



2019 ENVIRONMENTAL LEADERSHIP PROGRAM (ELP) AWARDS

MAY 30, 2019

1:00 PM

Galvez Building, Oliver Pollock Room



ELP AWARDS & RECOGNITION

Presenters

Chuck Carr Brown, Ph.D.

Secretary, Louisiana Department of Environmental Quality

Denise Bennett

Deputy Secretary, Louisiana Department of Environmental Quality

2018 NEW ELP MEMBERS

Aethon Energy

Amcol Health & Beauty Solutions

American Sugar Refining- Inc. (Domino Sugar)

Baum Environmental Group Inc.

Bayou Vermilion District

Bayou Vermilion Preservation Association

Booth, Hellums and Associates, LLC

Calcasieu Parish Police Jury

City of Gonzales

City of Gretna

Coalition for Community Action

Daybrook Fisheries Inc.

Dow Louisiana Operations

Dow St. Charles Operations

Federal Emergency Management Agency (FEMA)

**Jefferson Parish Government (Unincorporated
Jefferson)**

John W. Stone Oil Distributor LLC

Keep Louisiana Beautiful

Live Oak High School

Louisiana Urban Stormwater Coalition

Louisiana State University Shreveport

Mendez Group, Inc

QRI (Quaternary Resource Investigations. LLC)

Solar Alternatives, Inc.

South Terrebonne High School

Southeastern Louisiana University- Sustainability

**Terrebonne Parish Consolidated Government Solid
Waste Department**

ELP AWARD RECIPIENTS

Compost Now (New Orleans Waste)

Lake Pontchartrain Basin Foundation

Louisiana State University-Campus Sustainability

Southeastern Louisiana University-Sustainability

**Jefferson Parish Government (Unincorporated
Jefferson)**

Port of New Orleans

St. Tammany Parish Government

Martin Ecosystems

BASF Corporation

Dow Louisiana Operations

Dow St. Charles Operations

ExxonMobil Baton Rouge Refinery



ELP AWARD RECIPIENT PROJECT DESCRIPTIONS

Compost Now (New Orleans Waste): New Orleans, LA ***Compost NOW***

Compost NOW (New Orleans Waste) is a volunteer-driven food waste collection program. Compost NOW partners with the New Orleans Public Library and this year expanded to Tulane Law School to host eleven free drop-off sites, six days a week. Food scraps are taken to local farms who feed their farm animals or turn the scraps into nutrient-rich compost. Local residents bring their frozen fruit and vegetable scraps, eggshells, nut shells, seed shells, tea bags, coffee grounds, filters, plain grains, plain pasta or plain bread in a compostable bag or reusable container (no meat, no bones, no dairy). Scraps must be frozen, to avoid potential smells, fruit flies, roaches and rodents. Compost NOW has diverted more than 165,000 pounds of food waste from the landfill since beginning in 2017 at just two sites. We are on track to have collected 250,000 pounds by the end of this year.

Lake Pontchartrain Basin Foundation: New Orleans, LA ***Derelict Crab Trap Removal***

Lake Pontchartrain Basin Foundation's (LPBF) Derelict Crab Trap Removal Program strives to accelerate the removal of derelict crab traps, which are a destructive form of marine debris. Blue crab traps are rectangular wire cages approximately 60 x 60 x 40 cm (~2 ft x 2 ft x 16 in) made of vinyl coated metal. Louisiana Department of Wildlife and Fisheries (LDWF) has been holding closures for the removal of derelict crab traps from Louisiana waters since 2004. Since LPBF's involvement in derelict crab trap removal (2016) 11,443 derelict crab traps (~65.4 tons) have been removed from Pontchartrain Basin by LPBF and partners. In 2019, the majority of the traps (2,502 out of 3,138) were recycled by project partner, EMR Metal Recycling, resulting in 14.3 tons recycled. Though not directly quantified, significant quantities of vinyl coating and styrofoam (from floats) have been removed from Louisiana waters. Derelict crab traps (also known as "ghost traps") are any crab traps that have become discarded, lost, or abandoned in the marine environment. Frequent causes of traps becoming derelict include movement during storms, theft or vandalism, or float lines being cut by boat propellers. In addition to being a navigational hazard, derelict crab

traps cause harm through a destructive process termed “ghost fishing”. As the trap slowly degrades, it lures in crabs or other fish, which die, then re-bait the trap in a vicious cycle. In our work (2016-2019), LPBF released thousands of crabs, several birds, small mammals, and nearly 100 drowned turtles from derelict crab traps.

Louisiana State University-Campus Sustainability: Baton Rouge, LA ***Black Soldier Fly Food Waste Composting***

LSU Campus Sustainability, LSU Entomology and Fluker Farms have partnered to use black soldier flies to compost food waste from LSU Dining Halls. This innovative process uses insects to break down food waste. Food scraps from LSU dining halls are placed into bins inside of a greenhouse where the black soldier flies are raised. The flies remain larvae for two to three weeks and can feed on anything from food scraps to industrial food waste. The larvae are introduced to the bins to break down the food waste which is turned into organic fertilizer and used on LSU grounds by the Landscape Services Department. LSU estimates it can divert between 30-50 tons per year of food waste from the landfill using this process. The project will help LSU achieve its goal of a 75% waste diversion by 2030.

Southeastern Louisiana University-Sustainability: Hammond, LA ***Hybrid Geothermal Dorms***

Southeastern Louisiana University’s newest residence halls, Ascension Hall and Twelve Oaks Hall, draw from 220 geothermal wells situated 300 feet underground to heat and cool 556 rooms. The earth is used as a heat source in winter and as heat storage in summer. Geothermal production involves no combustion and creates zero air emissions as gases removed from the wells are returned into the ground after giving up their heat without exposure to the atmosphere. In addition to environmental benefits, the geothermal hybrid system will significantly cut down on heating and cooling costs. Over time, it is projected that savings greater than 50 percent will be captured on energy expenses compared to a traditional method and build. Equally important on a university campus, the system also serves as a learning laboratory for real-world experiences for Southeastern students in various disciplines such as energy engineering technology.

Jefferson Parish Government (Unincorporated Jefferson): Jefferson, LA

Jefferson Parish “Do-Not-Toss” List

The Jefferson Parish “Do-Not-Toss Registry” is an example of local legislation designed to address the public’s concerns of unsolicited publications tossed on lawns, streets and rights-of-way. When unsolicited materials are left uncollected, they pollute and litter our local communities, wash into storm drains, and contribute to street flooding and unnecessary paper production and disposal. Like the national “Do-Not-Call” registry, the Jefferson Parish Do-Not-Toss registry created a waste reduction opportunity for citizens to voluntarily add their addresses to a list to express their preference for unsolicited print materials tossed on their lawns and streets. The legislation is significant in that it provides the citizens of Jefferson Parish with a choice to reduce the unnecessary consumption of a good/product. It is a useful tool in an ever-expanding tool box for waste reduction efforts that other jurisdictions across the region are now duplicating.

Port of New Orleans: New Orleans, LA

Port NOLA Green Marine Certification

In 2015, the Port of New Orleans became the 8th Port in the United States officially certified under Green Marine, a relatively new environmental certification program for the North American maritime industry. Green Marine’s goal is to advance environmental sustainability within the maritime industry through an outcomes based certification program. It is a voluntary, transparent and inclusive initiative that addresses key environmental issues through its 12 performance indicators. Participants are port authorities, vessel owners, terminal operators, Seaway corporations and shipyards. To receive and maintain the third-party certification, participants must benchmark their annual environmental performance through the program’s self-evaluation guides, have their results verified by an accredited external verifier and agree to publication of their individual results. The Port of New Orleans utilizes the Green Marine framework for its environmental management system (EMS) to implement strategic planning, programs, and initiatives that employ mechanisms that reduce environmental impacts of the organization’s (and its tenants) operations and activities. We are particularly enthusiastic about the application of this EMS framework to other maritime industry participants in Louisiana. Louisiana is a major maritime economy, and as such there are hundreds of shipyards, vessel owners, terminals and port authorities that could adopt this framework and join Green Marine. Port of New Orleans tenant, New Orleans

Terminal, has also joined Green Marine and we hope to encourage more organizations to utilize this framework for environmental performance.

St. Tammany Parish Government: Mandeville, LA

Decentralized Management Program for Homeowner Sewer Systems for Water Quality Restoration, Education & Outreach in St. Tammany Parish Louisiana

Many of the stream segments in St. Tammany Parish have been listed on EPA's §303(d) List of Impaired Waterbodies with TMDLs for low dissolved oxygen (DO) and bacterial constituents. EPA funded a pilot project for the Parish to develop a Decentralized Management Program in the Bayou Liberty Watershed, in Slidell, LA (LDEQ Subsegments 040905 and 040906), to make improvements to these stream segments and restore water quality. The low-to-moderate-income subdivision chosen has 856 residences with homeowner treatment systems. Before the pilot project was implemented, the condition of subdivision ditches were poor with black, septic, foul-smelling water throughout. Door-to-door inspections revealed an initial 59% failure rate of the systems, including 132 unpermitted septic tanks. At the conclusion of the project, the majority of identified repairs had been made, over 80 of the septic tanks were replaced, and water quality improved significantly. A 400% reduction in BOD5 in Bayou Liberty was observed and the ditches are clear! This resulted in an improvement in the overall quality of life in the subdivision, as well as newly formed relationships with residents who were receptive to the process. A parish-wide Decentralized Management Program was developed from this forward-thinking prototype, and more than 4,000 additional residences have since been inspected and homeowners instructed on the proper operation and maintenance of their systems.

Martin Ecosystems: Baton Rouge, LA

Coastal Resilience Enhancement Project through Beneficial Reuse of Water Bottles

Martin Ecosystems worked with Shell, the US Business Council for Sustainable Development and Pathway 21 to create a processing infrastructure whereby the bottles collected could be taken from bottle to coastal restoration products or more specifically, Martin Ecosystems' Floating Islands. Over the course of 7 days, 1500 pounds of plastic bottles were collected in specially marked bins put out on the Jazz & Heritage Festival grounds. Marketing was done prior to and during the Festival to educate and promote plastic bottle recycling. The bottles

then went through the recycling process from chipping to flake to fiber to matrix and finally becoming a Floating Island. On April 12, 2019, the Floating Islands were planted by local middle school students and launched for shoreline protection in Vermillion Bay.

BASF Corporation: Geismar, LA

Nickel Catalyst Reclamation

The TDA production process within the BASF Geismar TDI Plant uses a nickel catalyst. This spent nickel catalyst is changed out periodically, resulting in material that must be managed. Historically this material was sent for disposal. As part of BASF's efforts to minimize waste and commitment to sustainability of the environment, an approved reclamation facility was identified that could recycle the spent nickel catalyst. A procedure that met the exposure and odor limits at the reclamation facility was developed to prepare the spent nickel catalyst for reclamation. BASF Operations Engineers, Procurement, EHS, and Management personnel worked together to implement the new recycling process; 32,000 pounds of spent nickel catalyst were recycled in 2018. The recycling process provided a positive environmental and economic impact for the BASF TDI Plant.

Dow Louisiana Operations: Plaquemine, LA

Off Gas Regeneration of Purification Beds

Off gas is a byproduct generated at Dow's Plaquemine site that has historically been utilized as a clean burning fuel. For purification beds recently installed in Plaquemine, technology was developed to doubly utilize the off gas as a regeneration medium before utilizing it as a fuel in order to avoid the additional emissions and cost of using nitrogen for bed regeneration as has been previously practiced. In 2018, the new technology avoided 28,550 tons of greenhouse gas emissions and 5.8 tons of NOX emissions versus implementation of the legacy technology.

Dow St. Charles Operations: Hahnville, LA

St. Charles Operations Site Hydrogen Optimization

Through tremendous teamwork and coordination, St. Charles Operations (SCO) placed our first cross-3-business unit, Hydrogen (H₂) Optimization system in "AUTO-MAGIC". This H₂ Optimization system connects 3 dynamic controllers between Energy, Butanol and

Olefins 2. The objective is to minimize flaring at Butanol and Olefins 2 while optimizing available H₂ to Energy Systems. H₂ offsets natural gas in gas turbines and heat removal steam generators resulting in a significant reduction in our carbon footprint through clean-burning H₂. This TRIPLE-WIN for SCO means less flaring, less purchased methane and less carbon emissions! At current rates, we will offset 115K Tons of CO₂ in our first year of optimization.

ExxonMobil Baton Rouge Refinery: Baton Rouge, LA ***Amine Gas Treating System Improvements***

The ExxonMobil Baton Rouge Refinery completed a multi-year project in 2017 that improved operations at its Sulfur Plant. As a result of this project, the Refinery increased its ability to process higher sulfur feedstocks, and in 2018, the Refinery reported a 79% decrease in SO₂ site-wide air emissions relative to 2013. This project changed the amine used to absorb hydrogen sulfide from sour streams throughout the Refinery. The new amine contains a greater carrying capacity than the previous amine, which allows for increased H₂S scrubbing efficiency, and in turn, reduces the amount of sulfur content from fuel gas streams utilized for furnace firing. The alternative to this project would have been a new amine regenerator system, which would not have decreased emissions and would have required numerous process interruptions and Turn-Arounds. This project was conducted in a multi-year execution schedule via on-line transition between the two amines. In addition to changing the amine, modifications to drums, static mixers, filters, valves, and piping were completed.

ELP STEERING COMMITTEE MEMBERS & ASSOCIATIONS

David Burroughs

Calumet Specialty Products

Dr. David Constant

LSU College of Engineering

Paul Davidson

Black Bear Conservation Coalition

Fritz Kin

Marathon Petroleum Company

Robert Berg

*ExxonMobil, Baton Rouge
Facilities*

David Bathel

Chevron

Henry Graham

Louisiana Chemical Association

John Koury

*Kourco/Louisiana Environmental
Health Association*

Joey Hebert

*Georgia Pacific/Louisiana Pulp
and Paper Association*

Brad Phillips

Bayer

Julie H. Roussel

*Methanex/Air & Waste
Management Association
(A&WMA)*

Cathy Porthouse

Cornerstone Chemical

Jennifer Auger

Strategic Petroleum Reserves

Colwell Spencer

Strategic Petroleum Reserves



