Entergy Partnerships Create Red River National Wildlife Refuge

Entergy, **The Conservation Fund**, and the U.S. Fish & Wildlife Service unveiled a carbon sequestration project in Louisiana designed to offset the environmental impacts of fossil fuel emissions, provide new fish and wildlife habitat, and bring recreation-driven economic benefits to the region of northwest Louisiana along the Red River Valley in Natchitoches Parish, near Shreveport. It would also create America's newest wildlife refuge — Red River National Wildlife Refuge.



Interior Secretary Gale Norton, U.S. Senator Mary Landrieu and U.S. Representative Jim McCrery, whose district included the refuge, addressed the success of the public-private partnership at the dedication ceremony attended by representatives of Entergy, The Conservation Fund, and the U.S. Fish & Wildlife Service.

“The dedication of Red River National Wildlife Refuge represents a triumph of cooperation and partnership in the service of conservation,” said Norton. “Thanks to the contributions of Entergy and The Conservation Fund, the new refuge will provide habitat for fish and wildlife while offering the citizens of Louisiana recreational opportunities. At the same time, the restoration of the bottomland hardwood forest will remove 240 tons of carbon from the atmosphere each year, providing cleaner air. Together we are restoring the rich biological diversity of the floodplain forest that once characterized the Red River Valley as a legacy for future generations of Americans to enjoy.”

The Conservation Fund purchased 600 acres of non-productive agricultural acreage along the Red River with \$732,000 from the EIF. After reforestation, Entergy donated the property, along with a management endowment, to the U.S. Fish & Wildlife Service. This gift was to become the first tract of land in the Red River National Wildlife Refuge.

Entergy, in partnership with Environmental Synergy, Inc., had already planted more than 180,000 native trees on the property. Over the next 70 years, the trees will sequester 275,000 tons of atmospheric carbon dioxide, as well as provide important bottomland hardwood habitat benefiting migratory birds, turkey, white-tailed deer, and other wildlife.

The Red River Valley represents a historic corridor for migratory birds funneling out of North America to the Gulf Coast. An important tributary of the Mississippi River, the Red River is one of the most degraded watersheds in Louisiana. Eventually, the refuge will encompass 50,000 acres and, in addition to protecting wildlife habitat and enhancing air quality, will offer public recreation opportunities such as hunting, fishing, hiking, and educational outreach programs.

## UK Emissions Trading Scheme and Shell

The United Kingdom Emissions Trading Scheme was a voluntary emissions-trading system created as a pilot before the mandatory European Union Emissions Trading Scheme. It also was the first multi-industry carbon trading system in the world, recruiting 34 participants from UK industries, including Shell. Entergy purchased a total of \$60,000 in GHG emissions allowances from Shell International Trading with support from the EIF.



## 2002

### Environmental Resources Trust Greenhouse Gas Reduction

Created in 1996 as an offshoot of Environmental Defense Fund, **Environmental Resources Trust** (ERT) is a nonprofit organization that harnesses economic forces to protect the environment, specifically to promote markets for renewable energy and climate change protection.

The goal of ERT's EcoRegistry® program is to reduce greenhouse gas emissions and climate change by measuring and registering emission reductions of companies and governments. Entergy purchased 50,000 metric tons of validated CO<sub>2</sub>e emission reductions with \$50,000 from the EIF.

### Entergy Funds Mine Methane Offset Project

Entergy undertook a coal mine methane offset project based in the eastern U.S. that was designed to reduce greenhouse gas emissions by approximately 400,000 metric tonnes through 2005. Entergy developed an agreement to provide funding to **TransAlta Corp.** to manage the project and deliver a schedule of CO<sub>2</sub>e reductions to Entergy over a five-year period. The project represented a total investment of \$650,000 from the EIF.

In offsets involving coal mine methane, methane vented from abandoned underground coal mines is captured and converted into electricity or upgraded to pipeline quality for use with natural gas. Methane is 23 times more potent than carbon dioxide as a greenhouse gas and contributes to the accumulation of greenhouse gases in the atmosphere and to the risk of climate change.

Portland-based North West Fuel Development, a leading developer of technologies for coal mine methane, executed and managed the projects under a long-term contract. Trexler and Associates, also of Portland and a leading climate change mitigation services provider and project developer, advised Entergy on evaluation and selection of the project and on the selection of North West Fuel Development to implement the project.



### Entergy Carbon Sequestration Project in Arkansas

**Winrock International** is a nonprofit organization that works with people in the United States and around the world to empower the disadvantaged, increase economic opportunity, and sustain natural resources. In 2002, Entergy contracted Winrock International Institute for Agricultural Development on the Entergy Carbon Sequestration Project, which also involved the Central Arkansas Resource Conservation and Development Council. The goal was to acquire easements from eligible landowners in the Arkansas Delta to convert 500 acres of marginal cropland to bottomland hardwood forest in a two-year period.

The tree-planting project, which was supported by \$500,000 from the EIF, is projected to offset approximately 210,800 tons of CO<sub>2</sub> over an 80-year period. The Entergy Carbon Sequestration Project became an important component of a broader Winrock-led Arkansas Carbon Initiative that will develop innovative approaches to reforest thousands of acres and stimulate economic development in the Arkansas Delta.

## 2003

### Entergy Works with Direct-Seed Farmers to Slow Global Warming

Entergy and the **Pacific Northwest Direct Seed Association** (PNDSA) combined efforts to help reduce global warming through environmentally beneficial farming practices. The Letter of Intent called for participating farmers of the PNDSA to implement new direct-seed agricultural techniques in the Pacific Northwest.

The plan enabled Entergy to receive credit for carbon dioxide and emissions reductions achieved through direct-seed agriculture to help offset CO<sub>2</sub> emissions from the company's U.S. power plants. With Entergy's support, the direct seed project was expected to reduce more than 30,000 tons of CO<sub>2</sub> emissions over a 10-year period. PNDSA and Environmental Defense also entered a cooperative agreement to investigate and encourage the adoption of environmentally beneficial farming practices.

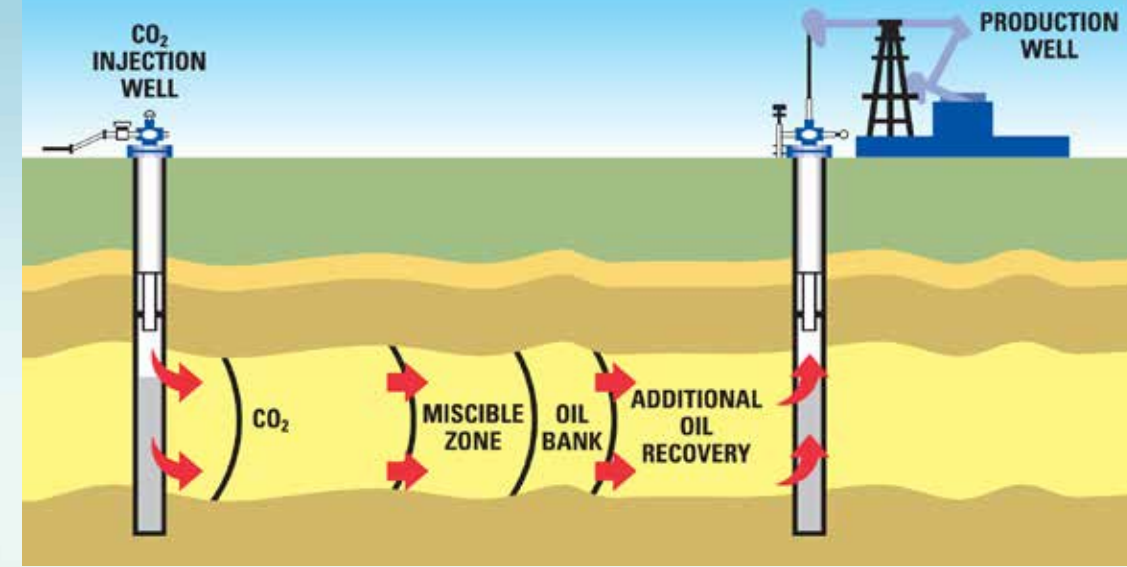
Traditional agricultural practices, in which top layers of soil are turned over and exposed, allow carbon sequestered in the soil to be oxidized and released into the atmosphere. The new direct-seed technique involves cultivation and fertilization using "no-till" direct-injection methods that leave soil undisturbed and avoid associated CO<sub>2</sub> emissions. Additional emissions of CO<sub>2</sub> also are eliminated permanently by reducing the amount of fossil fuel burned in farm equipment during the agreement period.



### Fannie Mae Emissions Reduction Trade

Entergy purchased 6,250 metric tons of CO<sub>2</sub>e Verified Emission Reductions from a greenhouse gas emissions reduction account administered by **Fannie Mae**.

Companies participating in certain Fannie Mae-sponsored residential energy-efficiency programs agreed to measure, document, and pool Verified Emission Reductions for sale to parties interested in acquiring reductions to offset emissions or meeting GHG reduction targets. NatSource was the emissions broker for the trade, which was supported with \$12,500 from the EIF.



### Entergy Buys Geologic Carbon Sequestration Credits

Entergy entered into an agreement with **Blue Source, Inc.** to purchase geologic carbon sequestration, becoming the first U.S. utility to seek carbon emissions credits from a geological sequestration project.

The Blue Source agreement included three transactions: Merit Energy's Geologic Sequestration for Enhanced Oil Recovery project, 400,000 metric tons CO<sub>2</sub>e; International Paper's Combined Cycle Cogeneration Project, 135,250 metric tons CO<sub>2</sub>e; and International Paper's Combined Cycle Cogeneration project, 164,750 metric tons CO<sub>2</sub>e.

Traditional sequestration projects sought by Entergy and other American utilities had centered on carbon sequestration through reforestation. This project, however, directly deposited the carbon emissions into dormant oil wells to ferret out oil deposits currently untapped by conventional extraction techniques. The total amount of carbon credits will equal 100,000 metric tons.

The new type of emissions trade not only contributed to overall environmental improvement, but also to the domestic energy supply. Carbon dioxide emissions captured in geologic sequestration enable the recovery of petroleum reserves that typically would not be recovered by conventional means. Transactions were supported by \$350,000 from the EIF.

2004



## Tensas National Wildlife Refuge Reforestation Project

This project, completed in a joint public-private partnership with the **U.S. Fish & Wildlife Service**, the **Trust for Public Land**, and Entergy, involved the acquisition of 1,500 acres of land adjacent to the Tensas River Wildlife Refuge and the planting of indigenous trees for carbon sequestration.

The refuge in Louisiana is home to one of the largest continuous blocks of bottomland hardwoods remaining in the United States and it also is home to one of the last concentrations of the Louisiana black bear.



## Entergy Purchases One Million CO<sub>2</sub> Credits

Entergy announced its purchase of one million CO<sub>2</sub> emission reduction credits, representing the largest geologic CO<sub>2</sub> sequestration purchase within the United States. This purchase was an extension of the initial transaction between Entergy and **Blue Source** completed in December 2003 and was supported by \$500,000 from the EIF.

This carbon credit option increased Entergy's balance of carbon credits from its current amount of 872,363 metric tons to a total of 2,872,363 metric tons by the end of 2005— a 230% increase.

The actual emission reduction credits generated and used in this exchange were intended for use in enhanced oil recovery by Denbury Resources for tertiary oil recovery in Western Mississippi within Entergy's service territory. Leveraged benefits included an economic boost through increased local oil production, royalties, production tax revenues, and associated oil field and petro-chemical jobs.

## 2005

### Dryades YMCA Solar Energy System in New Orleans

After a major fire destroyed the YMCA's historic home on Dryades Street in New Orleans in 2000, a Capital Fundraising Leadership Team was formed. The YMCA re-opened on November 14, 2005, and a year later, a new feature was added — a 2,000-square-foot, 20-kW photovoltaic (PV) solar energy system donated by Entergy.

Entergy, **Dryades YMCA**, **Direct Global Power**, and the project architect joined forces and formed the YMCA Solar Power Initiative to make installment of the PV system possible. The energy-saving initiative was designed to provide emergency power to light the facility's 3,000-sq. ft. room, which can be used by both students on a daily basis and the community in the event of an emergency.



Doug Evans, Dryades YMCA chief executive officer, surveys the solar energy system on the roof of the Central City New Orleans building.

### Nike Purchase Offsets 100,000 Metric Tons of Carbon Emissions

Taking advantage of an opportunity to mitigate greenhouse gas emissions and work toward the company's voluntary greenhouse gas reduction commitment, Entergy purchased emission-reduction credits totaling 100,000 metric tons with \$200,000 from the EIF. The purchase was made available through **Environmental Resources Trust by Nike Inc.**, which verified and registered the credit as a result of exceeding its carbon footprint goals with the World Wildlife Fund's Climate Savers program.

Nike redesigned its Air athletic shoes to use an inert gas that replaces sulfur hexafluoride (SF6) previously used in the shoes' air cushions. SF6 is a very potent greenhouse gas that has a global warming potential multiplier of approximately 24,000. This means that one unit of SF6 has the equivalency of 24,000 units of CO<sub>2</sub>.



## 2006

### Entergy Purchases Carbon Credits from Anadarko

Entergy purchased 150,000 metric tons of CO<sub>2</sub> emission reduction credits from **Anadarko Petroleum Corporation**. The credits were verified by an independent third party and registered by Environmental Resources Trust. The verified emission reduction credits were created by capturing CO<sub>2</sub> vent gases from gas liquids production and injecting the CO<sub>2</sub> into oil-bearing formations for geologic storage and enhanced oil recovery.

Through Entergy's purchase of natural gas from Anadarko to generate electricity, this transaction effectively made 270,000 megawatt hours of electricity produced by natural gas-fueled generating plants carbon neutral. It was Entergy's first foray into demonstrating the benefits of mitigating its carbon footprint with a fuel provider.

# 2007

## Entergy Grants \$150,000 to Restore Louisiana Wetlands

Entergy made a significant investment to protect Louisiana's coastline from future storms by donating \$150,000 to **Ducks Unlimited, Inc.** to support an ambitious marsh-restoration project.

The project illustrated Entergy's proactive strategy to make a difference in coastal wetlands restoration and hurricane protection. Wetlands are vitally important to the safety, well-being, and quality of life of the Gulf Coast region, and they also provide a natural buffer against hurricane storm surges that directly impact the continued sustainability of Entergy's service territory.



A year after terraces were built to restore marshland near Lafitte, Louisiana, submerged aquatic vegetation had begun to flourish.

Ducks Unlimited, the world's largest wetland and waterfowl conservation organization, proposed to build approximately 32,000 linear feet of earthen terraces and to provide vegetation for terrace plantings through the Lafitte Terracing Project in the Barataria Waterway south of Lafitte, Louisiana. The ultimate goal was to restore 580 acres of eroded marsh, which would not only reduce the impact of wind and waves but also stimulate growth of submerged aquatic vegetation for waterfowl.

"Approximately 15,000 acres of Louisiana wetlands are converted to open water each year due to both natural causes and human activity," said Bob Dew, regional biologist for Ducks Unlimited. "The successful restoration of these wetlands has a direct effect on Louisiana's ability to withstand future hurricanes and carries a positive impact on wildlife populations that benefit the state's eco-tourism industry. The Mississippi Flyway is home to more than half the waterfowl, and hunting migratory bird adds \$55 million per year to the state economy."

Entergy's donation was part of a collaborative effort between Ducks Unlimited, the North American Wetlands Conservation Council, Camp Club, Inc., the Louisiana Department of Natural Resources, Madison Land Company, and the U.S. Department of Agriculture's Natural Resources Conservation Service.



Lafitte, Louisiana

Project Site

## 2007

### Entergy, Restore America's Estuaries Rebuild Louisiana Wetlands

Forty-three percent of threatened and endangered species in the United States depend on wetlands during some stage of their life cycle. Despite their recognized value to the environment, more than 80,000 acres of wetlands continue to be lost in the United States each year.

In an effort to protect Louisiana's coast from future natural disasters and habitat loss, Entergy partnered with **Restore America's Estuaries**, the **Coalition to Restore Coastal Louisiana**, and the **Jefferson Parish Department of Environmental Affairs** on wetlands preservation projects in the Barataria Basin. From 2007 to 2009, Entergy contributed \$280,000 from its EIF to Restore America's Estuaries for Barataria Basin wetlands preservation, including the Grand Isle black mangrove planting project and the Coastal Bayou Segnette cypress planting project. Entergy also provided \$70,000 to develop a National GHG Offset Protocol for tidal wetland restoration and management.

The black mangrove project was designed to plant black mangroves on Fifi Island near Grand Isle in Jefferson Parish, Louisiana, to mitigate significant declines of mangrove habitat and to provide a future protection buffer for storm impacts.

The Coastal Bayou Segnette cypress planting project was undertaken to re-establish cypress trees that provide critical habitat for migratory birds and to provide storm protection for Jefferson Parish residents. The project also was designed to promote coastal protection concepts outlined in Louisiana's Comprehensive Master Plan for a Sustainable Coast. Key benefits of the project included enhanced habitat quality, decreased erosion along Louisiana's coast, and a positive impact on climate change from the sequestration of carbon dioxide.

Bayou Segnette is located in the Barataria Preserve in the Jean Lafitte National Historical Park south of New Orleans. The preserve's 20,000 acres include bayous, swamps, marshes, and forests that are home to alligators, reptiles, amphibians, and a wide variety of other coastal species, including more than 300 species of migratory birds, shore birds, and ducks that will benefit from the Coastal Bayou Segnette cypress planting project.

Over the course of two weekends in March 2010, a large team of local and national volunteers planted more than 3,000 cypress trees, ranging from 4 feet to 5 feet tall, along the banks of Bayou Segnette and along spoil banks within the Jean Lafitte National Historical Park and Preserve. Entergy contributed \$75,000 to the project through the third year of a restoration partnership.



The Bayou Segnette cypress reforestation project in the Barataria Preserve included construction of protective rock jetties to reduce erosion.

Water hyacinths planted in Bayou Segnette provide natural marsh restoration.



## 2007

### Entergy Helps Restore Wetlands in Greater New Orleans Area

In partnership with **Restore America's Estuaries**, Entergy provided more than \$130,000 from the EIF to restore wetlands in the Greater New Orleans area that were damaged by Hurricane Katrina.

The project included the planting and restoration of New Orleans City Park and the Louisiana Nature Center and the coordination of eight volunteer planting days.

### Lake Pontchartrain Basin Foundation Oyster Reef Building Project

With a \$100,000 grant from the EIF, Entergy supported the **Lake Pontchartrain Basin Foundation's** efforts to build oyster shell reefs to stabilize shorelines, improve water quality, and create structural habitats. Essentially 100% of carbon in oyster shells is sequestered permanently.

### Energy Star Change a Light Campaign

During these campaigns, which received support from the EIF from 2007-09, Entergy asked customers in each of its operating companies to take a pledge and change just one standard light bulb in their homes to an energy-efficient bulb. Entergy's **Change a Light, Change the World** initiative supported a nationwide effort by the federal **Energy Star** program aimed at raising environmental awareness by promoting energy-efficient appliances and light bulbs.

The program paralleled Entergy's ongoing efforts to help customers manage energy costs more effectively and adopt more responsible environmental practices.

### Southeastern Louisiana University Research Project

**Southeastern Louisiana University** graduate students were interested in researching several strategies to mitigate the loss of crucial Louisiana wetlands. Their project, supported by a \$15,000 grant from Entergy's EIF, addressed the benefits of using treated sewage effluent to convert marsh and open water into cypress-tupelo swamps to help decrease storm surges.



### Green Light New Orleans

Swiss native Andreas Hoffmann founded **Green Light New Orleans** in 2006 to assist in the sustainable rebuilding of New Orleans and, at the same time, to offset the pollution of his touring band.

What began as one man's "light bulb moment," Green Light New Orleans grew into one of the largest energy-efficiency programs in New Orleans. Green Light's free CFL (compact fluorescent lamp) and installation program was one of the most successful large-scale energy-efficient light bulb distribution programs in the country. In 2007, the EIF supported 3,300 CFL light bulb replacements, and Entergy continued to support Green Light New Orleans in succeeding years with additional EIF grants.

## 2008

### Sand County Foundation Land-Management Practices

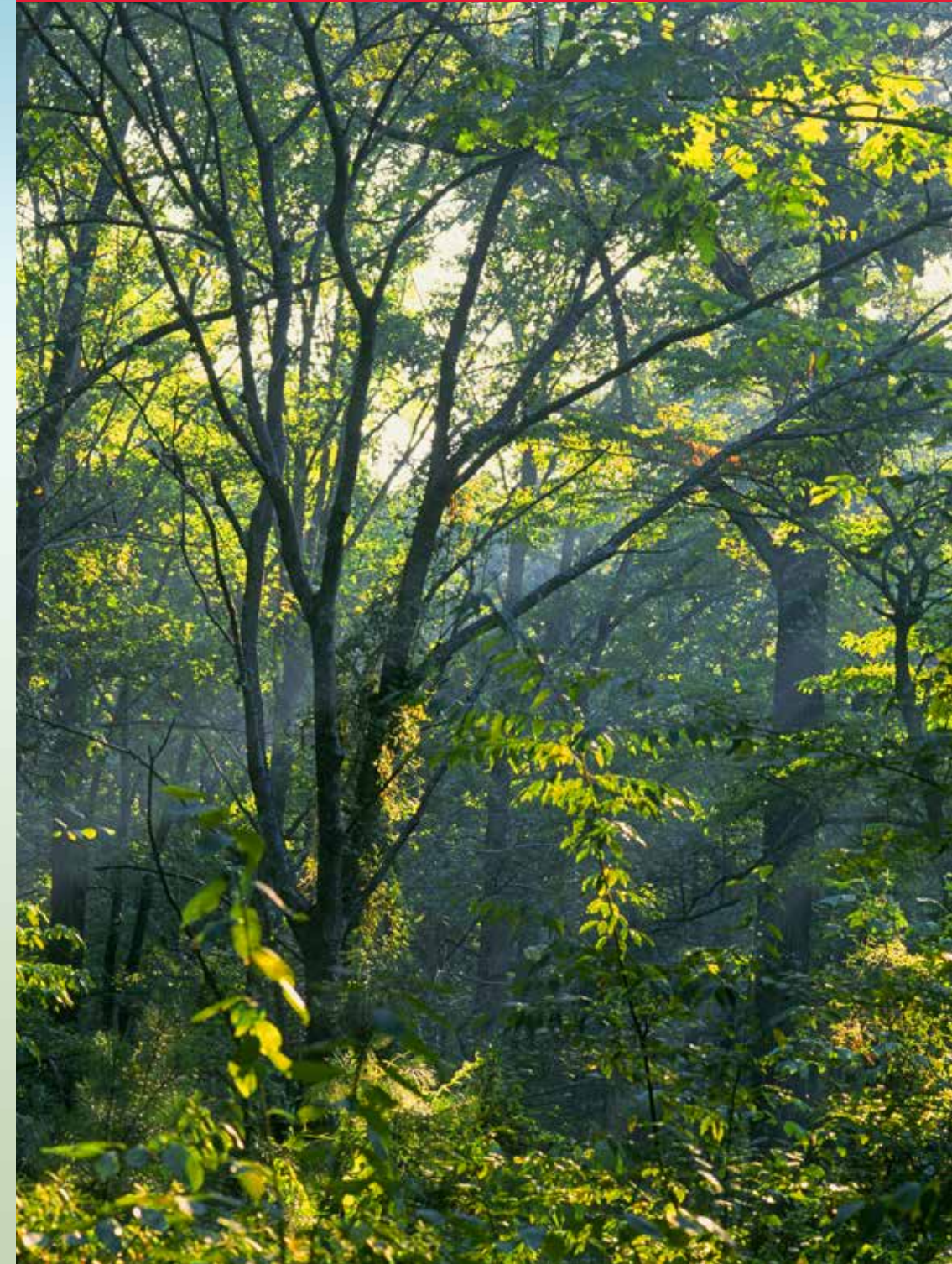
**Sand County Foundation** works with private landholders to help them improve the quality of their lands through science, ethics, and incentives and seeks strategies to develop emerging markets for ecosystem services. Sand County Foundation and **Environmental Resources** worked together to operate and assess a large-scale pilot program to reduce emissions of and to sequester greenhouse gases (GHG) on agricultural lands.

Agriculture is a significant source of GHG emissions. Improvements in the efficiency of farm operations can reduce GHG emissions, and adjustments to farm practices are the most cost-effective ways to sequester large amounts of carbon and CO<sub>2</sub>e GHG.

The primary thrust of the project was to assess the amount of GHG reduction achieved by enhanced agricultural management practices. The three-year project was supported by a \$394,000 contribution from the EIF.

### Arkansas Carbon Offset Project in National Wildlife Refuges

Entergy's agreement with **The Conservation Fund, Environmental Synergy, Inc.**, and the **U.S. Fish & Wildlife Service** supported carbon sequestration and biodiversity protection through the forestation of bottomland hardwood forests at Pond Creek National Wildlife Refuge and Overflow National Wildlife Refuge in Arkansas. The project was supported by \$425,000 from the EIF.





## 2009

### Tyson Wastewater Methane Capture and Utilization

Methane-emitting wastewater is a common byproduct in agricultural activities and food-production processes. **Tyson, Inc.** began managing GHG emissions by installing new methane-capturing equipment and systems in its wastewater treatment facilities. For several years, captured biogas was flared to convert methane to less harmful CO<sub>2</sub>. Tyson then implemented biogas-to-boiler projects to transport collected biogas to adjacent processing facilities to be used in boilers, thereby displacing natural gas that would otherwise have been purchased from the distribution pipeline. Blue Source successfully validated and verified the projects' offsets to the Verified Carbon Standard. Entergy's purchase of CO<sub>2</sub>e offsets was supported by \$275,000 from the EIF.

### Tierra Resources Louisiana Wetlands Carbon Sequestration Project

The objective of **Tierra Resources'** project was to develop a wetland sequestration guidance document to serve as a foundation for a commercial methodology that links to existing standards, such as Climate Action Reserve and Voluntary Carbon Standard. The guidance document provided pertinent information for inclusion in emerging GHG policy regimes and ultimately provided methodology to develop carbon projects in the four million acres of marsh located in the Louisiana coastal zone. The new tool expanded Entergy's ability to invest in low-cost, sustainable offsets in its service territory and to provide the most public benefit to customers. Entergy supported the project with a \$75,000 grant from the EIF.

### Keep Jackson Beautiful - America Recycles Day E-Waste Recycling

Recycling projects in Jackson, Mississippi, focused on electronic devices and valuable metal and component recovery. Efforts in 2009 and 2012 were supported by \$5,000 contributions from the EIF.

### Recycling Services at Entergy Work Locations

To encourage employee participation in recycling, Entergy provided collection bins for paper, plastic, and aluminum, along with recycling pick-up services at four locations in New Orleans. Entergy contracted with **Legacy Project Recycling, Inc.** of Covington, Louisiana, to administer the program with a \$12,400 grant from the EIF.



### Lake Pontchartrain Basin Foundation Annual Beach Sweep

The Annual Beach Sweep to clean up the Lake Pontchartrain Basin is held the third Saturday in September on International Coastal Cleanup Day, which is sponsored by the **Ocean Conservancy**. During the one-day event, volunteers and sponsors clean up areas that drain into the Pontchartrain Basin. Entergy supported the event with \$5,000 EIF grants from 2007-2012 and also provided employee volunteer support for the annual cleanups.

## 2010

### Lower Cache River Restoration in Arkansas

Many river channels historically have been straightened to improve navigability or accommodate floodplain development. The goal of **The Nature Conservancy's** project on the Lower Cache River in Arkansas is to "re-meander" seven river miles that had been straightened and reconnect them to nearly 100,000 acres of land. Entergy supported the project with a \$100,000 grant from the EIF.

The restoration project at Cache River helped improve hydrologic function of the river, thereby improving conditions for bottomland hardwood forests and wetlands that benefit waterfowl and other wildlife dependent on these habitats. By restoring flow to the river's historic meanders, which provide more diverse habitat and cover, the project directly benefited fish and other aquatic species. Likewise, by improving habitat for wildlife and restoring flow (especially during low-water conditions), the project helped the local economy, which is bolstered by outdoor recreation such as fishing, hunting, bird watching, and boating.

### University of New Orleans Cypress Tree Directory

A tree directory developed by the **University of New Orleans** provided a complete list of governmental resources available to Louisiana landowners to plant and restore cypress trees. Having all available programs documented in one place was a helpful step in raising landowners' awareness of opportunities to participate in the regeneration of cypress forests. Entergy supported the directory with a \$10,000 grant from the EIF.

### Krebs LaSalle Environmental LLC Wetlands Mitigation Bank

Entergy worked with **Krebs LaSalle Environmental LLC** to create an umbrella mitigation bank that functions as a ledger system whereby credits can be derived from pre-purchase of mitigation from commercial banks, funding of coastal restoration, or environmental initiative funding directed at wetland enhancements. The project was supported by a \$10,500 grant from the EIF.

### Household Hazardous Material Collection Days

Entergy supported sponsorship and payment for collection and disposal of household hazardous materials in **St. Charles Parish** and **St. John Parish** in Louisiana. The effort was supported by a \$3,000 contribution from the EIF in 2010, a \$1,700 grant in 2011, and a \$1,500 grant in 2012.



### White County Facility Helps Return Injured Eagles to the Wild

With a contribution of materials and a grant from Entergy, the dream of raptor rehabilitator **Rodney Paul** became a reality with the construction of a "flight pen" in El Paso in White County. For the first time in central Arkansas, sick and injured eagles had a safe haven in which to recover from life-threatening injuries. The flight pen project was part of an overall avian protection plan that Entergy submitted to the **U.S. Fish & Wildlife Service** in 2011.

The pen was constructed using poles and funding supplied by Entergy shareholders in the form of an EIF grant, labor by military volunteers, oversight provided by a local construction company (**S and S Home Construction**), support by the **Arkansas Game and Fish Commission**, and the daily work and leadership of Paul.

Entergy Arkansas provided 26 utility poles used to frame the structure. Poles, along with the monetary donation, added up to \$13,000 in support from Entergy. Actual construction of the pen began in June and was completed October 2010.

# 2010

## Energy Helps Grow Electric Vehicle Infrastructure with Grant

Using a \$160,000 grant from Entergy's EIF, Entergy partnered with **Coulomb Technologies** to fund the cost and installation of 17 electric vehicle charging stations at 16 college campuses in and around Entergy's service area. Installation of the charging stations was completed by Verdek, Coulomb's south central regional distributor.



Charging stations were manufactured by Coulomb Technologies and are part of Coulomb's ChargePoint Network, the largest EV driver network in the world. The EV chargers provide free power to students, faculty, and staff who own electric vehicles, and the ChargePoint Network allowed Entergy access to data such as usage reports and greenhouse gas and gasoline savings.

Campuses included Louisiana State University (2), Southern University, Delgado College, Tulane University, University of New Orleans, Jackson State University, Mississippi State Nissan/Cars Facility, University of Mississippi Medical Center, Sam Houston State University, Lamar University, Texas A&M, Lamar Institute of Technology, Clinton Presidential Center, University of Arkansas at Little Rock, University of Arkansas for Medical Sciences, and University of Arkansas at Fayetteville.



A modern solid waste management facility employs state of the art techniques and materials to manage solid waste and provide protection of the groundwater, surface water and air resources.

## Seneca Meadows Landfill Expansion

**Seneca Meadows, Inc.** is a waste management and recycling facility dedicated to environmental preservation and advancement. Since its inception in 1983, Seneca Meadows has earned the support of national environmental organizations through an exemplary compliance record and successful environmental initiatives. Its operations are centrally located in Seneca Falls, New York, making Seneca Meadows the primary disposal facility for businesses and communities throughout the state, managing 6,500 tons of waste per day on average. In 2007 a construction project began for a 178-acre expansion to include new and expanded leachate collection and active landfill gas collection. Its proximity to Entergy's nuclear facilities in New York and New England made Seneca Meadows a natural partner to link with the company's footprint.

Landfill gas, a byproduct of organic waste decomposition, is collected from the landfill and piped to the gas plant to burn as fuel in the engine generators. Burning landfill gas produces yet another benefit to the environment by destroying 98% of non-methane organic compounds.

|      |           |                                |
|------|-----------|--------------------------------|
| 2010 | \$130,000 | 35,000 tons CO <sub>2</sub> e  |
| 2011 | \$272,000 | 136,000 tons CO <sub>2</sub> e |
| 2012 | \$40,000  | 40,000 tons CO <sub>2</sub> e  |

Entergy has purchased approximately 211,000 CO<sub>2</sub>e tons from the Seneca Meadows landfill expansion.

Entergy also provided \$13,000 to Winrock for American Carbon Registry fees related to Seneca Meadows transactions.

# 2011

## Blue Ribbon Resilient Communities Program

As an extension of the climate-change adaptation study unveiled in 2010, Entergy and **America's WETLAND Foundation** (AWF) sponsored 11 outreach forums in coastal communities addressed in the study. The EIF provided \$250,000 in 2011 and \$200,000 in 2012 to support the effort.

Spanning 14 months and 5 states, the forums brought more than 1,100 leaders and community representatives together for a dialogue on local coastal issues and specific vulnerabilities.

Forums identified eight key parameters for proactive and reactive dimensions to storm readiness and recovery, known as "Combined Resiliency Indexes."

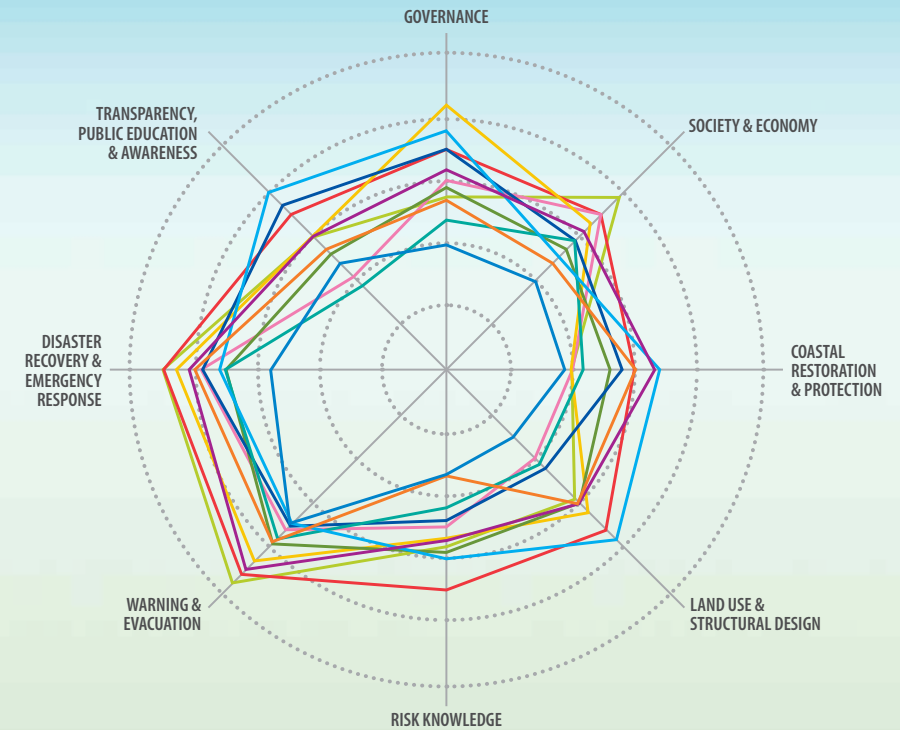
- Brownsville, TX
- Galveston, TX
- Houston, TX
- Lake Charles, LA
- St. Mary/Iberia Parishes, LA
- Lafourche/Terrebonne Parishes, LA
- Jefferson/Orleans Parishes, LA
- Plaquemines Parish, LA
- Mississippi Gulf Coast, MS
- Mobile, AL
- Gulf Bays and Beaches, AL /FL

In advance of each Blue Ribbon forum, AWF conducted community research through local focus groups and interviews. Respondents were asked to discuss their community's values and to rate their community's performance on a number of resiliency indicators. Combined responses generated a resiliency index for each community. Entergy contributed results of a study quantifying the economic value of what was at stake for each community and establishing the magnitude of risk.

At right is a spider-web graph summary of combined resiliency indexes with detail from each forum. If a community were assessed as fully prepared and resilient, it would receive a perfect score of "5" for each of the eight dimensions. This analysis provided a simple, easily understood graphic approach to evaluate each community, using strengths and weaknesses to help identify which gaps are most prevalent.

A final report of the Blue Ribbon Resilient Communities: Envisioning the Future of America's Energy Coast was released on Capitol Hill in late 2012. "Beyond Unintended Consequences" provided 30 recommendations for Gulf Coast adaptation and was supported by congressional leadership from the Gulf Coast region. The final report is available at [http://futureofthegulfcoast.org/AmericasWETLANDFoundation\\_Beyond.pdf](http://futureofthegulfcoast.org/AmericasWETLANDFoundation_Beyond.pdf)

## Combined Resiliency Indexes



- LAKE CHARLES, LA
- PLAQUEMINES PARISH, LA
- HOUSTON, TX
- TERREBONNE & LAFOURCHE PARISHES, LA
- MISSISSIPPI GULF COAST
- GALVESTON, TX
- MOBILE, AL
- SOUTH PADRE ISLAND, TX
- GULF BAYS & BEACHES, AL
- ST. MARY & IBERIA PARISHES, LA
- JEFFERSON & ORLEANS PARISHES, LA

# 2011

## Generation E Earth Day Environmental Grant Contest

Entergy's **Generation E initiative**, launched in 2007, was designed to promote Entergy's forward-thinking environmental efforts, including reducing greenhouse gas emissions, exploring alternative fuel sources, managing timber and wildlife resources, and developing educational programs. In celebration of Earth Day in 2011, Entergy Mississippi launched the Generation E contest to identify and reward environmental improvement projects that will have a lasting and measurable effect on the community. The contest was supported with a \$25,000 grant from the EIF.

## Acadiana Resource Conservation & Development's Louisiana Envirothon

**Louisiana Envirothon** is a multidiscipline, environmental problem-solving competition for students in grades 6-12. A total of 10 teams (50 students) competed in 2011, with the winning team advancing to the national Canon Envirothon. Entergy supported the competition with a \$13,000 grant from the EIF.

## Keep Mandeville Beautiful School Recycling Program

Entergy's \$7,000 grant to **Keep Mandeville Beautiful's** "Mandeville Recycles" initiative helped expand a school recycling program from 4 schools to 14 schools in the local community.

## Pines and Prairies Land Trust Trail Guide

The mission of **Pines and Prairies Land Trust** is to protect natural and cultural resources and promote sustainable agriculture through education and the preservation of open space in Central Texas. Entergy funded the printing of 5,000 Colorado River Refuge trail guides with a \$6,000 donation from the EIF.

## Forest Trends Association Carbon Markets Report

**Forest Trends** is a Washington D.C.-based international non-profit organization created in 1998 by leaders from conservation organizations, forest products firms, research groups, multilateral development banks, private investment funds, and philanthropic foundations. Entergy's \$7,500 grant to the organization helped fund the publication of a "State of the Voluntary Carbon Markets" report.



## America's WETLAND Foundation Isle de Jean Charles Planting

Entergy's \$30,000 grant to **America's WETLAND Foundation** helped support vegetation-planting projects designed to protect existing sections of marsh from further erosion on four sites along Isle de Charles Road in Point Aux Chenes, Louisiana. As shown in the photo above, planting projects were completed with volunteer support from Entergy employees.

## National Arbor Day Foundation Energy-Saving Trees

Entergy's \$75,000 grant to the **National Arbor Day Foundation** helped fund Energy-Saving Trees, a community tree-planting program that helps residents save energy by planting the right trees in the right places to shade their homes effectively.



2011

## U.S. Business Council for Sustainable Development Water Synergy Project

The **United States Business Council for Sustainable Development** (USBCSD) launched the Water Synergy Project in southern Louisiana with funding support from ConocoPhillips, Entergy, and The Walmart Foundation. Participating companies also were contributors.

A \$35,000 contribution from the EIF was used to develop training material for the GEMI Local Water Tool (LWT), complete the LWT external conditions module, and support planning and logistics for three working groups. The project addressed the increasing importance of water management to business sustainability, with goals to:

- Achieve tangible water synergy benefits for participating companies and the communities where they operate.
- Establish a long-term water collaboration plan for the region.
- Develop a replicable work process that can be applied in other watersheds/regions.

Water issues are best addressed locally, but there are few forums where leaders from multiple industries can participate in focused interactions to identify issues, find and prioritize alternative solutions, and craft implementation plans for their watershed/region. Structured forums provided an opportunity for industry representatives collectively to focus their skills and resources to address complex challenges such as coastal resiliency and water management issues such as water quality, quantity, and storm water. Such collaboration can foster:

- Sharing of best practices and technology for water management and sustainability.
- A larger, more visible voice for coastal protection and regional water management to help get the right strategies in place and facilitate better-targeted use of available funding.
- Strategies for wetlands assimilation/restoration.
- Strategies for addressing water quality issues and storm water management.
- Innovative financing alternatives for water treatment and distribution retrofits that reduce energy costs.
- Support of healthy watersheds and sustainable programs to balance water resources.



Entergy Park – Before (top) and after (bottom) the controlled burn for invasive species

## Equilibrium - Entergy Park, Hot Springs

Entergy has helped reduce Arkansas invasive species like kudzu using appropriate vegetation management to maintain and promote tree growth and bird habitat. An example of this strategy is **Entergy Park** near Carpenter Dam and Lake Hamilton, which received a \$14,000 contribution from the EIF. The park contains two playgrounds, hiking and biking trails, seated areas, and a pavilion.

In 2014, Entergy funded a second phase for the continuation of this project that included a controlled burn of invasive species.



## 2012

### National Audubon Society - Restoring Forests of Lower Mississippi Valley

The **National Audubon Society** is developing tools to evaluate costs and benefits of management actions, creating peer networks to share successes and challenges, and assisting public and private landowners with sustainable forest management that meets economic, recreational, and conservation uses.

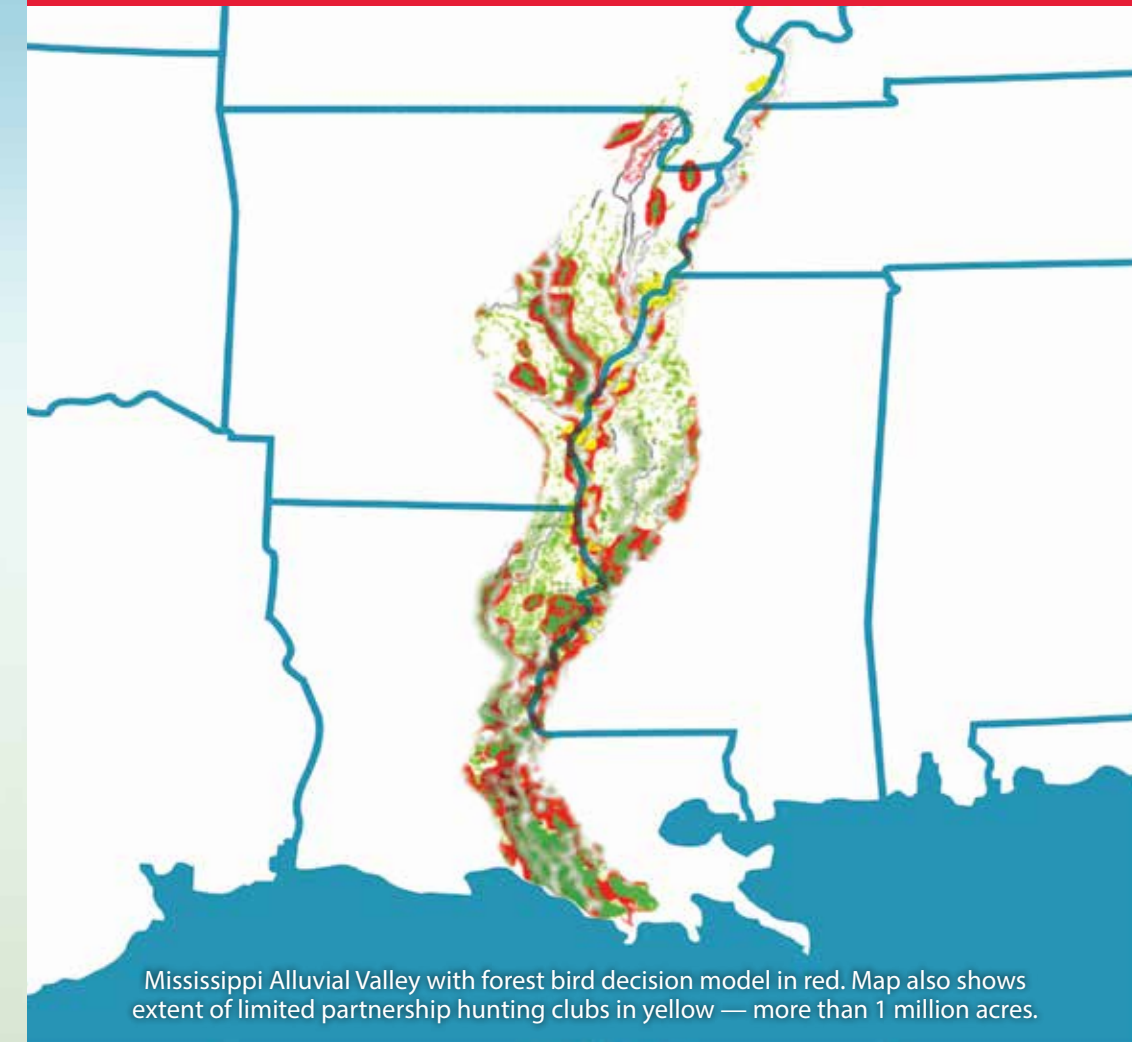
The Audubon project was funded to work with private landowners, communities, and the forest industry to restore bottomland hardwood forests in the Mississippi Alluvial Valley (MAV), the floodplain area below the confluence of the Mississippi and Ohio Rivers and principally located in the states of Arkansas, Mississippi, and Louisiana. Audubon's restoration work in the MAV will preserve, create, and enhance vital bottomland hardwood forests in a manner that is both environmentally and economically sustainable for future generations.

The project's goal is to restore a four-million-acre block of the Mississippi River Valley forest through improved management of existing forest and reforestation of two million acres of frequently flooded agriculture land. The project was funded jointly by a combination of community development, forestry, and conservation leaders, including Southern Bancorp, Anderson Tully Worldwide, and the Nature Conservancy, as well as philanthropic entities such as the Walton Family Foundation.

A \$194,425 contribution from the EIF was provided to fund an economic impact analysis of a restored MAV forest ecosystem and a demand study and value-chain assessment of a restored MAV forest ecosystem. Funding also helped implement sustainable forest practices that support the ecosystem of the MAV, connect a local community to forest resources, and provide positive economic benefits to Entergy's service territory based on eco-tourism generated by the preservation of the MAV.

Together, the supporters aspired for a broad range of tangible benefits for the project, including acquiring additional acreage of forest in key conservation areas, making improvements to wetlands and water quality, addressing climate change proactively through improving forest health, and developing new skills and markets for foresters and communities related to sustainable forest practices and products.

Bottomland hardwood forests vary from mixed hardwood forests along stream basins to deep-water swamps along major rivers. Approximately 30% of threatened and endangered species in the southeastern United States depend on bottomland hardwoods and about 85% of eastern North



American bird species use forests in the MAV. This includes the majestic, iconic swallow-tailed kite, which since the 1900s has suffered the most dramatic reduction in range of any living land bird in eastern North America.

Agriculture, urban expansion, and other human land uses have impacted bottomland forests heavily. Approximately 80% of bottomland hardwood systems in the MAV have been lost. Of the 20% that remain, the vast majority exists as tiny fragments in which only species needing small home ranges persist.

## 2012

### Tierra Resources Proof-of-Concept Project in Luling and Market Commercialization

The proof-of-concept project in Luling, Louisiana, used the Entergy-funded **American Carbon Registry** methodology to conduct a wetland restoration project to quantify additional carbon sequestration with the introduction of treated municipal effluent. The project was supported by a \$345,978 contribution from the EIF.

Louisiana's characteristic coastal swamp forests are threatened by subsidence and saltwater intrusion. Wetland assimilation systems use treated wastewater to restore degraded cypress wetlands that are critical to protect the coastal Louisiana region from storm surge. This type of wetland restoration promotes additional carbon sequestration by reversing wetland loss, enhancing storage of carbon in wetland soils, and re-establishing cypress forests. Using natural wetlands to remove nutrients from wastewater integrates sustainability with mitigation measures by enhancing storm surge protection, using natural energies, offsetting sea level rise, and sequestering large amounts of carbon. Neighboring acreage supports expansion of proof-of-concepts to commercial-scale projects.

Market commercialization of wetlands methodology helps develop a scope of potential commercial projects and net benefits along with the expected volume and value of credits produced. Successful wetland restoration enhances carbon sequestration by promoting wetland growth and avoids the release of carbon stored in wetland soils when wetlands degrade. It is estimated that coastal marshes contain 200 to 300 tons of CO<sub>2</sub>e per acre in soil.

Currently, however, insufficient information exists on what happens to carbon in soils during wetland loss, so the phenomenon cannot be incorporated into carbon accounting yet. Critical research is needed to determine what happens to stored carbon to optimize the amount of offsets produced from a wetland restoration carbon project. Investment is needed to address gaps in science and to expand the current methodology to transact these offsets.

### Keep Texas Beautiful

Entergy was a sponsor of the Governor's Community Achievement Awards Dinner organized by **Keep Texas Beautiful**. Entergy supported the event with a \$15,000 grant from the EIF.



### University of Houston Three Continent Project

This project provided funds to support **The University of Houston's (UH) Three Continent Project** and the **Gerald D. Hines College of Architecture - Three Continent Studio**. It also aligned with the adaptation and resiliency goals of the America's WETLAND Foundation and Blue Ribbon Resilient Communities program. The effort was supported by a \$5,000 contribution from the EIF.

The Three Continents Studio connects the University of Houston's architecture faculty with peers from Argentina, the Netherlands, and Louisiana. Studio participants participated in lectures, workshops, tours, and other activities in Houston.

The Three Continents Studio was a year-long partnership between the College of Architecture and researchers from Tulane University, University of Buenos Aires, and Technical University, Delft. UH hosted an exhibition illustrating the studio's research, as well as proposed solutions for at-risk coastal areas.



## 2012

### Restore America's Estuaries - Shipe Woods Shoreline Stabilization Project

This shoreline stabilization project in Texas was conducted in conjunction with the **Galveston Bay Foundation** and provided volunteer opportunities for Entergy Texas employees in Beaumont and The Woodlands. The project was supported by a \$60,000 contribution from the EIF.

Shipe Woods Habitat Protection and Marsh Restoration project plan was designed to protect a 14.26-acre wooded conservation property adjacent to Trinity Bay in Chambers County, Texas, from continued erosion and to re-establish fringing marsh habitat along its shoreline. Shipe Woods was acquired by the Galveston Bay Foundation as a conservation property in 1991.

Within the past 15 years, approximately 100 feet of Shipe Woods' shoreline has eroded, severely impacting the riparian forest. In the past 40 years, nearly two acres of the property has been lost (see aerial image at right).

This project proposed the construction of up to 700 linear feet of rock breakwater along the shoreline to reduce wave energy impacting the shoreline from Trinity Bay, halt erosion of the shoreline, and promote deposition of suspended sediments landward of the structure. Breakwater design and construction were intended to mimic previously completed projects along the East Bay shoreline of the Anahuac National Wildlife Refuge.



Shipe Woods Shoreline Stabilization Project

## 2013

### IdleAir Truck Stop Electrification Technology

In Mississippi, a truck stop equipped with **IdleAir** technology allows truck drivers to turn off their engines while maintaining a comfortable cabin temperature and enjoying the use of TV, Internet, and other electronics. In addition to reducing carbon emissions, IdleAir helps fleet operators reduce costs by conserving fuel and reducing engine wear. Entergy is funding the opening of an IdleAir site in Pearl, Mississippi, with other potential sites in Arkansas and Texas. The project is registered with the **American Carbon Registry** and received approximately \$200,000 in funding from the EIF. Representatives from Entergy Mississippi, including President and CEO Haley Fisackerly, Congressman Gregg Harper (R) Mississippi's 3rd District, and Mississippi Department of Environmental Quality Executive Director Gary Rikard attended the press event launching the effort.



In 2015, Entergy provided an additional \$165,000 to support the installation and the first-year operations of 30 truck stop electrification (TSE) units/spaces at the Flying J Truck Stop, located in the City of New Caney, Montgomery County, Texas, along the Highway 242 and US 59 corridors and \$148,500 to support the installation and the first-year operations of thirty 30 TSE units/spaces at the Phillips 66, located in the City of Bald Knob, White County, Arkansas, along the US 64 and 67 corridors. These sites target long-haul class 8 trucks, supporting idle reduction and alternative fueling options for interstate trucking and protecting human health and the environment by attaining and maintaining health-based air quality standards and reducing the risk from toxic air pollutants and greenhouse gases with specific, measurable, and achievable goals.

# 2013

## Entergy Corporation Awards \$500K Grant to The Nature Conservancy

In recognition of Earth Day on April 22, Entergy announced a \$500,000 grant to **The Nature Conservancy** to fund projects that are engineered to make a positive difference in habitat, water purification, and climate through coastal and wetlands restoration in Entergy's four-state utility service area. The funds to support this effort came from the EIF and Entergy Charitable Foundation funds from each utility operating company.

In Arkansas, The Nature Conservancy will use funding to restore 500 acres of bottomland hardwood forest over the next two years. This will create wildlife habitat, sequester carbon, and reduce harmful sediment and nutrients entering the Cache and White rivers. At more than 550,000 acres, The Big Woods of Arkansas is the Mississippi River Delta's largest corridor of bottomland hardwood forest north of Louisiana. It reduces the impacts of flooding, provides wintering habitat for one of the largest populations of waterfowl in the world, and improves water quality by filtering sediments and nutrients before they enter the Mississippi River.

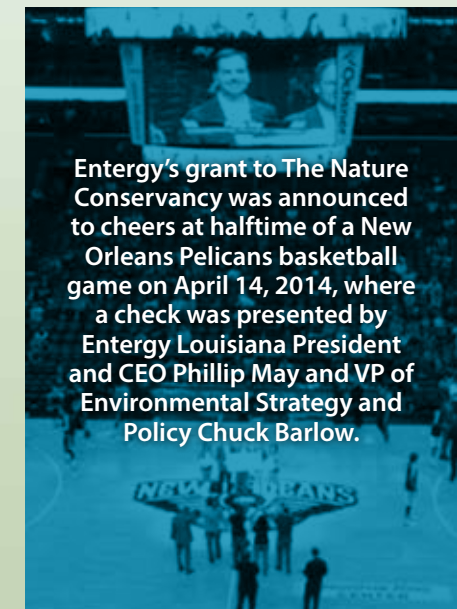
In Louisiana, Entergy's funding will enable The Nature Conservancy in Louisiana to continue efforts on one of the largest floodplain reconnection projects in North America. The project involves restoration and monitoring work on Mollicy Farms, a 16,000-acre floodplain wetland complex of the Upper Ouachita National Wildlife Refuge in Morehouse Parish. Planting thousands of trees, re-establishing natural river and stream flows, and revitalizing the floodplain wetlands will improve water quality, reduce downstream flooding, and provide enhanced wildlife habitat, in addition to other benefits to people and nature. Lessons learned from the project will benefit similar efforts along the Mississippi River and river systems worldwide.

The Nature Conservancy in Mississippi will use Entergy's funding to leverage up to \$8.4 million in funds from federal, state, and local entities to implement bottomland hardwood and wetland restoration practices on existing cropland. The project has the potential to restore at least 4,000 acres in the lower Yazoo River Basin and support landowners in a region that suffers from significantly high poverty rates. Through this effort, The Nature Conservancy and Entergy are seeking new ways to improve water quality and the quality of life in Mississippi and along the Gulf of Mexico coast for current and future generations.

The Texas chapter of The Nature Conservancy will invest Entergy's funding to improve wetland longleaf pine savanna, low-lying wetlands, and other associated forest habitats on the 5,654 acre Roy E. Larsen Sandyland Sanctuary located near Silsbee in Hardin County. Prescribed burning, woody



shrub control, and Chinese tallow tree control will be conducted to foster open forest floor conditions for native grasses and wildflowers to benefit diverse plant and animal life. Collection of native seed and establishment of a native plant plot for future restoration projects in the region will be established. The Preserve is designated as one of the top 500 Globally Important Birding Sites by the American Bird Conservancy, contains an 8.5-mile section of Village Creek included in the Texas Parks and Wildlife Department's Paddling Trail Program, and is open to the public for hiking and nature study.



Entergy's grant to The Nature Conservancy was announced to cheers at halftime of a New Orleans Pelicans basketball game on April 14, 2014, where a check was presented by Entergy Louisiana President and CEO Phillip May and VP of Environmental Strategy and Policy Chuck Barlow.

## 2013

### Chef Menteur Pass Wetland Restoration

In Louisiana, Entergy is supporting marsh restoration in the **Chef Menteur Pass Wetland Mitigation Bank** in Orleans Parish. The Chef Menteur Pass property provides critical ecological and risk-reduction functions for the Gulf Coast of Louisiana and was identified in Louisiana's 2012 Coastal Master Plan as a priority for the state's marshland restoration activities. The project received approximately \$200,000 in funding from the EIF. Entergy produced a video with project participants, including Entergy New Orleans President and CEO Charles Rice, discussing the objectives and benefits of the project.

### Low-Methane Rice Farming

In Arkansas, Entergy is partnering with **Terra Global Capital**, **White River Irrigation District**, and **USDA Agricultural Research Service** to test new rice-cultivation practices that can reduce methane emissions while providing savings to farmers and ecological benefits. The project is registered with the American Carbon Registry and received \$200,000 in funding from the EIF.

## 2014

### Entergy Arkansas Native Species and Vegetation Management Project

**Transmission and Distribution Environmental Management**, on behalf of Entergy Arkansas, Inc., submitted a project dealing with the use of native species and vegetation management.

The project identified alternative vegetation management practices provided for riparian buffer zones on utility rights of way (ROW) parallel or perpendicular to Arkansas waterways inhabited by the newly listed threatened and endangered freshwater mussel species Neosho mucket and Rabbitsfoot mussel. These improved corridors will help provide bank stabilization and act as filter strips, reducing sediments that enter waterways. Sediment is listed as Arkansas' primary pollutant to waterways and is detrimental to aquatic ecosystems, including freshwater mussels. In addition, this improved riparian zone can act as an important corridor for terrestrial organisms in a fragmented environment by creating vegetated passageways along waterways. This project will include a partnership with the **Arkansas Game and Fish Commission** (AGFC), with help from the **Arkansas Natural Heritage Commission** (ANHC) and **Arkansas Master Naturalists**.

In addition to the partners mentioned, Entergy provided \$43,000 to partner **Equilibrium, Inc.**, a local non-profit, to execute the native species and vegetation management project successfully.



Chef Menteur Pass Wetland Restoration Area

### Contributions to Civic/Environmental Organization Projects

In 2014, the EIF funded several civic, environmental, and educational organizations. These included projects with the **New England Aquarium** (partnership with Pilgrim Nuclear Power Station), **Rock the Boat** (estuary project), the **South Shore YMCA** (Atlantic Coastal Pine Barrens Ecoregion – habitat restoration for threatened/endangered species), and **Southeastern Louisiana University** (Turtle Cove Wetlands Restoration Project). These four projects positively impacted the states of Louisiana, New York, and Massachusetts, providing environmental education and hands-on volunteer projects for the communities, as well as Entergy employees, in the respective states.

# 2014

## EIF Supports Energy Efficiency Improvements for Entergy Facilities

In 2014, the EIF focused on funding internal projects submitted by employees. The program encouraged employees to submit ideas for projects that would help reduce energy use and natural resource consumption.

Lighting efficiency conversion projects were identified in Arkansas plant support offices and the skills center adjacent to the White Bluff plant; Entergy Texas' **Chevy Land Service Center, Conroe Service Center** parking lot, and the **Conroe Fleet Maintenance** facility; and the **Hammond Equipment Distribution Center**. These conversions from fluorescent to light emitting diode (LED) fixtures help reduce the company's impact to the environment in several ways. First, a reduction in consumption reduces the company's environmental footprint (water usage, air emissions, fuel consumption, and other discharges). The conversions also reduce universal waste that is generated from the disposal of the fluorescent light bulbs. Since LED bulbs contain no mercury, there is no need for the special handling that fluorescent bulbs require. There is also a big difference in the fixture/bulb life. LED lights have an estimated life of 50,000 hours, while fluorescent bulbs last only 12,000 hours. Finally, the potential for polychlorinated biphenyl waste from the fluorescent ballast also is eliminated by installing LED fixtures.

In addition to the lighting projects funded by EIF, the Entergy Louisiana Jefferson Highway complex project will reduce the thermal impacts, which in turn will reduce energy consumption. The project proposed covering approximately 46,000 square feet of roof at the main office building using Siplast Parapro (Cool White) roof membrane resin. The application of this product is expected to increase thermal resistance by 148%.

## NuRide – Employees Earn Rewards by Commuting Green

Entergy's Environmental Strategy & Policy group (ESP) estimates that normal commuting to work results in Entergy employees driving over 125 million miles per year – resulting in just over 45,000 tons of CO2 emissions per year. This fact spurred a proposal to partner with NuRide for a three-year period.

The goal of this project is to reduce the environmental impact associated with employee commuting. This will be accomplished by encouraging and working to increase the number of employees using alternative transportation for their commute to work through a reward point program. Alternative means of transportation will include walking, cycling, carpooling, vanpooling, public transportation, etc.

**NuRide** offers a rewards program for employees of partner organizations that choose alternative means of transportation for their daily commute to work. Employees join the Entergy NuRide program for free using an Entergy-specific web page and sign-up tool. Alternative transportation trips are logged by the employee (either one at a time or using a recurring trip function) and reward points are earned. These points are used to spend on rewards from national and on-line restaurants, retailers, and events/attractions.



# 2014

## U.S. Business Council for Sustainable Development Watershed Simulation - "A Serious Simulation Game for the Gulf Coast of Louisiana"

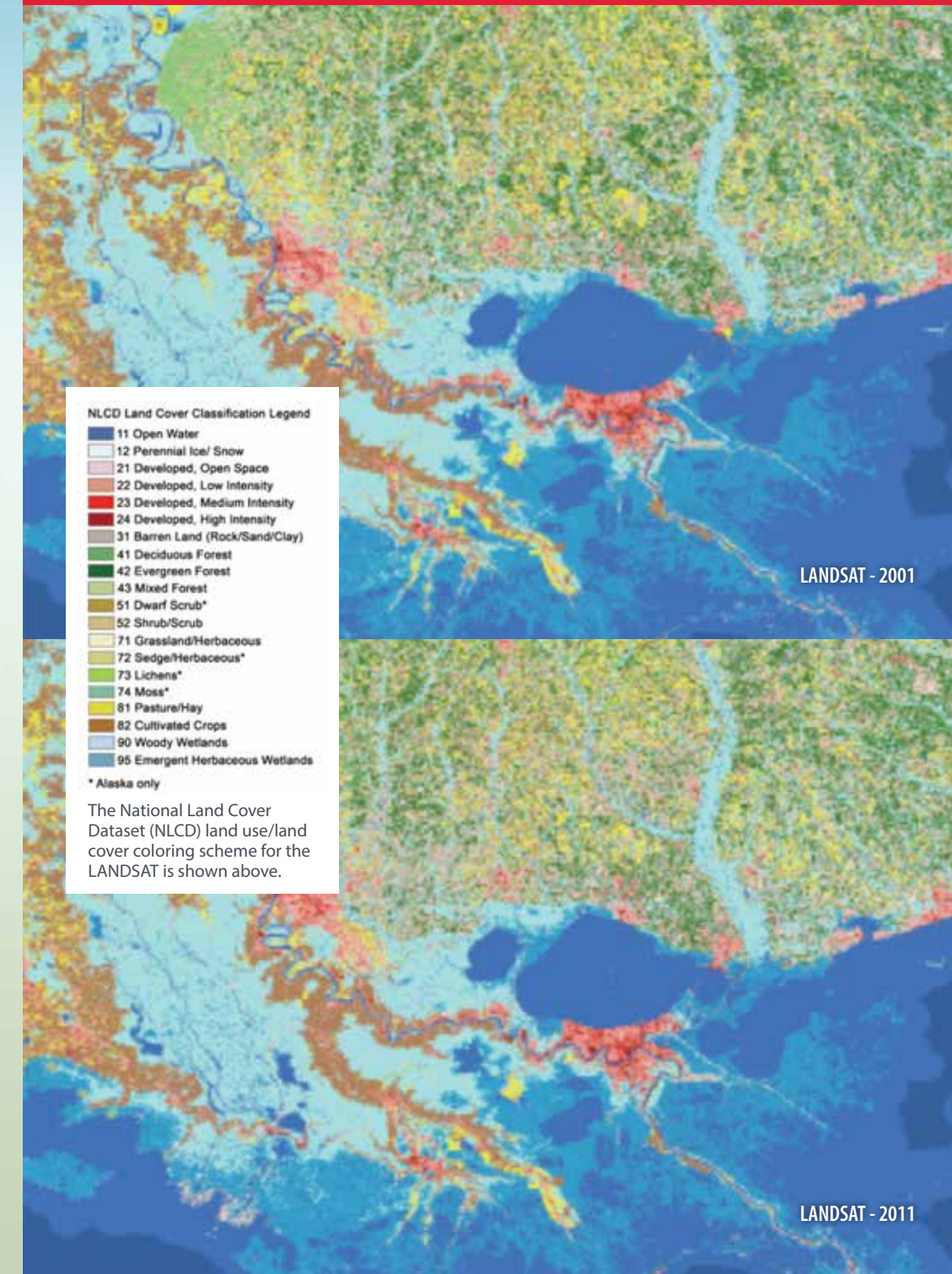
Given the complexities of the rapidly changing world, it is difficult, if not impossible, to grasp and appreciate the often-unpredictable consequences of the many independent choices and decisions that persons and organizations make as they pursue their individual goals. Such large-scale complex systems defy static mathematical and statistical analysis. However, they can be approximated with computer-based simulation models where the myriad human choices and decisions are represented by random variables and probability distributions. However, when a system of interest involves a wide range of human choice and decision-making, even the most carefully designed simulation model might not capture the most realistic (and often changeable) outcomes.

A promising approach to this situation is the creation of a serious game, or participatory simulation model, based on a validated and verified predictive model. Such games allow human decision-makers, playing carefully designed roles, to introduce realism into system behavior.

Human players bring their individual knowledge, experience, and values to the simulation model, something impossible to do with equations.

The funded project will develop a front-end user interface to allow participants to make decisions that feed into an underlying predictive model, which together form a prototype participatory simulation for the Louisiana Gulf Coast. This predictive model would prove to be a useful tool in its own right for forecasting future impacts based only on an analysis of historical trends in land use, land cover, and environmental impacts. The resulting simulation model would be used to forecast future trends and changes under various scenarios and assumptions about key parameters. In this form, the simulation model is a standalone tool and does not permit direct human interaction with the model other than through the construction of simulation experiments.

The predictive model is based on a spatial model of the land use/land cover change of the coastal area over a specified time period. The spatial model will be at 30m resolution using USGS LandSat imagery. Each 30m x 30m cell is classified into one of 20 different land cover types, as shown.



# 2014

## Tierra Resources Commercialization Phase II Project

Entergy has funded research and development activities of **Tierra Resources** for the last several years. This strategic partnership has resulted in groundbreaking conclusions for wetland restoration. The research provides an intersection for wetland restoration and carbon sequestration and markets for Blue Carbon. The Phase II Commercialization conducted a market assessment of properties and land management regimes in the region that determined the potential to monetize wetland eco-assets, particularly carbon, from ongoing and planned wetland restoration activities and push strategically for methodology adoption by the California Air Resources Board (CARB).

Tierra Resources' study results were published in a report, "Carbon Market Opportunities for Louisiana's Coastal Wetlands." The results revealed that coastal wetland restoration in Louisiana has the potential to produce over 1.6 million offsets per year - almost 92 million offsets over 50 years. Restoration techniques that were identified as having potential as wetland carbon offset projects include river diversions, hydrologic restoration, wetland assimilation, and mangrove plantings. Of the restoration techniques, forested wetlands that receive treated municipal effluent, referred to as wetland assimilation systems, have the highest net offset yield per acre. However, river diversions and mangrove plantings have the potential to generate the largest volume of offsets in Louisiana due to the large amount of acreage upon which these restoration techniques can be implemented (Figure 1). It should also be noted that carbon credits from wetland assimilation systems and river diversions show potential to be stacked with water quality credits, should these markets evolve in Louisiana. The analysis also estimated the wetland potential at different pricing points (Figure 2).

Tierra Resources' findings were released in March 2015 and have received local, national, and international coverage.

## Carbon Market Opportunities

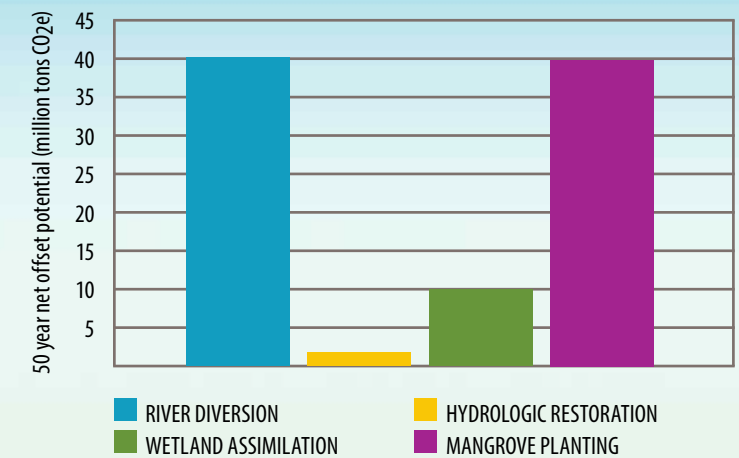


Figure 1: Net offset potential in Louisiana by wetland restoration type including a 20% buffer deduction.

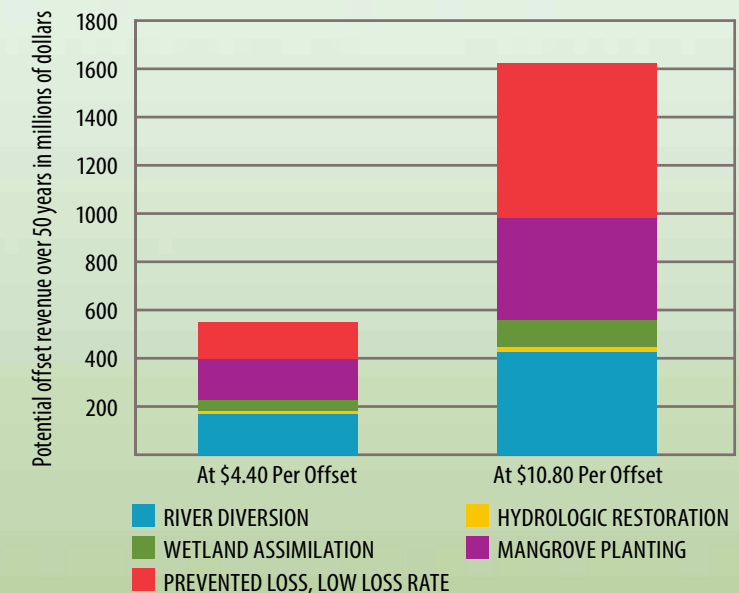


Figure 2: Total projected revenue potential of wetland carbon offsets in Louisiana from wetland restoration and prevented wetland loss including a 20% buffer deduction.

## 2015

### Lowlander Center – Adaptation and Resiliency Revisited

Entergy's report, *Building a Resilient Energy Gulf Coast*, was released in 2010. **America's Wetland Foundation** then followed up with regional meetings and detailed action items to support the utilization of the study. This \$100,000 project will revisit the *Building a Resilient Energy Gulf Coast* report, as well as the background information from the meetings hosted in partnership with America's Wetland Foundation, in order to ascertain the impacts of the previous effort and address the remaining gaps and opportunities for Entergy to promote resilience. As part of this effort, other recent reports and data on businesses in coastal communities will be reviewed. For this project, the team is focusing on one of the key groups that has been underrepresented in previous reports, small- and medium- sized businesses.

The project will result in recommendations for improving the resilience of these businesses, as well as recommendations on follow-up steps that Entergy may wish to take, including updating the previous report and working with small- and medium- sized businesses and communities in other ways. The Lowlander Center is co-founded and co-led by Shirley Laska, PhD, and Kristina Peterson, PhD, both of whom are national mitigation specialists.

### Black River Preserve Enhancements

The **Southwest Michigan Land Conservancy** (SWMLC) received \$57,000 from the EIF to undertake the restoration of a tributary ravine in the Black River Preserve. This restoration will reduce erosion, improve habitat quality, and develop public access with interpretive signage. The SWMLC acquired the Black River Preserve in 2011. The preserve is located along the Lake Michigan coast area, which makes it a premier migratory songbird stopover site. There is also great biological diversity in the preserve. The preserve contains three tributary streams that provide clean water to the Black River while maintaining cool humid microclimates in the ravine. A record storm and flood event in 2013 caused severe erosion in one of the ravines, washing out the trail crossing that provided access from the northern 1/3 of the property to the southern 2/3 of the property, which is critical to both public use and habitat management work.



### Ariel Planting of Black Mangroves for Wetlands Restoration

In partnership with ConocoPhillips, which owns 640,000 acres of wetlands in coastal Louisiana, **Tierra Resources** did a three-year pilot program in Terrebonne and Lafourche Parishes. The program was to test the theory that planting mangroves by air could be a cost-effective alternative to traditional methods such as planting by hand on long boat trips. Hand-planting is time-consuming, labor-intensive, and almost impossible to do in more remote areas of the coastline. Mangroves help stabilize salt marsh areas, provide the same habitat quality as marsh grass, and are popular for bird rookeries. Entergy provided \$150,000 to assist in the next step of the program, which is to plant a 60-acre parcel of salt marsh. "If the idea can be proven at this larger scale, it could open up a restoration technology that even small landowners could take part in," said Steve Tullos, senior manager for Entergy's Environmental Strategy & Policy group. Finding a way to make coastal restoration more feasible for smaller landowners is a way to help protect the communities Entergy serves.

## 2015

### Floating Island Project on LA-1 in Leeville, Louisiana


The **Coastal Conservation Association of Louisiana** was given \$60,000 to conduct the LA-1 Floating Island Project in Leeville, LA. This project will be a community partnership with participation from local volunteers and approximately 100 Lafourche Parish students.

The event will consist of planting approximately 12,000 native plants and marsh grass over 5,600 square feet of floating islands along LA-1 (the only access to Grand Isle) to restore critical habitat and protection for fish, water fowl, and wildlife; provide infrastructural erosion protection of LA-1; and benefit the residents of Lafourche Parish and Grand Isle. Thousands of people visit Grand Isle annually for recreational and commercial purposes, and this project will provide an educational learning experience for many local students and volunteers on a new coastal restoration method and its benefits.

### Croton Point Park

The **Friends of Westchester County Parks** (FWCP) is a nonprofit organization dedicated to supporting and advocating for the Westchester Department of Parks, Recreation and Conservation. It is committed to the preservation, conservation, use, and enjoyment of the 18,000 acres of parks, trails, and open spaces within the Westchester County Parks system. FWCP received \$57,875 of EIF funding for its Croton Point Solar & Rain Garden Project, which would add solar power capabilities to the Croton Point Park regional office, install two rain gardens, and educate the public about solar power and storm water management. Croton Point Park is one of Westchester County's largest and most frequented parks and is located on the banks of the Hudson River. The project would reduce energy costs through the use of solar power, utilize storm water management to lessen the pollution in the Hudson River that results during periods of heavy rainfall, educate the public about solar power, and inform the public about the benefits of storm water management and how to apply storm water management techniques in their communities.



-  **North Mississippi "Outdoor Classroom" Conservation Pavilion**  
**Mississippi Wildlife Rehabilitation, Inc.** (MWR) is a nonprofit.org dedicated to caring for state and federally protected indigenous wildlife species, conducting public environmental/conservation education, and fostering the protection and appreciation of our environment. Partnerships with the U.S. Army Corps of Engineers and DeSoto County Greenways have led to the provision of 154 acres for a planned Environmental Education/Rehabilitation facility at Arkabutla Lake (the ARK). Entergy funding from the EIF (\$125,000) and the Entergy Charitable Foundation (\$25,000) supported the construction of an outdoor pavilion for public environmental/conservation education programs at the ARK in DeSoto County, Mississippi. This area is one of the fastest-growing areas in the country, and this facility would increase the amount of area visitor spending and make the center a tourist destination for North Mississippi, while providing accessible, affordable, innovative, engaging, and entertaining wildlife education to children and adults in an area of Mississippi that is often impoverished and underserved.



## 2015

### Alliance Media Partners, LLC – In America TV Series on Wetlands Restoration

Through the EIF, Entergy provided \$22,900 for the video production of a segment of In America, a short-form educational documentary series airing on Public Broadcasting television stations. Hosted by James Earl Jones, the short educational segment focuses on Entergy's role in wetlands restoration. A one-minute version also was created for commercial television use. The production focused on the Luling, Louisiana wastewater wetlands restoration project funded through the EIF. The project showed how science, business, local government, and landowners can work together effectively for positive environmental and economically feasible results by using municipal wastewater to rebuild wetlands, which creates carbon credits that help offset costs.

### Contributions to Civic/Environmental Organization Projects

In 2015, the EIF funded several civic, environmental, and educational organizations. These projects included the **Lake Pontchartrain Basin Foundation** (tree planting project), **Galveston Historical Foundation** (climate change and disaster response conference), **Urban League of Eastern Massachusetts** (inner-city youth learning), **Habitat for Humanity of Cape Cod** (sustainable homes for low-income families), and **Boys and Girls Club of Greater Brockton** (youth learning programs). These five projects positively impacted the states of Louisiana, Texas, and Massachusetts, providing environmental education and hands-on volunteer projects for the communities, as well as Entergy employees, in the respective states.



### Lafitte Greenway Stormwater Management Walking Workshops

The Lafitte Greenway is a new 2.6-mile bicycle and pedestrian path and linear park in the heart of New Orleans. Originally a canal connecting Bayou St. John to the edge of the French Quarter, this 2.6-mile vacant strip of land has been transformed into an environmentally sustainable Greenway, connecting neighborhoods from Treme to Mid-City, creating an urban green corridor from the French Quarter to the City Park, and featuring a 12-foot asphalt trail, LED lighting, over 500 new trees, and over six acres of rain gardens, bioswales, and native meadows to advance sustainable storm water management.

**The Friends of Lafitte Corridor** received \$25,000 from the EIF to develop a regular Walking Tour Workshop series on the Lafitte Greenway. The goals of the tours are to educate the community about sustainable storm water management, to show that rain gardens can be beautiful and easy to maintain, and to encourage residents to implement sustainable water design on their properties.

# 2016

## Carbon Monitoring for Lower Mississippi Valley Reforestation Project

**TerraCarbon LLC**, an advisory firm that supports the development of forest- and land-based projects that reduce greenhouse gases, conducted monitoring and verification of Entergy's Lower Mississippi Valley reforestation project on 2,800 acres in northern Louisiana and southern Arkansas. The work was funded with a \$28,500 grant from the EIF.

Initiated prior to 2012, Entergy's project involved restoring marginal agricultural land to native bottomland hardwood forests, which will remove an estimated 460,000 tons of carbon dioxide over the next 40 years. Reforested lands were replanted with native species (primarily bald cypress and bottomland oaks) in the Tensas, Red River, Overflow, and Pond Creek national wildlife refuges, currently managed by the U.S. Fish and Wildlife Service. Most of these forests were destroyed by logging in the early 1900s and further reduced by conversion to agriculture in the 1960s and 1970s.

## Gulf Bird Fest at Audubon Zoo, New Orleans

Thirteen years after Teddy Roosevelt set aside Pelican Island in Florida as the first national wildlife refuge on Aug. 16, 1916, the United States signed a treaty with Canada to protect our shared migratory birds from overconsumption. In recognition of the centennial of federal efforts to conserve migratory birds, the **U.S. Fish and Wildlife Service Southeast Region** partnered with a wide range of state agencies and for-profit enterprises to celebrate 100 years of bird conservation through family-friendly bird festivals at zoos. More than 2,000 children attended the Gulf Bird Fest at the Audubon Zoo, where they participated in Bird Fest Passport and other educational activities developed with \$3,000 in funding from the EIF.

## Rosemont M.B. Church Community Garden

**Keep Jackson Beautiful** received a \$2,500 grant from Entergy's EIF to build a five-acre community orchard next to Rosemont M. B. Church in southwest Jackson, Mississippi. The orchard was grown with permaculture techniques to support natural growth and included fruit trees, blueberry bushes and herbs, in addition to pollinator perennials. Entergy employees also provided volunteer support to establish the garden, which will be maintained as an organic food source for the entire community for years to come.



## Restore the Earth Foundation, Inc. – Bald Cypress Forest Marsh Restoration at Pointe-Aux-Chenes Wildlife Management Area

The Pointe-aux-Chenes Wildlife Management Area, located in Terrebonne and Lafourche Parishes near Montegut, Louisiana, is an essential ecosystem that includes diverse physical, biological and socioeconomic resources. It is also the largest landmass providing the first and last line of defense that protects more than 200,000 residents of this coastal community from the open water of the Gulf of Mexico.

With a \$120,000 grant from Entergy's EIF, **Restore the Earth Foundation** was able to create island terraces and plant native vegetation, including bald cypress trees, on 200 acres to provide carbon sequestration, increased storm protection, habitat improvement and environmental education opportunities. Habitats are important nurseries for estuarine-dependent species, which represent the beginning of the food chain for the whole Caribbean Basin.

# 2016

## Implementation of Farm Best Management Practices Provides Beneficial Environmental Impacts in Van Buren County, Michigan

**Van Buren Conservation District's** \$40,000 grant from the EIF helped boost an established farm educational outreach and technical assistance program to the next level by leveraging existing funding and enrolling agricultural producers into contracts to implement best practices on farms in Van Buren County.

Financial assistance of up to \$3.2 million from a **Regional Conservation Partnership Project** and **Natural Resources Conservation Services** was made available for best management practices over a four-year period for farmers in the St. Joseph River Watershed. Practices focused on optimizing ground water use, improving filtration, decreasing fuel consumption, reducing nutrients and sediment, and improving soil health, water quality, wildlife habitat and farm production.

## U.S. Business Council for Sustainable Development – Louisiana Coastal Zone Game

With funding from the EIF, including a \$50,000 grant in 2016, **USBCSD** and the **University of Virginia's Center for Leadership Simulation and Gaming** built a prototype for a high-quality, analytically rich multi-player simulation game of the Louisiana coastal zone.



**United States Business Council  
for Sustainable Development**

The game measures impacts in a number of key environmental areas, including wetlands loss, protected species, fisheries, biodiversity, salt water intrusion and diversion, as well as socio-economic factors including population, employment and infrastructure loss. In 2016, USBCSD transitioned the prototype to a finished product to be deployed by Entergy and other USBCSD members to engage and educate stakeholders throughout southern Louisiana about coastal zone resilience challenges and solutions.

The game measures impacts in a number of key environmental areas, including wetlands loss, protected species, fisheries, biodiversity, salt water intrusion and diversion, as well as socio-economic factors including population, employment and infrastructure loss.



## Winrock's American Carbon Registry – Delivering Increased Value to Mid-South Rice Production Through a Robust and Replicable Sustainability Certification Program

The objective of this program, funded by a \$100,000 grant from Entergy's EIF, was the development of a robust and scalable framework to certify the sustainability impacts of Entergy-supported rice carbon offset projects in the Mid-South. Through certification, rice producers were able to demonstrate additional value for their product based on environmentally beneficial practices and strategically position their product as best in the world with regard to GHG production intensity and natural resource use.

# 2016

## Mathews Brake and Money Bayou Watershed Restoration

Mathews Brake encompasses 3,500 acres of cypress- and tupelo-dominated wetland habitat for more than 30,000 annual wintering waterfowl and is one of the largest remaining contiguous forested wetlands in the Lower Mississippi River Valley. A \$100,000 grant from the EIF helped fund the design, construction and installation of water-control structures to conserve critical wetland and waterfowl habitat, which had decreased by 55% due to low-water conditions.

In Money Bayou, a similar project was designed to help restore the historical hydrological flow of the watershed, which enhanced more than 3,000 acres of lost wetland habitat, increased critical waterfowl and fishery habitat and boosted water storage capacity during flood events. The project represented a partnership among **The Nature Conservancy**, Entergy Mississippi, local landowners and public and private partners.

## Louisiana Coastal Protection and Restoration Leadership Roundtables and Summit

With funding support provided by a \$50,000 grant from the EIF, the Louisiana Coastal Protection and Restoration Authority partnered with **America's WETLAND Foundation** to convene a Louisiana Coastal Protection and Restoration Summit and leadership roundtables to address and increase public awareness of issues that potentially could promote or impede restoration. Their goal was to establish ecosystem values and priorities and discuss how to operationalize and finance the Louisiana 2017 Coastal Master Plan.

## Service Roads Streetlight Retrofit Project



**The City of Beaumont** used its EIF grant of \$75,000 to help fund the replacement of high-pressure sodium lamps in its street light infrastructure with more efficient LED lamps. In addition to lower annual power usage, the city expected to reduce maintenance requirements which translated into fewer trips by personnel to maintain and repair streetlamps, which would help lower vehicle emissions and improve air quality.



## Entergy Workplace Electric Vehicles and Charging Infrastructure

The Entergy Commercial Development and Innovation Team was able to lease five plug-in electric vehicles and acquire, install and monitor five charging stations at select Entergy workplace locations with a \$140,900 grant from the EIF. Each installed charging unit was designed with two ports — one for Entergy-leased vehicles to be used by designated employees for business purposes and the other for employees to charge their own personal electric vehicles while at work.

The initiative allowed Entergy to participate in the **Department of Energy's** "EV Everywhere Workplace Charging Challenge," which seeks to promote electric vehicle adoption by giving employees the ability to charge their own vehicles at work. It also helped Entergy reduce its carbon footprint by reducing fleet emissions by 20% from 2008 levels.

## 2017

### Carbon Verification and Validation, American Carbon Registry

**Rainforest Alliance** is an international, nonprofit organization that supports biodiversity conservation and sustainable livelihoods. An EIF grant of \$15,150 allowed Rainforest Alliance to conduct monitoring and verification of Entergy's Lower Mississippi Valley reforestation project on approximately 2,800 acres in northern Louisiana and southern Arkansas encompassing the Tensas, Red River, Overflow and Pond Creek national wildlife refuges.

### Carbon Monitoring for Lower Mississippi Valley Reforestation Project


**TerraCarbon** conducted monitoring and verification of Entergy's LMV reforestation project on approximately 2,800 acres in northern Louisiana and southern Arkansas encompassing Tensas, Red River, Overflow and Pond Creek national wildlife refuges. Entergy helped fund the project with a \$10,000 grant from the EIF.


### Croton Gorge Park Solar Restrooms

**Westchester Parks Foundation** in New York added solar power capabilities to Croton Gorge Park's restroom facilities, which not only made restrooms available for year-round use but also helped educate the public about solar power as an environmentally friendly energy source. Entergy supported the project with a \$30,000 grant from the EIF.

### Greening the Green Wave Fleet

When **Tulane University** decided to move to an all-electric, zero-emissions fleet by retiring several gas-powered golf carts, a \$40,000 grant from the EIF allowed the university to purchase two electric Eco Shuttles and install a charging station on campus. Shuttles are used by the Office of Admissions during campus tours for prospective students and their families annually, and by the Office of Athletics to help elderly and disabled visitors enjoy easier access to and from sporting events on campus.



 **Eco Lab Base Camp on Delacroix Preserve in Orleans Parish Woodlands Conservancy** partnered with Louisiana State University's Coastal Roots program to establish a native plant nursery on the Delacroix Preserve site in Algiers, Louisiana. A \$40,000 grant from the EIF helped fund planning, engineering and design work necessary to construct the Eco Lab Base Camp — a critical step in Woodlands Conservancy's efforts to establish an increased physical presence on the preserve to provide essential services for visiting students and volunteers and to expand environmental education programming in Orleans Parish schools.

# 2017

## Lake Salvador Shoreline Restoration Demonstration Project

This Louisiana Coastal Area demonstration project and feasibility study funded by a \$75,000 EIF grant and accomplished in collaboration with **America's Wetland Foundation** focused on the use of engineered material instead of stone to protect and restore the shoreline between Lake Salvador and the Gulf Intercoastal Waterway near Larose, Louisiana. An important aspect was the new model of cooperation it offered to address coastal land loss, providing an exceptional opportunity for private landowners, businesses, NGOs and state and federal agencies to partner on larger restoration projects with a clear pathway for greater private sector participation.

## Pilgrim Haven Natural Area Project

Pilgrim Haven Natural Area on Lake Michigan is located about three miles north of Entergy's Palisades Nuclear Power Plant in Covert, Michigan. To support continuing habitat-restoration efforts and expansion of barrier-free public access, the **Woodlands Conservancy** used a \$70,000 grant from the EIF to fund upgrades necessary for the nature preserve to meet all local and state standards for public use, including parking area improvements, security improvements, site amenities and improved public access.

## Wildlife Mississippi, Fannye Cook Natural Area and Trail



The Fannye Cook Natural Area encompasses nearly 2,600 acres and is the largest protected, natural area in the Jackson metropolitan area. A total of \$150,000 in grants from the EIF and **Entergy Charitable Foundation** is funding the construction of 12 miles of walking trails and 13 miles of boundary maintenance and horseback riding trails to promote conservation education and outdoor recreation. The project also includes the installation of 55 benches, seven Adirondack-style shelters, 15 handicap-accessible hunting blinds that double as wildlife viewing areas, 12 small parking areas, a controlled access gate and two interior gates, a photocell and one sign-in kiosk.



## Lafitte Greenway Community and Youth Stormwater Management Education

The Lafitte Greenway is a 2.6-mile bicycle and pedestrian path and linear park in the heart of New Orleans that was transformed into an environmentally sustainable urban green corridor. A \$20,000 grant from Entergy's EIF helped **Friends of Lafitte Greenway** expand its popular Hike the Greenway and Greenway Explorers programs by partnering with area schools, churches and neighborhood groups to build community awareness about green infrastructure using the Greenway as a model.

## 2017

### Girl Scouts of San Jacinto Council, Camp Misty Meadows Tree Planting and Wildlife Restoration Project

Horseback riding is the main attraction at **Camp Misty Meadows** near Conroe, Texas, where the Robert and Janice McNair Equestrian Center offers four riding arenas and a herd of horses that are cared for by summer campers. Volunteers reforested Camp Misty Meadows by planting 250 cedar trees and sampling six other additional tree types to help restore critical habitat and provide opportunities for volunteers to learn about plants, mammals and birds that inhabit the area. Entergy supported the project with a \$28,000 grant from the EIF.

### Trinity River National Wildlife Refuge Native Hardwood Restoration Project

With support provided by a \$139,500 grant from the EIF, the **Conservation Fund** and the **U.S. Fish and Wildlife Service** restored 100 acres of native hardwood forest within Trinity River National Wildlife Refuge while providing critical job training to the next generation of conservationists. Once restored, these lands will sequester carbon from the air and provide habitat for wildlife and water filtration for communities along the Trinity River as it flows into the bays, estuaries and waterways of the Gulf of Mexico. The project, which involved the planting of 45,000 trees, aligned with numerous areas of interest identified by Entergy, including environmental education, water quality improvement and innovative solutions to climate change impacts.

### Rocking The Boat - Maintaining Ecological Balance in Soundview's Salt Marsh

Located in New York on the tip of the South Bronx, Soundview Park was restored in 2014 and relies on regular maintenance, ongoing research and consistent community support to remain a healthy, viable resource for the community. An established and thriving salt marsh and oyster reef are instrumental in expanding the capacity of natural processes to filter storm and river water and in fostering increased and balanced diversity.

A \$23,738 grant to **Rocking the Boat** from the EIF allowed high school students and apprentices in its Environmental Program, as well as program assistants who act as teaching assistants and mentors, to visit the park on a weekly basis to maintain the marsh, maintain swallow nesting boxes, and monitor the water quality and condition of the oyster reef.



Shown from left are DU Director of Development Corey Dunn, ARDU Chairman David Martin, former Entergy Arkansas President and CEO Rick Riley, and DU Senior Flyway VP Steve Cook.

### Ducks Unlimited - White River National Wildlife Refuge Enhancement

This enhancement project was designed to transform 108 acres of poorly managed wetland habitat into five individual units that could be more independently manipulated for the needs of wintering and resident waterfowl, shorebirds, wading birds and other wildlife. Entergy supported the **Ducks Unlimited** project with a \$150,000 grant from the EIF.

The White River watershed in Arkansas contains three national wildlife refuges, including the Dale Bumpers White River NWR, which is the largest, oldest and southernmost of the three. Established in 1935, it is part of Arkansas' "Big Woods" and one of the nation's largest remaining seasonally flooded bottomland hardwood forests. It's also one of the most important areas for wintering waterfowl in North America and home to the only population of native black bear in Arkansas.

# 2017

## Protecting and Enhancing Drinking Water Quality in Central Arkansas through Pollinator Habitat Restoration

An EIF grant of \$15,000 enabled **Central Arkansas Water** to secure materials and equipment to plant 14 acres of native plants on the former Winrock Grass Farm in Little Rock to establish native pollinator habitat.

The Lake Maumelle Watershed contains the 8,900-acre Lake Maumelle reservoir, which provides approximately two-thirds of the daily water demand for Central Arkansas Water's customers. Since the adoption of the Lake Maumelle Watershed Management Plan in 2007, Central Arkansas Water has been dedicated to improving the watershed through water-quality enhancement and protection and land conservation and restoration.



Establishing pollinator habitat on the property offers many benefits, especially for improved water quality. Native plants require minimal to no fertilizers, and no pesticides or herbicides for maintenance, which means fewer chemicals will flow into tributaries and water sources. Native plants have strong and complex root systems which help filter pollutants from runoff and ensure soil stability and lessen erosion. Creating an ecological "corridor" is important in attracting monarch butterflies and other essential pollinator species, many of which have been on the decline.

## Audubon Nature Institute, Audubon Zoo's Earth Fest, New Orleans

**Earth Fest**, Audubon Zoo's premier environmental education event, encourages children and adults to appreciate the wonders of nature, gain awareness of issues that threaten those wonders, and learn how they can participate in conservation initiatives that make a positive impact in the local community. The daylong celebration features environmentally focused games, a wildlife show, plant-a-tree giveaways, conservation demonstrations, recycling initiatives and live entertainment. Entergy supported Earth Fest with a \$30,000 grant from the EIF.



## Tierra Foundation, the nonprofit arm of Tierra Resources - Mangrove Aerial Seeding

Mangroves and tidal salt marshes are among the most endangered marine wetland habitats in the world. Mangroves help stabilize salt marsh areas, provide the same habitat quality as marsh grass, and are popular for bird rookeries.

An EIF grant in 2015 allowed **Tierra Resources** to launch a three-year pilot program in Terrebonne and Lafourche parishes to test the theory that planting mangroves by air could be a cost-effective alternative to traditional methods such as planting by hand on long boat trips. Monitoring indicated that the air-seeding process was successful.

In 2017, **Tierra Foundation** sought to expand seeding to 60-120 acres and optimize and refine seeding costs. This helped demonstrate that the restoration technique warrants adoption into the Louisiana State Master Plan. Entergy supported the project with a \$65,000 grant from the EIF.



# 2018

## Mississippi Development Authority - Energy Awareness Day



MDA's Energy & Natural Resources Division hosted Energy Awareness Day on Oct. 4 at the Mississippi Agricultural and Forestry Museum in Jackson. The event, which draws more than 1,000 students and educators from the Jackson metro area, is designed as an outdoor classroom that encourages scientific literacy and energy education through interactive displays and presentations. Exhibits covered the full range of energy production, from fossil fuels and nuclear power to renewable energy, as well as industry careers. In addition to a \$1,500 donation from the Environmental Initiatives Fund to sponsor the event, Entergy provided volunteers to staff learning stations, including the Arcs & Sparks safety demonstration.

## Institute for Market Transformation, Inc. - Downtown NOLA Energy Challenge

The **Downtown NOLA Energy Challenge** invited downtown properties to participate in a friendly, voluntary competition to benchmark and reduce their energy usage while competing for awards and recognition. Forty buildings housing commercial and multifamily tenants and encompassing more than 17 million square feet participated in the 2018 challenge. Benchmarking activities associated with the challenge drove improvements in energy and cost savings, economic competitiveness and indoor air quality. Entergy supported the challenge with a \$12,500 grant from the EIF, which funded \$2,500 awards for five winners:

- Best Energy Star score: Edward Hebert Federal Building
- Greatest Energy Reduction: U.S. Custom House
- Greatest Energy Reduction Plan: 400 Poydras Tower
- Greatest Tenant/Occupant Engagement Program: Tulane University downtown campus
- Overall Sustainability Champion / Leader: New Orleans Ernest N. Morial Convention Center



## Audubon Nature Institute - Audubon Zoo's Earth Fest

**Earth Fest**, Audubon Zoo's premier environmental education event, encourages children and adults to appreciate the wonders of nature, gain awareness of issues that threaten those wonders, and learn how they can participate in conservation initiatives that make a positive impact in the local community. The celebration features environmentally focused games, a wildlife show, the Earth Quest game, environmental exhibitors, conservation demonstrations, recycling initiatives and live entertainment. Entergy supported Earth Fest 2018 with a \$30,000 grant from the Environmental Initiatives Fund.

# 2018

## Community Adaptation and Resiliency Forums



The **America's Wetland Foundation** revisited four communities that participated in the Blue Ribbon Resilient Communities Leadership Forums in 2011 and 2012 to address their progress in resiliency planning and adaptation. In 2018, AWF hosted forums in Terrebonne Parish, Calcasieu Parish, St. Bernard Parish, Galveston, Texas, and coastal Mississippi. A second Louisiana

statewide summit held in partnership with the Louisiana Coastal Protection and Restoration Authority was informed by previous leadership forums, with a special panel focusing on the generational impact of a sustainable environment. Their discussions helped establish planning scenarios for families by generation markers rather than open-ended projections. The central themes of these programs are to put people in touch with their environmental surroundings and provide creative measures to forecast sustainability tied to lives and livelihoods. Entergy supported the forums with a \$50,000 grant from the Environmental Initiatives Fund.

## Mobile Renewable Response Trailer

**Sam Houston State University** requested funds from Entergy to build a Mobile Renewable Response Trailer to provide a source of emergency backup power during catastrophic storm events. Designed and built by SHSU faculty and students, the trailer is maintained by the engineering technology department and used by Entergy Texas and SHSU for educational and community outreach purposes. The university is located in a primarily rural area, and the engineering technology department focuses on assisting low-resource, rural school districts. The trailer is brought to high-school science fairs, science classes, K-12 demonstrations and other venues to promote STEM education, alternative energy sources and careers in the energy industry. Entergy funded the project with an \$85,000 grant from the Environmental Initiatives Fund.



## Conserving Roosevelt's Woods

In 2018, **The Nature Conservancy** and the **State of Mississippi** partnered to purchase 17,816 acres adjacent to the Mahannah Wildlife Management Area in Issaquena and Warren counties. The area includes the historic locale of President Theodore Roosevelt's famous bear hunt in 1902 that inspired the creation of one of America's most iconic toys, the teddy bear. Given that only 2% of the Mississippi Delta's original bottomland hardwood forests remain, the property presented an opportunity to conserve a large continuous tract of critically important habitat while increasing recreational opportunities for Mississippians. Conserved wetlands also help maintain adequate clean and abundant water supplies essential for populations of fish and other aquatic species. The tract is now known as the Phil Bryant Wildlife Management Area. Entergy supported the purchase with a \$250,000 grant from the EIF.

# 2018

## Tierra Resources, Transaction of Carbon Offsets at the Luling Pilot Project

The proof-of-concept project in Luling, Louisiana, used the Entergy-funded **American Carbon Registry** methodology to conduct a wetland restoration project to quantify additional carbon sequestration with the introduction of treated municipal effluent. It was supported by a \$345,978 contribution from the EIF in 2012. With an additional EIF grant of \$135,470 in 2017, **Tierra Resources** verified and transacted carbon credits generated from the **Luling Wetland Carbon Project**. Entergy's EIF grant of \$180,000 in 2018 helped finalize the verification and transactions of carbon credits while promoting Entergy's commitment to environmental stewardship.

## Restore the Earth Foundation - Continued Restoration of Bald Cypress Forest Marsh at Pointe-aux-Chenes Wildlife Management Area

The Pointe-aux-Chenes WMA, located in Terrebonne and Lafourche Parishes near Montegut, Louisiana, is an essential ecosystem that includes diverse physical, biological and socioeconomic resources. It is also the largest landmass providing the first and last line of defense that protects


more than 200,000 residents of this coastal community from the open water of the Gulf of Mexico. A \$100,000 grant from Entergy's EIF in 2018 helped fund the continuation of existing restoration efforts involving critical planting of native bald cypress hardwoods to reestablish historic native vegetation and restore freshwater bald cypress forested marshes. Plantings promote ecosystem health by providing the needed habitat to support fish, bird and wildlife species native to the area. Ecological and social benefits from the restoration will exponentially improve and support this reestablishment when integrated with the first two project phases completed after Entergy launched its partnership with **Restore the Earth Foundation** in 2016.




## Louisiana Gulf Coast Initiative Floating Islands Installation

Using constructed wetlands, or "floating islands," to plant native species allows them to grow robust root systems and create land in endangered marine environments. They also protect existing land against eroding wave action and provide spawning habitats for fish species such as speckled trout and red drum. **Building Conservation Trust** and the **Coastal Conservation Association** were the first to use floating-island technology in an open-water application in the marine environment. Islands are made of 100% recycled drinking-grade plastic that is safe for marine life and Coast Guard-approved marine foam for buoyancy, all held in place on a PVC pipe frame. Funded in part with an \$85,000 grant from the EIF, the project was the fifth installation of floating islands in coastal Louisiana.


# 2018

 The Nature Conservancy, Climate Change Scenario Planning for Longleaf Pine Forest Restoration in East Texas

Scenario planning is being piloted as a tool for developing conservation strategies that address climate change adaptation. In this study, it was applied to four preserves that support longleaf pine, including the **Roy E. Larson Sandyland Sanctuary** northwest of Silsbee, Texas. Scientists have long recognized that healthy forests are more resilient in their response to regional and global changes, and longleaf pine forests appear to be more resilient than other pine species in withstanding drought and weather extremes. With support from a \$150,000 grant from the EIF, teams scientifically monitored longleaf pine forests to evaluate their response to changes on the landscape over time that might be linked to climate change, such as extreme wind events and severe, prolonged droughts.


 Dunbar Community Garden

Since 1992, the **Dunbar Historic Neighborhood Association** in Little Rock, Arkansas, has led efforts to increase access to quality local foods and support the development of urban teaching gardens. Entergy's \$5,000 grant from the Environmental Initiatives Fund helped the association install security lighting and energy-efficiency upgrades to its community garden.

 City of Pine Bluff, Arkansas - Community Garden

Entergy's \$5,000 grant from the Environmental Initiatives Fund helped the **City of Pine Bluff** purchase an irrigation system, fencing, soil and other supplies to build a sustainable community garden.



 The Nature Conservancy - Saline River Project, Arkansas

**The Saline River** is the last major stream in the Ouachita Mountains that has not been dammed. Historically, the Saline also has been one of the most pristine watersheds in Arkansas and serves as an abundant habitat for fish and mussel species. In recent decades, the upper Saline watershed has experienced declining water quality due to gravel mining, incompatible development, tributary damming, stream bank erosion, increased sedimentation and other threats. Entergy's \$40,000 grant from the EIF helped fund land acquisition, restoration work, floodplain reforestation, and community outreach to build awareness and support for restoration projects. Efforts also helped restore wildlife habitat while improving a major source of drinking water and recreation for area residents.

## 2019

### Increasing Uptake of Conservation Programs on Agricultural Lands in the Lower Mississippi Alluvial Valley to Improve Water and Energy Use and Increase Wildlife Habitat



Entergy's \$250,000 grant from the EIF helped **Ducks Unlimited** work with rice farmers and other agricultural producers in economically distressed areas of Arkansas, Louisiana and Mississippi to improve the sustainability of natural resources. Efforts included increasing energy efficiency, converting ground water to surface water usage, improving water quality, optimizing irrigation water systems, and providing wildlife habitat. The project involved 200 farm operations and delivered 75,000 acres of on-farm conservation improvements in rice-producing areas that support waterfowl habitat to meet the needs of wintering ducks and geese in the alluvial valley and Gulf Coast regions.



### Pace National Environmental Law Moot Court Competition Team

Entergy continued its longtime support of the **Mississippi College School of Law** participation with a \$6,000 donation from the EIF. Instituted in 1989, The Jeffrey G. Miller National Environmental Law Moot Court Competition in New York is the largest interschool moot court competition of any kind under one roof, regularly attracting 200 competitors from law schools from across the U.S. The competition helps prepare Mississippi College law students to be trailblazers in the legal community by advancing their brief-writing and oral-advocacy skills in environmental law. MC used the grant to fund travel expenses to and from the competition. "This environmental law competition has taught me more about written and oral advocacy than all of my traditional law school classes, hands down," wrote MC law student Mary Clark Joyner in a letter to Entergy. "Thank you for supporting MC Law in this important way."

### The Coalition to Restore Coastal Louisiana - Communities Restoring Urban Swamp Habitat (CRUSH)

The goal of **CRUSH** is to enhance coastal swamp forest habitat near New Orleans and build capacity to sustain resiliency by providing learning opportunities that are accessible and accommodating to underserved communities. Events include tree plantings, bike and boat tours of green infrastructure and water-management sites, and workshops coordinated through community partnerships. A \$45,000 grant from the Environmental Initiatives Fund helped the coalition build volunteer support and engagement, plant 1,000 native trees, and enhance five acres of swamp forest habitat.

## 2019

### Restore the Earth Foundation - Bayou Terrebonne Freshwater Diversion

Wetlands located in central and eastern Terrebonne Parish in the **Pointe-aux-Chenes Wildlife Management Area** are greatly deprived of freshwater, nutrients and sediments from riverine sources that once served as their lifeblood. Consequently, subsidence and saltwater intrusion have resulted in some of the highest rates of land loss in coastal Louisiana. The goal of this project was to ground-proof a practical approach to increase and diversify the capacity of existing flood-control pumps and provide data to account for the effectiveness of introducing freshwater into the ecosystem, supporting healthy wetland ecosystems when the pump is not being used for flood management. With 85% to 90% more freshwater, sediment and nutrients flowing to the wetlands, the diversion will promote marsh building and accretion, creating conditions for aquatic vegetation and marsh to absorb storm surges and buffer and protect against sea-level rise and subsidence. Entergy supported the project with a \$100,000 grant from the EIF.

### Audubon Nature Institute - Party for the Planet Presented by Entergy 2020

**Party for the Planet** presented by Entergy is a series of events and activities planned to celebrate the wonders of nature held across New Orleans. The 2020 event will recognize **World Oceans Day** with discovery and interactive experiences focusing on how humans impact oceans and marine life. Other Party for the Planet educational offerings will focus on conservation and eco-friendly actions. Entergy supported 2020 learning activities with a \$30,000 grant from the EIF.



### Water Quality, Wildlife Habitat and Public Access Improvements for Sora Meadows Nature Preserve

Sora Meadows Nature Preserve is a 65-acre, high-quality shallow pond and wetland complex that supports a broad diversity of bird species, especially waterfowl. It is located on a headwaters stream of the Paw Paw River, one of the highest-quality ecological river corridors in southwest Michigan. Entergy's grant of \$24,500 from the EIF allowed **Southwest Michigan Land Conservancy** to expand public access to the preserve, which provides natural open space for walking, hiking and bird watching and serves nearly 400,000 residents in a region encompassing Allegan, Van Buren and Kalamazoo counties. Improvements included a parking lot with additional overflow area, a trailhead with signage, a viewing platform for birding, and several small bridges that cross streams within the preserve as part of a redesigned trail system.

# 2019

## Eco Ambassador High School Challenge



The goal of the **Keep Jackson Beautiful** Eco Ambassador High School Challenge was to recruit at least 1,000 volunteers from seven high schools in Jackson, Mississippi, to participate in the Great American Cleanup. With the help of students from all wards of the city, in addition to churches and businesses, volunteer teams cleaned and removed dozens of illegal dumpsites while building a sense of community pride and ownership. Entergy supported the effort with a \$10,000 grant from the EIF.

## Port Neches Riverfront Lighting

This project represented a continuation of the **City of Port Neches** partnership with Entergy to convert city-owned lighting to energy-efficient, longer-lasting and environmentally friendly LED fixtures that also are less costly to maintain. With funding from a \$83,700 EIF grant, the city was able to install attractive and functional LED light fixtures on municipally owned riverfront property as part of efforts to revitalize a remediated former industrial site.



## Woodlands Conservancy - Seeds to Saplings Program



The **Seeds to Saplings Service Learning Program** is an environmental education partnership that provides fourth graders in Orleans Parish with a series of lessons covering environmental issues facing Southeast Louisiana. The program focuses on the function and value of forested wetlands and encourages hands-on learning through classroom lessons and field trips. Students participate in an interactive watershed demonstration, grow their own cypress seeds, learn to identify native and invasive species, and write invitations to elected officials, community leaders, and guardians. As the capstone to their experience, students plant seedlings in restoration areas

at **Woodlands Trail** in Orleans Parish. Entergy supported the initiative with a \$19,325 grant from the Environmental Initiatives Fund.



## GREEN, Purple & Gold Waste Reduction during Mardi Gras

The mission of **Grounds Krewe NOLA** is to lower the environmental impact of Mardi Gras parades by providing recycling opportunities and sustainable throw options. Waste produced during Carnival season is not only an environmental and health hazard but also a costly, labor-intensive burden for city sanitation crews that must remove trash from streets and storm drains and transport it to landfills. With support from Entergy and other community partners, Grounds Krewe provides “on the route” recycling services by passing out recycling bags before parades for members of the public to fill with unwanted throws and cans/plastic bottles. At the end of parades, volunteers collect bags and transfer them to recycling facilities. In 2019, volunteers collected more than three tons of throws, cans and bottles from a single parade — by far the most successful recycling day in Carnival history. Entergy supported the effort with a \$28,730 grant from the Environmental Initiatives Fund.

# 2019

## Canopy by Entergy

The mission of **Sustaining Our Urban Landscape (SOUL)** is to drive a resilient and environmentally equitable New Orleans by reforesting the city's urban landscape. In 2019, SOUL received a \$100,000 grant from the EIF to help plant 1,000 trees during Entergy-sponsored tree plantings in New Orleans neighborhoods. SOUL not only oversees every tree planting to help ensure successful growth but also provides tree guards to protect against weed-eater damage, the number-one killer of trees. SOUL maps all trees to track their progress and provides maintenance guidelines to every home and business that receives trees. In addition to restoring the city's urban canopy, tree plantings serve as an enormous sink for carbon and a sponge for stormwater.

## Gulf Coast Carbon Collaborative

In recent years, businesses in the Gulf Coast region have grown increasingly motivated to reduce carbon emissions but have faced challenges in accessing the technology, information and capital required to develop and implement effective strategies. With support from Entergy, the **U.S. Business Council for Sustainable Development** launched the Gulf Coast Carbon Collaborative to create a cross-sector platform aimed at reducing the region's carbon emissions and impact while preserving and enhancing its economic vitality. The ongoing cross-sector collaboration effort addresses challenges and empowers managers and decision-makers to create strategies through shared experiences that will help protect regional assets and economic opportunity. Entergy supported the effort with a \$76,130 grant from the EIF.



## Installation of LED Fixtures and Lights

The **City of Beaumont Housing Authority** in Texas serves nearly 30,000 families in the region with affordable housing opportunities, including 642 rental housing units and 705 non-federally-subsidized units. Entergy's \$4,955 grant from the Environmental Initiatives Fund funded the installation of energy-efficient, environmentally friendly LED lightbulbs for lighting fixtures, motion sensors and timer-activated lights in the BHA's administration building. The effort was part of BHA's "Go Green" initiative to promote practices being adopted throughout BHA's business functions that help save money while protecting the environment.





## 2019

### Big TREEsy Giveaways in St. Bernard Parish

The mission of **NOLA Tree Project** is growing stronger, healthier communities through tree planting, community service, and disaster-relief programs. Entergy's support has helped fund tree giveaways to homeowners and planters across New Orleans along with educational workshops on the importance, care and maintenance of trees. In November 2019, Entergy New Orleans and NOLA Tree Project teamed with community partners to distribute 500 trees in St. Bernard Parish. Entergy supported the effort with a \$10,000 grant from the EIF.



### Xerox PrintReleaf Global Reforestation Program



Entergy helped support global reforestation efforts while offsetting our paper-consumption impact on the environment by participating in the **Xerox PrintReleaf** program. Based on a theme of "you print one, we'll plant one," PrintReleaf leverages paper-usage

reporting and equates the number of trees needed to reforest that usage on an equivalent basis in geographic areas of need. Xerox customers sign up for PrintReleaf as an add-on to a managed print services contract. Through an online portal, Xerox helps customers select the managed forestry projects where their trees will be planted, in addition to tracking and reporting on their direct reforestation impact. Entergy funded company participation with a \$14,213 EIF grant.



### Energy-Saving Trees

Since 2018, the **Arbor Day Foundation** has partnered with Entergy to distribute 2,700 free trees to residential customers in Arkansas, Louisiana, Mississippi and Texas to plant in their yards. The program includes educational guidelines to ensure that customers plant trees strategically to avoid interfering with utility lines while maximizing energy-efficiency benefits for their homes. Private property tree canopies are important components of urban canopies, which are being lost throughout the nation in increasing numbers to disease, insects, weather and urban development. By helping restore urban forests, homeowners can play a role in boosting carbon sequestration, air pollution removal, stormwater filtration and wildlife habitat. Entergy helped the Foundation continue tree giveaways with a \$45,000 grant from the Environmental Initiatives Fund.

# 2019

## Lower Mississippi River Classroom Program

The **Lower Mississippi River Foundation** is dedicated to promoting stewardship of the Lower and Middle Mississippi River through recreation, educational classes, youth programming and other engagement opportunities. Entergy's grant of \$30,000 from the EIF helped the Foundation develop long-term partnerships with several schools in Phillips County, Arkansas, and Coahoma County, Mississippi, that allow students to participate in canoe trips and habitat-improvement projects on the Mississippi River. Students travel by canoe to an island in the river and spend the day in a "living classroom" where they learn about Mississippi's ecosystems as well as impacts of river modifications on wildlife species. The Foundation also provided in-class programs and field trips for schools in other counties bordering the river in the Mississippi-Arkansas Delta region.

## Bryant Youth Association/Boys & Girls Club of Bryant - Entergy Outdoor Classroom

Entergy's contribution of \$50,000 from the EIF helped fund the **Entergy Outdoor Classroom** and garden area for club members and the local Arkansas community. Developed on an existing area of the club's playground, the classroom was designed to provide teens with a safe, fun and inviting place to spend time after school and during the summer. Features promote STEM education and healthy lifestyles along with educational outdoor programming. The organizations serve youth in **Saline County** and surrounding areas, where **Boys and Girls Club** has an annual membership of 2,000.



# Entergy's Environmental Initiatives Fund | History and Highlights

