



Image: Lane Lefort Photography

ECONOMIC GROWTH

Education, Business, and Project Examples

BTNEP has always been unique amongst the National Estuary community nationwide not just for the incredibly wide diversity of the living and natural resources, habitat types, distinct cultures, and foodways of the BTES but also for the economic opportunities inherent in this region.

Since the first settlement of the BTES by the Native American tribes who called this area home, human endeavors in this region have been focused on not just the beauty, but the bounty of this BTES. Native American tribes found a natural pantry overflowing with foods of all types: fin, feathers, and fur as well as a landscape which offered up building materials such as clay-rich soils, Spanish moss, and palmettos perfect for constructing shelter from the harsh elements. They found rich soils constantly being deposited by the Mississippi and Atchafalaya Rivers and Bayou Lafourche suitable for growing food crops as well as medicinal plants, and they found these same waterways so interconnected as to provide a level of mobility facilitating trade that few other tribes in the United States were able to enjoy.

Using the web of waterways as a highway system to trade their harvest of the land with neighboring peoples, these first residents of the BTES were the first people to understand that this BTES is so bountiful that it is possible not merely to survive but to thrive and to harness these plentiful resources to their economic advantage. They would not be the last people to learn this lesson.

The first European settlers, too, found the BTES an overflowing larder and, like the Native Americans, soon realized that they would not merely survive in this place. They could prosper. They could trade using the natural waterways and eventually added canals to enhance the economic value of the system of waterways connecting people and trade throughout the BTES. And so, from the very earliest times of settlement, human energy in the BTES has gone towards harnessing the power and bounty of the natural resources for the purpose of economic development.

As the first European explorers and traders were replaced with subsequent generations of displaced Acadians, Spanish, French, German, Irish, Anglo, Isleno, Chinese, Vietnamese, and other migrants,

CATEGORY 4

their energies also focused on how not merely to survive here but also on how to live well. These waves of migrants brought their respective experiences and skill sets to bear on the landscape, drawing from the rich soils and teeming waterways the bounty that a nation has come to rely upon.

Today, their descendants are responsible for approximately one in every five barrels of oil produced in the United States, 37 percent of the nation's sugar production, and one third of all fisheries landings in the coterminous United States.

In addition to this rich natural heritage, the foodways and cultures of the region are symbiotically linked to the natural resources in ways seldom found in the developed world. Quite simply, our residents live closer to the land and water in all aspects of their culture than most other regions and peoples in the developed world. This closeness to the natural resources drives a spirit of sustainability in economic

development opportunities not often seen elsewhere.

In this section of the CCMP, you will encounter project examples of businesses, individuals, public authorities, and others who are working to harness the bounty and the power of the natural resources of the BTES for commercial gain for economic and community development. These project examples range from oil and gas infrastructure development, place-based tourism and eco-tourism operations, and opportunities as well as next-generation investments in water resources management and the services sector.

Each of these projects will illustrate the progression of economic growth that we have experienced here in the BTES, which can, by and large, be distilled to a continuum or cycle which looks like the following.

The original CCMP included nine distinct action items for economic growth, but committee members believe a more concise structure is warranted and



Harvesting sugar cane. Image: Lane Lefort Photography

that regardless of the examples offered, economic opportunities all follow a basic pattern. From port development to value-added seafood and all points in between, the action items under this section of the CCMP can be classified within one or more of the following categories: 1) Education, 2) Technology and Development; 3) Business Assistance; and 4) Marketing. A brief description of each of these new action items is provided below along with a listing of the associated objectives identified by the committee. The examples serve as models to use as the BTES advances the way it harnesses the power and beauty of the estuary.

EG-1 Economic Education

This initial phase of development is typified by the process of learning about the resources available in the BTES or the opportunities to solve a problem and of beginning to conceptualize ways to harness the resources available to fill a gap in the marketplace. This process of education is both foundational and continual and not a one-off effort. Education continues to refine solutions and improve efficiency and quality and drives innovation throughout the entire cycle.

OBJECTIVES

- To educate business leaders, elected officials, university officials, and the general public about the economic value and the potential of BTNEP as a future economic engine for southern Louisiana with relationship to sustainable development
- To become a thought leader for the impact of regulations and how they affect both the economic and ecologic environments of BTNEP
- To drive economic diversification and stability through the appropriate use of natural resources found in the BTES, including:
 - a. extracting higher value products from existing resources through the use of research and development
 - b. demonstrating and supporting eco-tourism ventures and related support systems and services to enable entrepreneurs to find wetland-based recreational and tourism “adventures” that will support environmentally friendly business
- To explore opportunities to create new courses, programs, certifications, and degree programs in conjunction with higher education and business leaders related to ecological economics

EG-2 Technology (R&D) and Market Development

This next natural step in the progression builds upon the knowledge gained during the Education phase and begins to translate that knowledge to action. This phase includes the development of products/solutions and the testing of assumptions about not only the product but also the marketplace as well as the resources. This phase relies heavily on constant education in order to drive refinement to improve the product/solution. However, often without assistance to make these necessary improvements, many opportunities would not make it beyond the “really great idea phase.”



Ecotourism includes birders on Grand Isle. Image: Wendy Wilson Billiot

OBJECTIVES

- To drive R&D in key sectors. These may include the following list but have the potential to change over time as new opportunities and new technologies are developed.
 - nature-based tourism
 - coastal restoration
 - nutria market development
 - sustainable fisheries
 - sustainable farming practices
- To create value-added products in conjunction with higher education and business partners

- To promote technology transfer of ecologically appropriate processes that are developed
- To understand best practices of ecological entrepreneurship both in the US and globally

EG-3 Business Assistance

Without assistance from entities like BTNEP, South Louisiana Economic Council (SLEC), Terrebonne Economic Development Authority (TEDA), the Small Business Development Center (SBDC), and others, great ideas, new technologies, and solutions to problems may never make it to the marketplace. These entities are critical in assisting innovators and economic developers to navigate the often

complex and winding path from idea to market. This assistance is not purely financial. It includes essential training, mentoring, coaching, networking support, business incubator/office space, grants, loans, and other methods to support, scaffold, and assistance in launching new business opportunities. Once this support system is in place, and these products/solutions are refined, tested, and applied to the marketplace, marketing is essential to the ultimate success of the product/solution.

OBJECTIVES

To identify, catalog, and promote access to financial tools to environmentally friendly businesses in the key sectors that could assist in business formation and growth contributing to environmental sustainability (Examples: America's Small Business Development Center, SCPDC's revolving loan programs, etc.)

- To identify, catalog, and promote federal, state, and local incentive programs to businesses in key sectors that could assist in business formation and growth that decrease negative impacts in the seven priority problem areas
- To identify, catalog, and promote federal, state, and local grant programs that could assist environmentally friendly businesses, non-profits, and/or public institutions in developing programmatic activities related to wetland resources and the key sectors
- To operate as a conduit linking businesses in key sectors with other resources in the area, including other businesses, small business support, economic development professionals, and access to researchers in Louisiana universities
- To identify and promote solutions for any financial or regulatory gaps consistently faced by businesses in the key sectors (Examples: US Dept of Commerce, Economic Development Administration (EDA), Delta Regional Authority, etc.)

EG-4 Marketing Sustainable Products and Practices

Not only is marketing the refined product essential to the product's success, but it also helps to re-start the cycle by inspiring other solutions. If imitation is the most sincere form of flattery, then innovation is the most sincere form of approval. Good products/solutions marketed well will inspire other innovators to attempt to solve the same or similar problems more efficiently or look at the same resources in new and different ways which fosters a series of spin-off ideas and re-starts the cycle of education, technology and market development, business assistance, and marketing to the advantage of the BTES and its people.

OBJECTIVES

- To explore opportunities to create a new brand or maximize the existing brand throughout southeast Louisiana
- To create place-based marketing programs that will reinforce the positive messages about quality of life and economic opportunities in the BTNEP region
- To serve as a connector and promoter of BTNEP related businesses through the support or creation of an exposition that focuses on business, technology, and academic research related to estuaries

Economic Growth Project Examples

In the following section, we provide specific examples for economic growth that have been identified by the subcommittee. These examples are formatted in a consistent manner by which the target project/program is briefly described, followed by details of specific objectives, partnering agencies, timelines, and performance measures.

PE1. Place-Based Benefits of the Barataria-Terrebonne Estuary System (EG1, EG4)

A strong sense of place and a value of the unique beauty and bounty of the natural resources of the BTES has always been essential to the residents of the BTES. This love of the place and its natural resources is infectious. From the very beginning of human settlement, survival and prosperity have been rooted in the bounty and the beauty of the BTES, and Native Americans passed their traditional knowledge of the resource to Europeans and other settlers, who in turn shared their experiences with wider audiences. From John James Audubon's illustrations of the unique birds and landscapes of the

region to "Hollywood South's" film and TV industry boom, the beauty of this region's environment and landscape have been marketed to global audiences for over 200 years. As an increasing societal value is placed on travel, tourism, and experiential tourism, the value of the BTES as a tourism resource has and will continue to increase.

OBJECTIVES

The objectives are to work collaboratively with regional tourism and economic development entities to assist tourism operators and entrepreneurs to:

- recognize, understand, and value the rich natural and cultural resources of the BTES.
- enhance the quality and the quantity of nature-based and cultural experiential tourism opportunities and operations in the BTES.



Cajun style home. Image: Lane Lefort Photography.



One of the many iconic Catholic churches Image: Lane Lefort Photography

- support the development and operation of new and existing tourism activities through traditional economic development techniques/education.

DESCRIPTION

BTNEP is an ideal lead agency to help drive this Action Plan in that BTNEP is designed to educate natural, and cultural resources of the BTES.

LEAD AGENCY RESPONSIBLE FOR IMPLEMENTATION

This effort will require the collaboration of many different agencies and entities to implement the objectives listed above. This group includes but is not limited to BTNEP, the Lafourche Convention and Visitors Bureau, the LDCRT, the Louisiana Travel Promotion Association and its members in the BTES, SLEC, TEDA, SCPDC, and others.

TIMELINES AND MILESTONES

While the growth of place-based tourism and lifestyle

is a long-term trend, it is envisioned that the objectives listed above are a constant process of improvements, starting with a 12 month period of initial stakeholder engagement following the adoption of this CCMP document and incorporating a two-year cycle of initiatives to support the objectives listed above.

POSSIBLE RANGE OF COST AND SOURCES OF FUNDING

Costs for the objectives listed above can vary, depending on multiple factors; however, it is safe to say that costs to BTNEP can be limited to staff travel and time if needed. These costs could be increased to include a focus of a mini-grant program or could be entirely born by the travel and tourism entities whose funding is designed to fund these types of objectives. As a point of reference, it is important to note that in Lafourche Parish alone, the amount of promotional and tourism development funds allocated by BP following the Deepwater Horizon oil spill was \$2 million and included a heavy focus in major media buys nationwide.



Fisherman Dan Mechant with a nice big redfish straight from the Gulf. Image: Wendy Wilson Billot

PERFORMANCE MEASURES

Performance measures will vary depending on the program-supported events that are approved in the annual workplans.

Data Gathered

Preservation copies of digital materials will be held by the project on hard drives then provided to the Nicholls State University Archives.

Monitoring

Metrics will include an annual accounting of the number of program-supported presentations, events, venues, and attendees.

Parties Responsible: BTNEP and/or collaborative team

Timetable for Gathering Data: pre- and post-surveys and annual reports

How Data is Shared: via presentations, conversations, online, archives, and eventually through proposed public library kiosks

Possible Data Gaps: individuals and segments of the community not reached

Additional Funding Needed: The first funding request has been submitted. Other possible sources are being identified and possible applications/proposals submitted as seems appropriate.

PE2. Scientific Literacy on Water (EG1, EG2)

Water is at the heart of life and work in the BTES. This area suffers some of the Gulf Coast's highest rates of coastal erosion and land loss and was ground-zero for the 2010 BP oil spill with subsequent staging of cleanup and now ongoing study of possible ecological and health impacts. The region also faces multiple chronic environmental challenges - coastal erosion, land loss, saltwater intrusion, and high TMDLs - as well as acute risks from natural and human-caused disasters. Recurrent severe weather events like Hurricanes Katrina and Rita, Gustav, Ike, and Isaac, and the March and August 2016 flooding create "teachable moments" for raising regional awareness and scientific literacy on issues of water supply, quality, flood-risk, and sea-level rise to help advance community sustainability and resilience.

OBJECTIVE

To support development and implementation of enhanced public outreach, based in use of accessible language, interactive dialogue, and respect for local water knowledge and culture.

The purpose is to help empower regional public officials, stakeholders, and regular citizens with knowledge that structural solutions are often prohibitively expensive and can never be 100

percent fail-safe and that sustainable and resilient communities need more nuanced and flexible understanding of what it takes to live with water.

BTNEP is well positioned to assume a leading role in advancing this objective. From its inception, BTNEP has been a model of interdisciplinary, cross-sectoral collaboration spanning scientific disciplines, regional industries, and government and community stakeholders. The public outreach process will also help highlight the importance and value of BTNEP as a future economic engine for regional sustainable development.

The concept "scientific literacy" refers to a reasonable level of understanding and competence. The people of the BTNEP region already know a lot about water and show strong support for environmental concerns. Like other environmental issues, water has the advantage of being readily accessible. However, while water here seems ever present and abundant, the complexity of issues, multiple variables outside controlled laboratory conditions, and diverse voices of scientists, industry, and environmental groups often make grasping cause and effect and arriving at actionable consensus difficult.

An excellent starting point will be explicitly acknowledging that both lay and scientific/technical communities possess potentially complementary expertise for confronting regional risks and opportunities. In effective communication, information cannot flow in only one direction with scientists/technical experts talking, and non-technical people listening. This is known as the "Deficit Model" because it focuses on what people don't know. In contrast, the "Dialogue Model" emphasizes what people do know and promotes active listening on both sides with thoughtful responses to community questions and concerns and mutual respect. Research has highlighted the importance of scientists and technical experts speaking in understandable language and using tools like storytelling and metaphor to convey knowledge useful to non-technical audiences within community context and

experience. Encouraging both lay community and scientific/technical experts to step out of familiar comfort zones helps level the field and can produce results well worth the effort. Research also recognizes that informed public participation helps improve the quality and legitimacy of environmental decisions and, thus, produces better results.

DESCRIPTION

Models for Enhancing Scientific Literacy

BTNEP is part of a collaborative team exploring a variety of approaches for enhancing regional scientific literacy. This process raises some significant questions. What audiences will be addressed? What knowledge will be offered at what venues? Existing initiatives, such as the Louisiana Water Economy Network (LAWEN) and a non-technical session at the Coalition to Restore Coastal Louisiana (CRCL) 2016 State of the Coast Conference have shown the way and had success in reaching non-technical regional government and industry stakeholders. While work still needs to be done in raising scientific awareness among those audiences, BTNEP recognizes a gap in outreach to regular, non-technical citizens.

Another key question is the level of public participation anticipated or hoped for. The International Association for Public Participation (IAP2) has developed a participation spectrum, ranging from Informing through Consulting then Involving, Collaborating, and Empowering, with each allowing for an increasing level of public impact. DEMOS, a UK think tank, has suggested that discussions with the public should take place before any new scientific developments or technologies become reality. While that degree of participation seems unlikely, some degree of participation is widely accepted by those likely to be effected by major decisions. Experience with processes like Louisiana Speaks that gathered public input on recovery after Hurricane Katrina demonstrated that when given appropriate information in usable form,

regular people will take ownership of outcomes and stay involved.

Questions have been raised regarding what kinds of information participants would likely find most useful. Options range from the specific, such as local scientific/technical issues regarding water, to the general, such as describing the trial-and-error process of scientific method, how science is done in practice, and levels of uncertainty and probability. A combination of the two seems likely to be most useful. All potential topics would benefit from evaluation in a “Message Box” process (Baron, 2010), which asks for succinct “elevator speech,” statements on the Issue; the Problem; Why it Matters; the Solution; the Benefit to the region, to the community, and society in general.

The easiest to arrange venues may be on university campuses. However, such settings may prove intimidating for non-technical citizens. Groups like LAWEN have used public libraries. Some format models recommend using informal venues like restaurants or bars where people might feel more comfortable just taking part in a conversation.

Public outreach researchers and practitioners have developed an array of outreach models. Presentation formats might include a mix of elements from two or more of the following:

- **TED-Talk like model** has been shown to have the capacity to convey complex information in short presentations by well-prepared speakers using engaging and accessible language, storytelling, and limited use of visuals.
- **Café Scientifique**, first developed in France and later adapted in the United Kingdom, also involves a short presentation by an expert but is more interactive with the presentation providing a basis for discussion. Lay audience and culture experts with special knowledge are treated as equals. Emphasis is on being both informative and enjoyable with sufficient time allowed to clarify complex ideas. The format encourages

human connections through questioning experts about motives (for participating, entering their field, choice of research topics), funding, scientific method, etc.

- **Demonstration Lectures** use a portable apparatus, leave no harmful residue, and are set up within an hour and disassembled again as quickly as possible. This format can create opportunities for audience participation. The fact that some demonstrations may not work or may discussing the trial and error of how science is done in actual practice.
- **Book Clubs** may discuss non-fiction books on water topics or novels with water science themes.
- **Scenario Workshops** are based on asking “what if” questions.
- **Dialogue** applies focused approaches using established methods for discussing controversial topics with guidelines for maintaining civility.
- **Eco-Tourism** engages local people acting as visitors and/or guides to regional features.

Equally balanced dialogue is probably not achievable because scientists and technical people will invariably know more about their subjects and disciplines. However, all outreach models’ use of common language have potential to create shared learning space as a platform for building mutual trust and understanding, legitimacy, and credibility. BTNEP has great experience in using this common language to communicate science.

Enhanced scientific literacy also has potential to help drive economic diversification and greater stability based on identifying possible appropriate use of natural resources found in the BTES and promoting research and development to create higher value-added products based on regional resources. Referrals to technical assistance will help raise community-level water knowledge and awareness of business and workforce opportunities to smooth out impacts in energy industry “boom and bust” cycles.

Use of pre- and post-surveys of participant perceptions of the experience, scientific knowledge, and perceived capacity to actively participate could help guide improvements for more effective



Shrimp trawl boat in early morning fog. Image: Lane Lefort Photography

communication, which may also be transferrable to other outreach efforts.

As appropriate, BTNEP will collaborate in organizing presentations within the region. Presentations will be digitally recorded, posted on YouTube and partner web sites, and used to spark community and online conversations on water. Digital recordings could eventually become part of content for proposed water-knowledge kiosks at regional public libraries. Results of pre- and post-surveys will guide refining formats and shared language for maximum effectiveness in raising scientific literacy and self-perceived capacity to actively participate in public discourse on water. These talks could also be used by the education community as appropriate.

LEAD AGENCY RESPONSIBLE FOR IMPLEMENTATION

BTNEP may take the lead in networking to implement scientific literacy programs and is also part of a collaborative effort that builds on existing water management networks around the New Orleans

based LAWEN, which also convenes meetings in Baton Rouge and Lafayette. Other partners might be Research Park Corporation/NexusLA and Good Work Network, which promote technology and ecosystem development and entrepreneurship.

TIMELINES AND MILESTONES

The scientific literacy initiative will have an approximately two-year timeline for selecting and training speakers to deliver presentations, digital recording of presentations, and organizing conversations around digital recordings.

POSSIBLE RANGE OF COST AND SOURCES OF FUNDING

The collaborative team has submitted an application to the Gulf Capacity Building program of the National Academies of Sciences, Engineering, and Medicine. The proposal involved development of the TED-Talk like format and use of accessible language. The funding request was slightly under \$250,000. If awarded, the grant period would be two years.



Live Louisiana crawfish. Image: Louisiana Sea Grant

The project team is identifying other possible funding sources and will use information developed for the Gulf Capacity grant application to request funding for the same and other possible formats and models. Funding requests will again be in the \$250,000 range.

PERFORMANCE MEASURES

Performance measures will vary depending on the program supported events that are approved in the annual workplans.

Data Gathered

Preservation copies of digital recordings will be held by the project on hard drives then provided to the Nicholls State University Archives. The Nicholls Archives do not have the facilities to serve as a repository for the survey data and make it available to researchers but will advise the project team on identifying a repository with the appropriate facilities to make the survey data available to researchers.

Monitoring

Metrics will include the number of presentation events, venues, and attendees as well as online views. The project will also analyze pre- and post-survey data to identify patterns indicating growth in knowledge and shifts in attitudes on capacity to participate.

Parties Responsible: BTNEP and/or collaborative team

Timetable for Gathering Data: pre- and post-surveys and annual reports

How Data is Shared: via presentations, conversations, online, archives, and eventually through proposed public library kiosks

Possible Data Gaps: individuals and segments of the community not reached

Additional Funding Needed: The first funding request has been submitted. Other possible sources are being identified and possible applications/proposals submitted as seems appropriate.

PE3. Seafood Promotion, Technology, and Marketing (EG1, EG2, EG4)

Louisiana's seafood harvesting sector has been in decline for more than two decades due primarily because of stagnant prices caused by an influx of imported seafood (Asche et al., 2012; Josupeit, 2004; Bene et al., 2000). This competitive pressure has been compounded by rising input costs and a succession of natural and man-made disasters. Together, such factors have led to a 56 percent decline in commercial fisherman license sales in the last 25 years with more than half of this reduction occurring in the past decade alone (LDWF, 2016). The number of seafood dealers and processors in Louisiana has also been in decline as the globalization of fisheries commodity markets has led to downsizing, consolidation, and closure of more than half of the firms in this sector.

As a result of these external forces, remnant seafood firms operating in the BTES have been forced to embrace alternative business models for commercial harvesting and processing. New industry realities require that fishermen, dock owners, and processors are equipped to understand business trends and strategies, technologies, and policies required to survive in an increasingly competitive industry. For these firms, remaining competitive in a global market requires being efficient as possible and maximizing revenues received for seafood products.

OBJECTIVES

Education, technology transfer, and new market development are critical factors for the economic survival of seafood harvesting and processing firms operating in the BTES region. The BTNEP MC will support developing and implementing enhanced public outreach initiatives and partnership opportunities to inform and promote new handling and processing technologies, value-added products, and innovative practices and byproduct uses that



Fresh Louisiana shrimp. Image: Louisiana Sea Grant

maximize the quality and profitability of seafood resources in the BTES region.

DESCRIPTION

The BTNEP MC members are already engaged in various seafood promotion and value-added initiatives. Some specific examples follow:

Direct Marketing: Dockside sales of BTES seafood is a small-scale but effective way for harvesters to capture a greater profit margin for their locally caught fishery products. Once common in the BTES, the practice fell out of fashion in recent decades as U.S. domestic seafood sources were assimilated

into a globalized, commodity market. BTNEP MC partners such as the agents and specialists of the LCES are working with vessel captains to teach improved product handling and marketing techniques to ensure higher quality seafood is available via direct sales to consumers. Examples of this effort in the BTES include LaTerre Direct Seafood (www.laterdirectseafood.com), a regional expansion of the Louisiana Direct Seafood marketing effort launched in 2012 by BTNEP MC partners in the LSU AgCenter (<http://louisianadirectseafood.com>).

Place-Based Promotion: The Louisiana Seafood Certification Program is a marketing initiative of the Louisiana Seafood Promotion and Marketing

Board (LSPMB) and the LDWF. The intent of the program is to establish a unified, widely recognized brand that will introduce new consumers and buyers to Louisiana Seafood. As members of the BTNEP MC, these agencies are uniquely positioned to provide guidance on place-based product promotion and development. Examples of this work include promotion the Certified Wild Louisiana Seafood campaign (<http://certified.louisianaseafood.com>) and efforts to promote the ecological origin of the region's seafood (www.louisianaseafood.com/ecology).

Micro-processing: Small batch processing of finfish and shellfish products has emerged in recent years as an economic opportunity for entrepreneurs. Analogous to the growth of micro-breweries, these businesses process for high-end supermarkets and restaurants that are increasingly demanding authentic, locally sourced seafood products in alternative forms of packaging and preparation. As a member of the BTNEP MC, the LDH provides guidance to this growing sector and regulates the sanitation and permitting of individual businesses.

Value-added Quality: Historically, value-added

applications in seafood have translated only to heavily processed product forms (e.g. pre-portioned, pre-breaded, and pre-cooked). More recently, however, value-added approaches have shifted towards a growing consumer demand for high quality, locally sourced products with an emphasis on freshness and chemical free processing. Louisiana Sea Grant and the LSU AgCenter, both BTNEP MC partners, aid start-up companies and products via technology transfer, product development and food business incubator services, nutritional analysis of value-added recipes and ingredients, and expertise on market development.

Workshop and Conference Support: Through its partner members and directed funding, BTNEP will continue to support developing and presenting promotional campaigns and value-added training opportunities via conferences, workshops, and invited presentations.

Training and outreach opportunities will be held at various locations in the BTES depending on specific needs for education, technology transfer, or market development with seafood harvesters and processors.



Direct marketing of Louisiana seafood. Image: Louisiana Sea Grant

LEAD AGENCY RESPONSIBLE FOR IMPLEMENTATION

BTNEP will collaborate as needed with extension agents, subject matter experts (faculty and staff) of public and private institutions such as the LCES, the Louisiana Sea Grant College program, the LSU AgCenter, the LDWF, the LSPMD, and commodity and trade organizations representing the harvesters, dealers, processors, and retailers of commercial finfish and shellfish species.

TIMELINES AND MILESTONES

BMPs for enhanced quality harvesting and value added processing will be an ongoing focus of the program over the coming five years. The primary mechanisms for achieving these goals will be through partner-member initiatives of the BTNEP MC, guest speakers' presentations at quarterly meetings, and targeted support and sponsorship of ongoing workshops, conferences, and curricula.

POSSIBLE RANGE OF COST AND SOURCES OF FUNDING

State and federal sources of expertise and project

funding include the LDWF, LDH, NOAA, LCES, LSU AgCenter, Louisiana Sea Grant, and the Gulf State Marine Fisheries Commission. Collectively, these institutions expend approximately \$1.5 to \$2 million annually towards seafood product development and marketing campaigns in Louisiana.

PERFORMANCE MEASURES

Performance measures will vary depending on the program supported events that are approved in the annual workplans.

Data Gathered

Presentations and curricula developed with full or partial support from BTNEP will be archived at the BTNEP office at Nicholls.

Monitoring

Metrics will include an annual accounting of the number of program supported presentations, events, venues, and attendees.

Parties Responsible: BTNEP and collaborative partners and BTNEP MC members



Port Fouchon Fisheries Docks. Image: Port Fouchon

Timetable for Gathering Data: annual reports

How Data is Shared: via presentations, conversations, online, archives, and eventually through proposed public library kiosks

Possible Data Gaps: individuals and segments of the community not reached

Additional Funding Needed: A reevaluation of this action item will occur in year five to determine whether additional funding resources are required.

PE4. Development at Port Fourchon (EG2, EG3)

Established in 1960, the Greater Lafourche Port Commission (GLPC) is a political subdivision of the State of Louisiana, and manages the development of Port Fourchon – the nation’s premier energy services port. The GLPC also manages the South Lafourche Airport in Galliano.

Since its establishment in 1960, the GLPC has sought to make Port Fourchon an economic and community development asset for the community of southern Lafourche Parish at the heart of the BTES and has been very successful in that endeavor.

The Port is located on the Gulf of Mexico near the mouth of Bayou Lafourche and is the only Louisiana port directly on the Gulf of Mexico. Fourchon serves as the intermodal offshore energy services and supply port. More than 250 companies utilize Port Fourchon to service offshore rigs in the Gulf of Mexico, carrying equipment, supplies and personnel to offshore locations. In terms of service, Port Fourchon’s tenants provide services to more than 90 percent of all deepwater rigs in the Gulf of Mexico and roughly 45 percent of all shallow water rigs in the Gulf. In total, Port Fourchon plays a key role in providing nearly 20 percent of the nation’s oil supply – or one in every five barrels of oil in the country.

The Port’s economic impact on the BTES is tremendous, as examined in a recent study conducted by Dr. Loren C. Scott, former Chair of the LSU Economics Department. This study found that across the state, Port Fourchon accounts for just over \$4 billion in direct economic activity each year, which includes over \$800 million in household earnings. Most encouraging is that 80 percent of these economic benefits – business sales, jobs, and household earnings – generated by the Port at the state-wide level stay within the BTES in Lafourche and Terrebonne Parishes. One in every 13 workers in Lafourche and Terrebonne parishes are employed directly by activities at Port Fourchon.

This same Loren Scott economic impact study referenced above also modelled the Nationwide impacts of a 3-week shut down of LA1/Port Fourchon and found such a shutdown would cause a loss of \$11.2 billion in sales to US GDP, plus an additional \$3.2 billion in lost household earnings because 65,502 jobs would be lost nationally – for just a 3 week shutdown.

In the 50-plus years since its establishment, Port Fourchon recognizes the needs to balance sustainable development in a fragile, dynamic coastal environment by employing sustainable building practices and employing nature-based defenses for the built assets in and around the Port to implement its vision of holistic resiliency. Further, its community’s heritage is one based on the subsistence, recreational, and commercial fisheries. One would be hard-pressed to find another group of Americans whose culture, character, and fortunes are tied so closely to their natural environment as those of us who call the BTES home, which is why the port has been developed with the need to preserve and protect the environment at the heart of its ongoing capital construction program.

OBJECTIVES

The BTNEP MC has identified the continued expansion of Port Fourchon as an opportunity to

generate increased adoption of the planning and construction of green infrastructure and a holistic approach to resiliency of traditional hard (grey) assets through the construction of natural protective buffers (green infrastructure) throughout the BTES.

DESCRIPTION

BTNEP has a long history of providing strategic scientific advice to Port officials as they plan port development projects, and this successful partnership has greatly assisted and informed the Port's philosophy of holistic resiliency in its current and future iterations of development.

To date, Port Fourchon has completed the industrial development of nearly 1,800 acres for specialized energy industry service facilities and infrastructure. This is supported by over 66,000 linear feet of bulkheaded waterfrontage, and utilized by over 200 companies. In order to construct these industrial facilities in mostly shallow open water areas, the GLPC has had to perform mitigation activities to offset the habitat loss resulting from converting these watery areas in to industrial lands.

Consistent with the advice from BTNEP, the GLPC has chosen not to purchase mitigation credits to

offset this development in some far-off mitigation bank but has, instead, constructed nearly 1,000 acres of vibrant saline marsh immediately adjacent to the port. Over and above this mitigation marsh creation work, the Port has also constructed an over 100-acre maritime forest ridge and marsh complex through a partnership with BTNEP. These environmental restoration projects have provided enhanced storm protection to the Port's built assets through storms including hurricanes Katrina, Rita, Gustav, Ike and Issac.

The BTNEP MC will work with the GLPC and a host of other partners to highlight the GLPC's efforts to scale up these holistically-resilient development works for the benefit and restoration of key areas within the BTES in order to demonstrate the commercial viability of sustainable development in an environmentally-sustainable manner.

LOCATION

Port Fourchon is in extreme southern Lafourche Parish and is located at the mouth of Bayou Lafourche on the dividing line between the Barataria and Terrebonne Basins.

Future developments to employ this holistic



Aerial Image of Port Fourchon looking south to the Gulf of Mexico. Image: Port Fourchon

resiliency approach to constructing both grey and green infrastructure will be located in both Basins and within potentially a larger radius than traditionally developed due to the magnitude of dredging required for the Port's planned expansion.

LEAD AGENCY RESPONSIBLE FOR IMPLEMENTATION

While the GLPC is the lead agency for the actual construction and development works, the BTNEP MC and a host of other partners will continue to be a critical clearinghouse of scientific and technical advice on how best to leverage dredged materials to meet and exceed mitigation requirements for development in a manner which enhances the resiliency of built assets. Likely partners in this endeavor include, but are not limited to the following

- BTNEP
- BTEF
- Nicholls State University
- Louisiana State University
- Environmental NGOs and non-profits
- Louisiana's Coastal Protection and Restoration Authority
- The energy industry
- Media

TIMELINES AND MILESTONES

The GLPC is planning to continue its conventional development with its upcoming Slip D development in its Northern Expansion area in 2017 through 2020, and will construct over 90 acres of saline marsh as mitigation for this development in a highly visible and accessible location.

Separate to the proposed Slip D development, the GLPC is working to complete a feasibility study of deepening the entrance to Port Fourchon in Belle

Pass to the intersection with Pass Fourchon to a depth of up to -50 feet. This channel deepening project is estimated to generate approximately 25 million cubic yards of material, of which roughly 12 to 15 million cubic yards will be available for beneficial use for restoration projects over and above mitigation throughout the region. The timeline for this development is anticipated to run from initial approval of the proposed development in 2018 through phased development over the next 15 years.

POSSIBLE RANGE OF COST AND SOURCES OF FUNDING

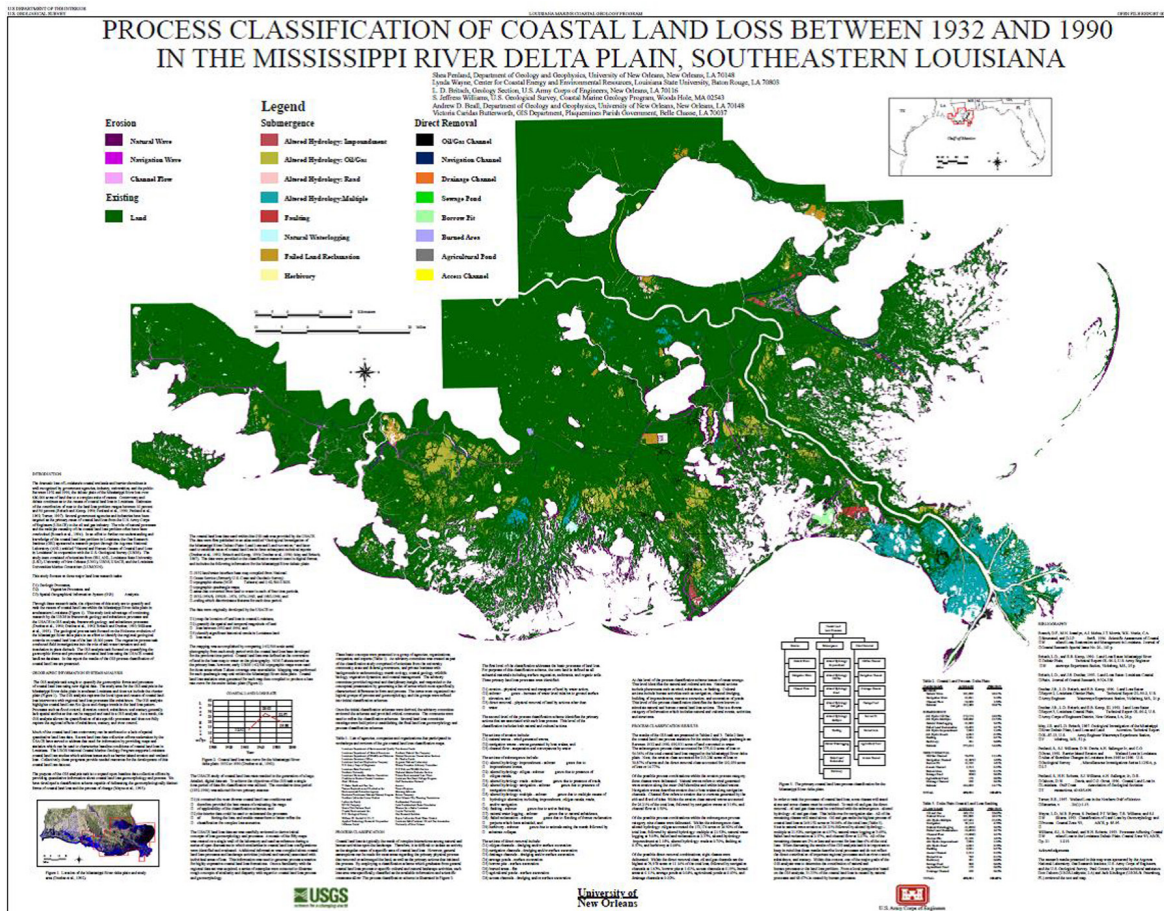
The costs of the BTNEP MC's involvement are relatively low and mainly limited to assisting with regular outreach and educational efforts to promote the concept of holistic resiliency and sustainable development in coastal areas.

Depending on the level of engagement that the BTNEP MC chooses to generate for this concept, the costs could range between entirely in-house staff time and existing efforts to promote sound design practices upwards to \$100,000 to include promotional and educational materials, programming, scientific and technical support in the design and implementation of green infrastructure such as vegetative plantings, etc. In the instance of some of these enhanced support techniques, funding may be available from either the GLPC or other stakeholders benefitting from this more intensive support. Other funding streams include private philanthropy, industry corporate social responsibility support, and grant programs such as Gulf of Mexico Program, etc.

PERFORMANCE MEASURES

Data Gathered

Data points to measure performance include acres of property developed and restored in the region as well as number of volunteer events and hours, hours of staff time spent on outreach and technical assistance, media coverage and exposure, and number of outreach events and contacts generated.



Map and information on landloss. Image: USGS

<https://www.usgs.gov/media/images/example-usgs-ofr-418-penland-et-al-2001>

Monitoring

- **Parties Responsible:** GLPC, BTNEP, and other agency and NGO partners
- **Timetable for Gathering Data:** commencing in Fall 2017 with commencement of Slip D mitigation development
- **How Data is Shared:** via email, reporting tools (to be developed), social media, media, etc.
- **Possible Data Gaps:** performance of other projects in the region or future projects inspired by this model
- **Additional Funding Needed:** Funding for the actual construction of the green and

gray infrastructure development will be the responsibility of the GLPC in the case of development of additional infrastructure at and for Port Fourchon.

PE5. Climate Change as an Economic Driver (EG1, EG2, EG4)

The economy of the BTES is situated within a low elevation landscape that is increasingly vulnerable to coastal inundation, subsidence, and erosion. These processes are compounded by chronic and acute forcing (geologic and meteorological) that is

exacerbated by a changing climate. Approximately 2,000 square miles of wetlands have been converted to open water in coastal Louisiana since the 1930s - with the largest portion of this loss occurring within the boundaries of the BTES. It's a region with one of the highest documented rates of relative sea-level rise in the world. The southernmost portion of the BTES, Grand Isle, recorded an average annual increase of 9.34 mm per year in mean sea level from 1947 to 2006 (NOAA, 2016). More than any other single factor, coastal subsidence and its contribution to relative sea level rise has and will continue to affect patterns of land use, resource access, and commercial development in the region. The coastal communities of the BTES must continue being advised and plan for the realities of a changing climate and landscape. Their response to this challenge will have substantial implications for their economic security, physical protection, and cultural identity.

OBJECTIVES

BTNEP will continue to help individuals, businesses, and communities plan for and adapt to projected climate changes, by:

- supporting and sharing the latest assessments on coastal landscape change and climate-based projections.
- promoting awareness and understanding of adaptive restoration and protection options and the capacity of these strategies to mitigate changing conditions.
- developing information and tools to aid residents and businesses on economic decisions related to development, settlement, and risk mitigation.
- promoting the BTES region as a global leader in the development of coastal restoration technologies and community adaptation approaches for dealing with climate change.

DESCRIPTION

BTNEP MC members are already engaged in various

climate-related programs and projects. Specific examples follow.

- outreach presentations at BTNEP MC meetings that provide detailed status and projections for coastal land-loss
- dissemination of coastal mapping and visualization tools for improving public understanding of inundation levels from storm surge and long-term climate change
- active participation on task force and advisory committees that address coastal restoration and mitigation of climate-related risk
- participation in conferences and workshops that identify and promote the economic opportunities and constraints presented by these landscape challenges and the unique contributions of BTES in coastal restoration and climate change mitigation options

Training and outreach opportunities will be held at various locations in the BTES depending on specific needs for education, technology transfer, or program development with specific audiences (residents, businesses, commercial sectors, and state and federal government agencies).

LEAD AGENCY RESPONSIBLE FOR IMPLEMENTATION

BTNEP will collaborate as needed with subject matter experts of public and private universities, federal agencies such as EPA, NOAA, USGS, state agencies such as CPRA, and the Louisiana Sea Grant College program as well as scientists, engineers, and planners from the private sector.

TIMELINES AND MILESTONES

Climate-based programming will be a regularly featured topic on the agenda of BTNEP MC meetings over the coming five years. To the extent possible, the program will sponsor/support demonstration projects, ongoing workshops, conferences, and

climate-based curricula that focus on economic alternatives for residents and businesses.

POSSIBLE RANGE OF COST AND SOURCES OF FUNDING

State and federal sources of expertise and project funding include EPA, NOAA, CPRA, and Louisiana Sea Grant.

PERFORMANCE MEASURES

Performance measures will vary depending on the program supported events that are approved in the annual workplans.

Data Gathered

Presentations and curricula developed with full or partial support from BTNEP will be archived at the BTNEP office at Nicholls.

Monitoring

Metrics will include an annual accounting of the number of climate-related programs supported (e.g. presentations, workshops, conferences), a description of the target audience, and an estimate of the number of attendees.

- **Parties Responsible:** BTNEP, collaborative partners, and BTNEP MC members
- **Timetable for Gathering Data:** annual reports
- **How Data is Shared:** via presentations, conversations, online, archives, and eventually through proposed public library kiosks
- **Possible Data Gaps:** individuals and segments of the community not reached
- **Additional Funding Needed:** A reevaluation of this action item will occur in year five to determine whether additional funding resources are required

PE6. Business Financial Assistance as an Economic Driver (EG1, EG2, EG3 & EG4)

Economics and the environmental considerations are often thought of as being polar opposites. The relationship between the BTES and the economy requires, however, that citizens and community leaders balance the use and protection of the bountiful natural resources. Resources are available to entrepreneurs to build and grow small to medium businesses. Nature based business is often considered a bit more risky and is often not funded by national, state, or even local banks. The SCPDC has low interest funding available and has identified eco-tourism and nature based business as a target for the diversification and growth of our economy.

OBJECTIVES

- To educate business leaders, elected officials, university officials, and the general public about the economic value and potential of BTNEP as a future economic engine for southern Louisiana with relationship to sustainable development
- To drive economic diversification and stability through the appropriate use of natural resources found in the BTES
- To identify, catalog, and promote access to financial tools to environmentally friendly businesses; incentive programs that could assist in business formation and growth; and grant program development to assist in programmatic activities related to wetland resources
- To operate as a conduit linking businesses with resources
- To identify and promote solutions for any financial and regulatory gaps faced by business
- To create place-based marketing programs that



Local businesses must use wise economic decision-making related to development, settlement, and risk mitigation. Image: Lafourche Parish Tourist Commission

reinforce the positive messages about the quality of life and economic opportunities in the BTNEP region

DESCRIPTION

- Economic Development Planning's multiple opportunities include BTNEP's unique balance and partnership between economic opportunities, environmental awareness, and proper use of

natural resources. With the participation of local government, the SPCDC can/will continue to include and encourage eco-tourism opportunities and value added measures to complement existing resource use and acknowledge continued consideration of the protection of the BTES as we use our natural resources. (Planning Documents include SCPDC's Comprehensive Economic Development Strategies and Delta Regional Authority's 5 Year Strategies, etc).



Swamps of Louisiana's estuaries provide great space for ecotourism. Image: Lane Lefort Photography

- Encourage Environmental Awareness in federal, state, and local economic development trainings for newly elected officials and through chambers and other forum opportunities where businesses form, grow, and bring in new staff
- Link or develop financial and business assistance guides with BTNEP's web and communication network
- Push incentives and grant opportunity information as it is discovered to BTNEP's web and communication network to encourage environmentally friendly programs and business opportunities
- Support and assist entrepreneurs who express interest in eco-friendly business ventures
- Highlight and include the unique value and availability of BTES resources for work and play as Quality of Place grows as a key component in site selection and workforce recruitments

Opportunities are endless for BTNEP-based businesses to create and grow BTES-related businesses that responsibly conserve natural resources, to export value added products to the world to treat visitors to the tremendous adventures that the BTES provides, and to encourage responsible recreational use of our BTES resources.

LEAD AGENCY RESPONSIBLE FOR IMPLEMENTATION

Collaboration is key within the BTES for leaders in economic development and tourism (SCPDC, SLEC, the SBDC, the chambers, and local government) to know the resources and to use every opportunity to disseminate grants and incentive and financial opportunities to the public. Key additional players are our bankers. Entrepreneurs often go to their bank when they have ideas. Bankers need to be aware of technical assistance opportunities and gap financing opportunities so that entrepreneurs have alternatives and information and an understanding of the importance of the balance between economic

and environmental considerations. All parties need to be a part of and aware of BTNEP's resources to complement, support, and provide proper cautions when businesses create or expand in a way that affects the BTES.

TIMELINES AND MILESTONES

The SBDC, SLEC, and SCPDC operate year round to provide services to entrepreneurs and existing businesses. Milestones would include a review of new business starts and contacts made between their agencies and members of the business community.

POSSIBLE RANGE OF COST AND SOURCES OF FUNDING

The noted agencies often provide free or low business and technical assistance services. SCPDC's Revolving Loan Funds are a low interest tool offered to businesses that cannot otherwise get traditional bank financing.

PERFORMANCE MEASURES

Performance measures will vary depending on the program supported events that are approved in the annual workplans.

Data Gathered

In partnership with SBDC, SLEC, SCPDC, TEDA, and other local economic development officials, BTNEP could gather information on BTES and resource based businesses. This could provide examples for people interested in getting into this type of business.

Monitoring

BTNEP could annually request data on services provided to BTES based businesses.

Parties Responsible: TEDA SBDC, SLEC, SCPDC, and TED

Timetable for Gathering Data: annually

How Data is Shared: This information could be provided to the BTNEP MC and made available on its website and through BTNEP's communication network.

Additional Funding Needed: Additional funding may be needed to provide financial business assistance.

PE7. Liaison roles of BTNEP (EG1, EG2, EG3 & EG4)

BTNEP and the BTPO and staff are unique resources to serve and supplement economic and business development within the region. With the partnering and benefit of the BTNEP MC membership from federal, state, local, academic and business community leaders, BTNEP is properly viewed as a neutral resource to provide balance when parties consider the use versus the protection of our precious natural resources.

OBJECTIVES

- To educate business leaders, elected officials, university officials, and the general public about economic resources
- To become a thought leader for the impact of regulations and how they affect both the economics and ecologic environments
- To drive research and development in key sectors
- To promote technology transfer
- To understand and explain best practices
- To operate as a conduit
- To identify and promote solutions
- To serve as a connector and promoter of BTNEP related businesses

DESCRIPTION

SBDC, SCPDC, and TEDA should add/include BTNEP in resource guides for small businesses. These guides offer a variety of services that entrepreneurs might tap into when considering or developing new or expanding opportunities.

While recognizing their lobbying prohibition, BTNEP should be invited to provide information when economic development activities involve significant or unique potential environmental impacts.

By keeping an ear on the needs of the community and the BTES when funding opportunities are made available, BTNEP should stand ready to propose research and development projects to gather and access data that responds to frequently asked questions and assist in pending community and political decisions.

BTNEP should showcase new technologies and service/support federal and state agencies in this capacity.

BTNEP should showcase eco-based tourism and business activities that promote respectfully using BTES resources.

This action plan will be implemented throughout the BTES and in state and national forums.

LEAD AGENCY RESPONSIBLE FOR IMPLEMENTATION

- BTNEP

TIMELINES AND MILESTONES

- Continual

POSSIBLE RANGE OF COST AND SOURCES OF FUNDING

Federal and state programmatic resources provide some funding to support BTNEP's role as a liaison for the BTES. When opportunities arise for available outside funding, the opportunities should be used as

long as the methods of funding are in line with ethics and other legal boundaries.

PERFORMANCE MEASURES

Performance measures will vary depending on the program-supported events that are approved in the annual workplans.

Data Gathered

Types and location of eco-tourism based business operations, best practices for eco-based operations, and information specific to a pending problem of issue could be gathered.

Monitoring

Parties Responsible: BTNEP

Timetable for Gathering Data: continual

How Data is Shared: web based and other communication network

Possible Data Gaps: individuals and segments of the community not reached.

Additional Funding Needed: Additional funding may be needed to provide financial business assistance.

PE8. Business Education and Training (EG1, EG2, EG3)

Educational support activities shall include education efforts for elected officials, university leadership, the business community, and the general public about the economic opportunity inherent in creating and sustaining a new industry sector aligned with BTNEP's environmental goals.

OBJECTIVES

- To educate business leaders, elected officials, university officials, and the general public about



Sunset in the swamp. Image: Lane Lefort Photography

the economic value and the potential of BTNEP as a future economic engine for southern Louisiana

- To become a thought leader for the impact of regulations and how they affect both the economic and ecologic environments of BTNEP
- To drive economic diversity and stability through the appropriate use of natural resources found in the BTES, including extracting higher value products from existing resources through the use of research and development
- To explore opportunities to create new courses, programs, certifications, and degrees in conjunction with higher education and business leaders

The objective is to support developing and implementing education and certification programs throughout the education ecosystem. Aligning with existing economic development strategies to make coastal restoration a legitimate “export industry” in south Louisiana, BTNEP can drive smart strategies for workforce development.

Education institutions have expressed a strong desire to be more aligned with economic development in their respective areas. With partners like Fletcher Technical College and Nicholls, BTNEP can assess the needs of the future workforce and assist higher education institutions in developing curricula that will help fill those future needs.

DESCRIPTION

Creating Coastal Curricula

Creating curricula generally takes excess time and money. Given the economic climate, seeking alternative ways to create programs at higher education institutions could be the answer. This consists of three main components:

- 1. Assess Existing Programs:** Understanding what programs and courses currently exist locally is the first component to solving this challenge
- 2. Assess Future Workforce Needs:** While more complicated, understanding what

companies will need over the next 10-20 years is critical in linking programs to actual jobs.

3. Fill the Gaps: To execute, BTNEP should work only on filling the gaps. It is estimated that many certificate programs could be created without the addition of any new courses. By restructuring existing courses to create programs, it is possible to create impactful programs with little to no new funding.

These activities can be undertaken at all higher education institutions in the BTNEP region.

LEAD AGENCY RESPONSIBLE FOR IMPLEMENTATION

BTNEP will collaborate with the respective institutions and economic development organizations throughout the region to implement these initiatives.

TIMELINES AND MILESTONES

Evaluation should take place through year one of the initiative. Working on certificate programs with Fletcher and Nicholls will likely take another year. Continuously assessing and improving these programs will be critical to their success.

POSSIBLE RANGE OF COSTS AND SOURCES OF FUNDING

This initiative could be implemented with minimal additional funding. A more practical approach would be to fund the assessment activities through grant activities connected to BTNEP partners. Conducting a thorough analysis could cost between \$25,000 to \$50,000.

PERFORMANCE MEASURES

Performance measures will vary depending on the program supported events that are approved in the annual workplans.

Possible Data Gathered

The possible data gathered will include programs and reach.

Programs: The primary metric will be the number of programs created.

Reach: The secondary metrics will include the number of students completing the programs and the percentage of them who receive jobs in the industry.

Additional metrics should be developed for each individual program created.

PE9. Marketing the Barataria-Terrebonne National Estuary Program (EG4)

Marketing activities for BTNEP should focus on establishing a strong brand around environmental opportunities and the coastal restoration industry.

OBJECTIVES

- To explore opportunities to create a new brand or maximize the existing brand throughout southeast Louisiana
- To create place-based marketing programs that will reinforce the positive messages about the quality of life and economic opportunities in the BTNEP region
- To serve as a connector and promoter of BTNEP related businesses through the support or creation of an exposition that focuses on business, technology, and academic research related to estuaries
- Leveraging the strong environmental brand already associated with BTNEP, future activities should build upon that brand to promote economic and technological opportunities for environmentally sustainable businesses.

DESCRIPTION

Becoming a hub for economically sustainable businesses.

In general, marketing takes a large, sustained investment to make a lasting impact. However, BTNEP has an opportunity to become the flag bearer for environmentally sustainable businesses in its region without a large marketing budget. To accomplish this, BTNEP should:

- maximize its brand exposure. With existing conferences in key areas already underway, BTNEP can gain by partnering with those entities to bring value to the conference through in-kind contributions.
- focus on earned media. Creating and distributing talking points on the quality of life and economic opportunities in the BTNEP region will situate the organization as a thought-leader in the area and should create earned media opportunities.
- use word of mouth. Inherent in this small region in South Louisiana, BTNEP can spread its message to its desired audience by becoming a trusted and valued partner to both business and academic partners.

These activities can be undertaken throughout south Louisiana.

LEAD AGENCY RESPONSIBLE FOR IMPLEMENTATION

BTNEP will collaborate with the respective institutions and economic development organizations throughout the region to implement these initiatives.

TIMELINES AND MILESTONES

An annual marketing strategy should be put in place.

POSSIBLE RANGE OF COSTS AND SOURCES OF FUNDING

Much of this work can be accomplished with very little cost. Although it should be noted that with more resources put into marketing activities, the higher the success rate should be. It is recommended that EDA dollars be spent to further marketing goals. Further,

the State of Louisiana and local tourism commissions occasionally open grant opportunities to fund marketing of tourism assets in their respective areas.

PERFORMANCE MEASURES

The primary metric will be the number of marketing initiatives created.

REFERENCES

Asche, F., Benneer, L. S., Oglend, A., & Smith, M. D. (2012). US shrimp market integration. *Marine Resource Economics*, 27(2), 181-192.

Bene, C., Cadrenb, M., & Lantz, F. (2000). Impact of cultured shrimp industry on wild shrimp fisheries: Analysis of price determination mechanisms and market dynamics. *Agricultural Economics*, 23(1), 55-68.

Josuweit, H. (2004). An overview on the world shrimp market. *World Shrimp Markets*, 26-27.

LDWF (2016). Commercial License Sales: 1987-2012, Louisiana Department of Wildlife and Fisheries, Available at: <http://www.wlf.louisiana.gov/licenses/statistics> Accessed on 10/25/16.

NOAA (2016.) Mean Sea Level Trend, 8761724 Grand Isle, Louisiana. https://tidesandcurrents.noaa.gov/sltrends/sltrends_station.shtml?stnid=8761724