



# ANALYSIS OF COASTAL RESTORATION WORKFORCE ASSETS, CHALLENGES, AND OPPORTUNITIES IN SOUTH LOUISIANA

Completed for Foundation for Louisiana by Greater New Orleans, Inc.  
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# FOREWORD

For nearly a decade, Foundation for Louisiana has worked to create opportunities for and with people who simply need a chance - a place at the table.

We were born out of the unprecedented disasters of 2005, when the communities and people of Louisiana who had already experienced generations of disinvestment found themselves struggling to survive.

Since 2005, the remarkable story in our state has been one of not just survival, but of resilience; of people and communities who have faced down adversity and “switched the script” to one of opportunity. Foundation for Louisiana is proud to join the untold numbers of people and organizations worldwide who have supported our state’s people as they have not just survived, but also thrived.

When another type of disaster struck in 2010, in the form of a massive oil spill that threatened the very existence of our coastal communities, the people and communities of Coastal Louisiana again faced mind-boggling devastation of our environmental, physical and economic wellness. At the same time, we knew that we had some powerful lessons learned under our belts, of using our now-renowned resilience, perseverance and experience to harvest opportunity out of despair.

This **Analysis of Coastal Restoration Workforce Assets, Challenges, and Opportunities in South Louisiana** provides a clear and achievable road map for how to go about doing just that. It shows that, with smart decisions and strategic allocation of resources, we can help the people of our coastal communities who, with just a “leg up,” can

achieve new careers, bright futures and expanded opportunities.

As we publish this report, 2015 is nearly upon us, the year during which the people of our state will mark ten years since Hurricanes Katrina and Rita exposed deep inequities that had long festered just below the surface. It is most fitting that we mark this occasion by seizing upon a new opportunity to provide the good folks of Coastal Louisiana a seat at the proverbial table of prosperity.

Foundation for Louisiana is proud to partner with Greater New Orleans, Inc. on this work to create a practical guide for bringing jobs and prosperity to our coast. We are very grateful for the support of The Walton Family Foundation, whose commitment and partnership made all the difference in taking this project from idea to fruition. Most important, we’re gratified to have the informed input of dozens of committed people - service providers, public officials, policy experts and industry interests – who have shaped this analysis.

Reversing decades of inequity is tough work that moves forward inch by inch, family by family, community by community. For those of us who have made this our life’s work, we know the importance of acting on a good opportunity when it presents itself. Girded by the collective resources of a comprehensive coastal plan, the RESTORE Act’s billions, and the abiding spirit of our people, the time to act is now.

*– Flozell Daniels, Jr.  
President and CEO, Foundation for Louisiana*

# INTRODUCTION

The implementation of Louisiana's 2012 Coastal Master Plan is underway and is designed to ensure the future of Louisiana's coastal environments and economy. The only plan of its kind in the country, the Coastal Master Plan will protect significant energy and commerce assets critical to the nation's economic security. The Coastal Master Plan, along with the Greater New Orleans Urban Water Plan, demonstrates a science-based, strategic approach to resilience that has garnered national and international attention for Louisiana.

Recognizing the significant opportunity of planned coastal restoration projects on the communities, environments, and economies of South Louisiana, Foundation for Louisiana (FFL) commissioned Greater New Orleans, Inc. (GNO, Inc.) to produce an analysis of Louisiana's coastal restoration industry and workforce that could inform public officials, community partners and potential funders about the workforce assets, opportunities, and challenges relevant to implementing the Coastal Master Plan.

## BACKGROUND

Before Hurricanes Katrina and Rita, coastal restoration and protection was implemented by a range of entities with a limited amount of coordination and overall direction. After these disasters, the Louisiana Legislature recognized the need for a coordinating body by passing Act 8 of the First Extraordinary Session of 2005, ordering the formation of the Louisiana Coastal Protection and Restoration Authority (CPRA). The CPRA was charged with developing a roadmap for stabilizing and rebuilding Louisiana's coast, resulting in a bold Coastal Master Plan that is updated every five years (2012 marks the latest revision).<sup>1</sup> The ambitious

Coastal Master Plan calls for \$50 billion to be spent on coastal projects over the next 50 years. In 2014 alone, the CPRA has total planned expenditures of \$725 million.<sup>2</sup>

Louisiana is on the cusp of an unprecedented opportunity to ramp up implementation of the Coastal Master Plan with the influx of billions of dollars from oil spill related fines and penalties. In accordance with the RESTORE Act, 80 percent of these funds will be allocated to the five states along the Gulf Coast<sup>3</sup> through a structure laid out within the law.

Currently, the criminal fines against BP and Transocean have been resolved, resulting in \$2.544 billion allocated to the Gulf Environmental Benefit Fund; of this total sum, Louisiana is receiving \$1.272 billion for barrier island and river diversion projects in coordination with the CPRA Master Plan. Beyond these criminal fines, civil proceedings against BP are underway, with a total award estimated at \$4.4 to \$17 billion to be divided by the five Gulf Coast states. In addition to the payout for coastal restoration from the RESTORE Act, there are multiple coastal funding programs that provide a smaller yet steady stream of resources.<sup>4</sup>

Although the current rate of land loss is outpacing the flow of funds, this opportunity is catalyzing significant momentum for restoration activities that represent job creation and economic opportunity for Louisiana companies and residents. According to the Mather Economics' report titled "Job Creation from Gulf Coast Restoration," an investment of \$25 billion will support 15,490 jobs over the next 10 years and more than 58,000 jobs over 50 years.<sup>5</sup>



## 5

The CPRA is ultimately responsible for implementing the Coastal Master Plan. This responsibility includes oversight of contractor and consultant selection, but no strategies for recruiting, training, and supporting the workforce necessary for its projects. Building pathways for the local Louisiana workforce to support these contracts will not only support the health of local economies, but will also create new profiles of employment opportunity. As a result of these new and

## Coastal Industry Workforce Analysis

diversified projects and requisite skill-sets, previously disengaged and disenfranchised residents will have unprecedented career options. Ensuring access and clear pathways for these workers is now critical.

**Louisiana is on the cusp of an unprecedented opportunity to ramp up implementation of the Coastal Master Plan with the influx of billions of dollars from oil spill related fines and penalties.**



*A hydraulic dredge pumps offshore sediment onto Chaland Island, an eroding barrier island in Plaquemines Parish.*  
Source: NOAA

# METHODOLOGY

The goal of this report is to study how the coastal restoration industry is connecting, or could connect, with local communities to maximize opportunities for residents and meet the projected demand for a skilled coastal workforce. In pursuit of this goal, the methodology employed centered around gathering data from a variety of sources across the industry landscape, governmental agencies, and coastal communities. Over the course of three months, GNO, Inc. undertook a comprehensive investigation that included:

## DATA ANALYSIS

- In cooperation with CPRA, GNO, Inc. received data on state cash transfers related to 59 completed coastal projects.
- Building off of work done by The Data Center,<sup>6</sup> an analysis of the water management and the energy and petrochemical manufacturing (energy/petchem) industries was completed.

## FIELD RESEARCH

- 17 firms were interviewed on a one-on-one basis.<sup>7</sup>
- Four roundtable sessions were organized and attended by GNO, Inc.'s regional economic development organization (EDO) partners in the Lake Charles, Lafayette, Thibodaux/Houma, and Baton Rouge regions.

## REGIONAL SURVEY

- 22 service providers in the New Orleans Region were surveyed.<sup>8</sup>

Additional project activities were completed by and for FFL including:

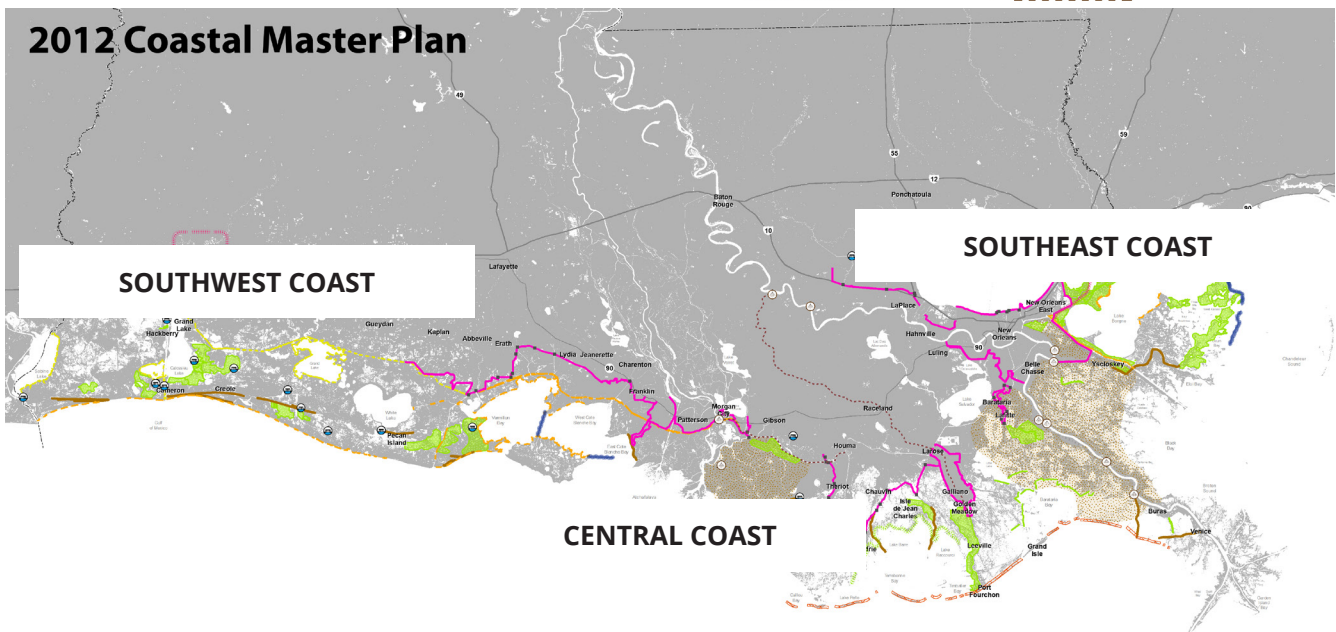
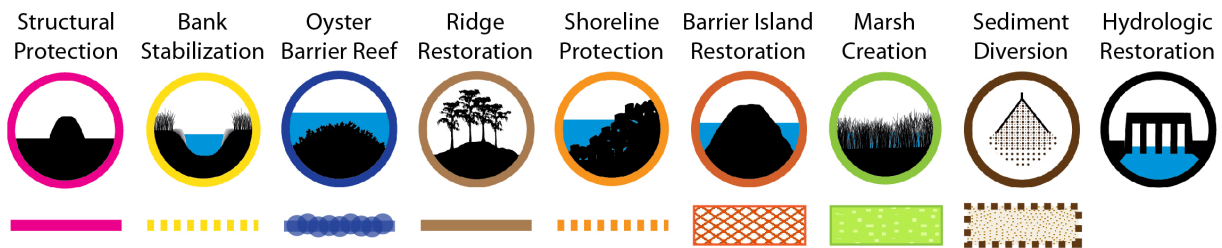
- A History of Rebuilding & Recovery Projects in Coastal Louisiana, by Ardyn Thriffiley.
- Facilitated Community Roundtables in the Lake Charles, Lafayette, Thibodaux/Houma, and Baton Rouge regions.

Findings from all of these activities are referenced in this report.



# GEOGRAPHIC SCOPE

The outreach herein was divided in accordance with CPRA's coastal segments. These segments and the coinciding proposed restoration projects are based on the distinct topography, geography, and hydrology of these coastal regions.



The Southwest Coast is defined by its Chenier Plains, the Central Coast by the Atchafalya Basin, and the Southeast Coast by the Mississippi River.

Metros associated with each of these regions are as follows:

- Southwest Coast (Lake Charles Region)
- Central Coast (Lafayette and Thibodaux/Houma Regions)
- Southeast Coast (New Orleans and Baton Rouge Regions)



Along with their trademark geographic differences, these regions are diverse in their economic, social, and cultural make-ups.

<b>Region</b>	<b>Pop.</b>	<b>Top Industry Sectors by Employment*</b>	<b>% Pop. w/Bachelor Degree or Higher</b>	<b>% Pop. White/ Black/ Other</b>
Southwest Coast	297K	Travel Accommodations, Hospitals, Heavy Construction, Mining/Oil & Gas	17%	72/22/6
Central Coast	885K	Support Mining Activities, Support Water Transportation	16%	67/25/8
Southeast Coast	2,278K	Hospitals, Travel Accommodations, Utility System Construction	25%	55/35/10

*\*Public sector and retail trades are top industry sectors for all regions and have been removed*

*Source: EMSI Database*



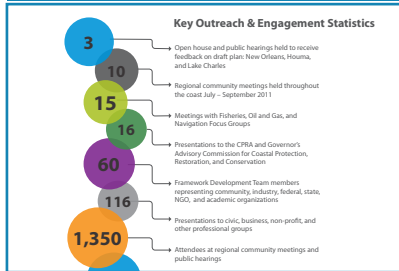
# FINDINGS & RECOMMENDATIONS

Although efforts to mitigate coastal erosion have existed for decades, there has never been greater attention on this issue from such a broad array of constituents. Sound science documenting the increasing scale and scope of the problem, the Coastal Master Plan, and forthcoming revenue sources provide the impetus for concerted action. The following recommendations, informed by the findings from this study, are designed to maximize the economic opportunity of coastal restoration for Louisiana and its residents and support both the demand side (employers) and supply side (job seekers) of labor.

The road to the CPRA is paved with subcontractors (page 9)



If you can't measure it, you can't manage or market it (page 11)



Workforce pipelines must extend to our coast (page 13)



Coastal Jobs = Career Ladders (page 15)



No Instructors = No Workers = No Coastal Restoration (page 17)



Industry based certifications: A chicken or egg problem (page 19)



Multiple industries need skilled craft workers (page 21)



# The road to the CPRA is paved with subcontractors

## FINDING

When the CPRA assumed the role of statewide coordinating body for coastal restoration, it changed the dynamic of the industry from smaller and fragmented to larger and more integrated projects. This has had implications for small and medium-sized firms that engage in coastal work. The CPRA is a relatively small state agency that is responsible for hundreds of millions of dollars of contracting annually. In order to manage this responsibility, the agency has increased the size of its “prime” professional services contracts to reduce the amount of contractors it needs, and by extension reduce the amount of contract management it must carry out. In general, this trend has favored larger firms that have more capacity to dedicate to a project, but the relative size of a contract type is an important factor. For example, a \$10 million construction contract is relatively small by the industry standard compared to a \$10 million contract for environmental services. Another implication of this trend is the increasing size of the teams (including prime contractors/consultants and their subcontractors/consultants)<sup>9</sup> that submit proposals to the CPRA.

State bid law mandates that engineering design services must be based on capability of firms and not on price.<sup>10</sup> Because of this mandate, the industry tends to be largely relationship based and not price-focused. When speaking with firms who successfully became prime consultants, they described their first step as internal, by first building their firm’s coastal capabilities, then becoming a sub-consultant to a prime CPRA consultant, and finally becoming a prime themselves.

Beyond becoming a prime contractor or consultant, there are significant opportunities for a variety of firms to engage in CPRA contracts in the subcontractor and sub-consultant role, as illustrated below. Some of these firms, such as surveying firms, can work for multiple primes. For firms aspiring to become a prime, the sub-consultant role allows them an opportunity to gain experience, expand their coastal capacity, and build relationships with the CPRA project managers.

PLANNING	ENGINEERING & DESIGN	CONSTRUCTION	OPERATIONS & MAINTENANCE
<p><b>PRIME:</b></p> <ul style="list-style-type: none"> <li>• Civil &amp; Coastal Engineering</li> <li>• Environmental Sciences (permitting)</li> <li>• Drafting</li> <li>• GIS Mapping</li> </ul> <p><b>SUBCONTRACT:</b></p> <ul style="list-style-type: none"> <li>• Computer Modelling</li> <li>• Public Outreach</li> <li>• Archaeology</li> </ul>	<p><b>PRIME:</b></p> <ul style="list-style-type: none"> <li>• Civil &amp; Coastal Engineering</li> <li>• GIS Mapping</li> </ul> <p><b>SUBCONTRACT:</b></p> <ul style="list-style-type: none"> <li>• Surveying</li> <li>• Geotechnical Drilling &amp; Sampling</li> <li>• Inspection</li> <li>• Computer Modelling</li> </ul>	<p><b>PRIME:</b></p> <ul style="list-style-type: none"> <li>• Equipment Operations</li> <li>• Boat Captains &amp; Crew</li> <li>• Diesel Mechanics</li> <li>• Skilled Crafts</li> <li>• Civil Engineering</li> <li>• Labor</li> </ul> <p><b>SUBCONTRACT:</b></p> <ul style="list-style-type: none"> <li>• Surveying</li> <li>• Marsh Buggy Operations</li> <li>• Transportation</li> </ul>	<p><b>PRIME:</b></p> <ul style="list-style-type: none"> <li>• Biology</li> <li>• Engineering Technicians</li> </ul> <p><b>SUBCONTRACT:</b></p> <ul style="list-style-type: none"> <li>• Surveying</li> <li>• Transportation</li> </ul>

# The road to the CPRA is paved with subcontractors

## RECOMMENDATION

Increase local employment and wealth generation by expanding participation of Louisiana (LA) firms in CPRA contracts using a four-part strategy:

### MARKETING

Economic development organizations (EDOs) and Chambers of Commerce can provide networking events for potential subs from their region and CPRA prime contractors to increase the number of local subs utilized on prime teams.

### TECHNICAL ASSISTANCE

EDOs or business assistance organizations can organize workshops for LA firms introducing successful strategies and resources available to current CPRA subcontractors and sub-consultants that have aspirations of becoming primes, potentially engaging the LA Procurement Technical Assistance Center, the Louisiana Small Business Assistance Centers, Goodwork Network, and other business assistance organizations.

### WORKFORCE ASSISTANCE

Provide potential subs with the resources needed to attract workers and train existing workers. For example, the recently created Graduate Certificates in Coastal Engineering and Coastal Sciences at University of New Orleans, informed by GNO, Inc. and industry, is available to working professionals to take online; digital resources, like [worknola.com](http://worknola.com) or [louisianajobconnection.com](http://louisianajobconnection.com) can be utilized to broadly market current job openings.

### POLICY

Pilot a professional services procurement opportunity for small-to-medium sized firms, as determined by number of employees or revenues, in order to determine the feasibility and/or resources needed for CPRA to manage smaller contracts. Creating smaller entry-level contracts will provide a stepping stone for small-to-medium sized firms to gain access and experience carrying out state level coastal contracts.

# If you can't measure it, you can't manage or market it

## FINDING

The CPRA is a relatively new agency that is working with urgency to save a coast that is eroding every day. Between July 2007 and August 2014, the agency has implemented 59 projects totalling \$2.4 billion. Priorities within the agency, understandably, are to approve and complete projects as efficiently as possible. Tracking certain data and information about projects beyond what is legislated or necessary for funding compliance is not prioritized (i.e. dollar amounts going to subcontractors). Presently, the CPRA knows the subs each of their primes engage, but not how or to what extent those subs are utilized, nor how they recruit and train their workforce. As long as the prime has complied with CPRA regulations and is meeting CPRA's expectations, little if any attention is given to the subcontractors on any given project.

Furthermore, there is a perception among the public that only large national and international firms are getting business from the CPRA. This is not entirely correct. Of the top ten contractors and top ten consultants who have completed projects between July 2007 and August 2014, six are incorporated in Louisiana.<sup>11</sup> Nonetheless, the largest contracts tend to be awarded to firms with headquarters outside Louisiana.

Top Contractors	Dollars	Top Consultants	Dollars
GREAT LAKES DREDGE & DOCK	\$269,684,484	<b>SHAW ENVIRONMENTAL INC</b>	<b>\$22,618,684</b>
WEEKS MARINE INC	\$162,289,775	COASTAL PLANNING & ENGINEERING	\$6,343,991
MANSON CONSTRUCTION CO	\$51,701,677	FUGRO	\$4,994,155
PINE BLUFF SAND & GRAVEL CO	\$42,161,912	<b>SJB GROUP LLC</b>	<b>\$4,351,766</b>
<b>MCMANUS CONSTRUCTION INC</b>	<b>\$14,045,436</b>	<b>T BAKER SMITH &amp; SON INC</b>	<b>\$3,980,379</b>
LUHR BROS INC	\$9,806,327	CH2M HILL	\$2,175,832
STUYVESANT	\$9,448,603	COASTAL ENGINEERING CONSULTANTS	\$1,938,360
<b>BERTUCCI CONTRACTING CORP</b>	<b>\$8,641,418</b>	HNTB-CPE A JOINT VENTURE	\$1,965,099
L & L	\$7,898,622	HDR ENGINEERING INC	\$1,773,421
HALLIBURTON ENERGY SERVICES	\$7,886,475	<b>LARRY DOIRON INC</b>	<b>\$1,653,301</b>

*\*Bolted companies are incorporated in Louisiana*

*Source: Data from CPRA, total spend captured represents \$755M from projects completed between 2007 and August 2014<sup>12</sup>*

Furthermore, a sample of firms interviewed that are engaged in CPRA contracts indicated there have been multiple opportunities for small and medium sized local firms to get business in the subcontractor and sub-consultant roles. It was difficult, however, to gauge the exact size and scope of these opportunities and actual occurrences from the limited data available through the CPRA's contract management systems. This finding suggests that the sub role may become even more relevant if larger contracts continue. With better data, the CPRA would be able to both counter the notion that only large firms are taking advantage of CPRA contracts and broaden the business community's awareness about the scope and size of opportunities in coastal projects.

According to the companies interviewed by GNO, Inc., most often subcontractors, not primes, are employing local workers. Therefore, having more detailed information about subcontractors would help workforce development organizations and job seekers in their efforts to reach employers.



# If you can't measure it, you can't manage or market it

## RECOMMENDATION

Explore with the CPRA how they or other entities could institute the procedures necessary to track subs as part of the adoption of the LaGov Enterprise Resource Planning (ERP) system and publish this data. Several organizations could use this data for multiple purposes:

### MARKETING

CPRA could track and publish the extent that small and medium sized firms were used as part of their annual plans, which could counter the perception that only large firms are getting business. EDOs could market both business opportunities and expertise within coastal restoration and protection that lie with the subcontractor and sub-consultant roles.

### OUTREACH

Outreach efforts can help inform community based organizations whose role is to help connect families to economic opportunities and jobs. The data could be used to communicate potential employment demands and opportunities to Workforce Investment Boards and workforce development organizations.

### DATA ANALYSIS

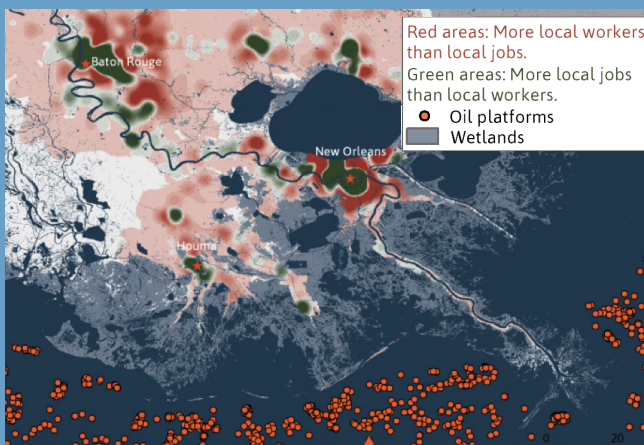
The scale and scope of LA firms engaging in coastal work could be measured and reported over time, for example by The Data Center<sup>13</sup> as part of their Coastal Index series.

# Workforce pipelines must extend to our coast

## FINDING

Since 2005, there has been a retreat of working-age residents from coastal regions. Consequently there are fewer working-age adults in the areas where much of the construction of coastal restoration projects occurs.

The Data Center has documented this phenomenon (pictured below) in their recent 'Coastal Index 2014' report that noted that 1) coastal communities are losing population, and commutes to work are getting longer for the labor force and 2) the poor are being left behind in the migration from the coasts, as every coastal community that has lost population since 2005 also has lower per capita income than the national average.



Source: The Data Center's Coastal Index, 2014

The scope of The Data Center's findings is based on what it calls the Super Region (Baton Rouge metro, New Orleans metro, and Houma-Bayou Cane-Thibodaux metro). Our outreach extended to the Greater Lafayette and Lake Charles regions and confirmed these two findings. Interviews in Lake Charles revealed that Cameron Parish, lying between the Gulf of Mexico and the city of Lake Charles, lost an estimated 30 percent of its population after Hurricanes Katrina and Rita. According to focus group participants, very few residents have returned, not because of their lack of desire, but rather because of the absence of economic opportunities (jobs) in the area.

The lack of workforce necessary to complete coastal projects will be a challenge given that most coastal projects lie in these depopulated coastal areas. Workers will certainly have to commute from inland population centers and work untraditional shifts (i.e. seven days on, seven days off). This raises issues of connectivity (transportation) and work-life challenges (for example, child-care). These are challenges of the near future, as most coastal employers have not yet voiced hard projections or significant workforce deficits that are impeding their businesses. Unlike the energy/petchem industry, which has a predictable revenue sources and timelines, the coastal program relies on a number of funding streams, each having its own timeline and criteria governing the use of those funds. Because of this, funding tends to be sporadic and difficult to forecast.

Traditional industry sectors along the coast (oil & gas, shipbuilding, etc.) have been dealing with these workforce barriers for the past ten years and have explored and implemented a variety of solutions. An example of a systems-level initiative employed in energy/petrochem is the GO Group in Lake Charles that formed in response to SASOL's \$21 billion<sup>14</sup> announced expansion to their Westlake facility. This group consists of community stakeholder and service providers<sup>15</sup> who tackled issues related to lack of housing, traffic congestion, healthcare, and added pressure on the education system.

# Workforce pipelines must extend to our coast

## RECOMMENDATION

Develop regional solutions for addressing systemic barriers to building coastal workforce pipelines.

### BEST PRACTICE RESEARCH

Review workforce strategies utilized by peer industries operating in coastal zone, specifically shipbuilding and oil & gas that have experienced significant workforce constraints. This is a proactive step in anticipation of coming coastal work.

### SYSTEMS SOLUTIONS

Form regional taskforces including a diversity of stakeholders to identify pain points and innovate effective strategies for overcoming barriers to employment.

Draft a Request for Qualifications (RFQ) inviting firms to propose transportation, or other systems-level solutions, as a means to quickly identify and support effective, regionally appropriate options.

### OUTREACH AND SUPPORT

Ensure that service providers are aware of and ready for this new coastal workforce demand by identifying challenges when scaling up, as well as shoring up resources to support an increase in service demands.

### MARKETING


Synthesize this information and present to coastal employers and service providers, including publicly funded workforce training providers, on how intelligent strategies and investments can be employed to minimize growing pains from scaling up.

# Coastal Jobs = Career Ladders

## FINDING

The coastal restoration workforce includes a range of occupations and a diversity of skills, education, and/or training requirements. Some occupations require post-graduate degrees, but many of this industry's professions require less than a four-year degree but more than a high school diploma and have linked career paths. Many job seekers and workforce training providers are unaware of these employment opportunities in coastal restoration, including careers in surveying, geotechnical sampling, equipment operations, and boat operations.

Surveying is just one example of a relatively unknown coastal profession that is integral to coastal projects as well as other heavy industries, like construction and oil & gas exploration. The entry-level position on a survey crew is a Survey Helper, which requires a drug test but no formal schooling. With a certification, a Helper can become a Survey Technician. With experience, a Survey Technician can become a Party Chief. The highest level of surveying is becoming a Licensed Surveyor, which has an average annual salary of \$50K, pictured below. Like many skilled craft occupations, surveying suffers from a lack of incoming workers to the profession. The average age of a Surveyor in Louisiana is 57 years old.<sup>16</sup> Although surveying requires fieldwork, it is a sophisticated profession that utilizes the latest technological advances in laser guided equipment and mobile technology.



Occupation	Education	Requirements/ Licenses	Pay
Licensed Surveyor	Bachelor's Degree	Professional License	(LA) - \$24.65/hr (US) - \$27.04/hr
Party Chief	High School/Some College	Survey Technician with 5+ years experience	(LA) - \$21/hr (US) - \$21/hr
Survey & Mapping Technician	High School/Some College	Multiple Licenses Available	(LA) - \$16.27/hr (US) - \$19.07/hr
Survey Helper	None	Drug Test	(LA) - \$10-14/hr (US) - \$10-14/hr

Source: EMSI Database and Bureau of Labor Statistics website

One of the biggest obstacles to connecting potential workers to these professions is a lack of awareness or misperception that they are dead-end jobs. Creating awareness and dispelling these myths is a significant opportunity to link these multiple career pathways with minimal educational barriers to those who are willing to start at the bottom and work hard.



# Coastal Jobs = Career Ladders

## RECOMMENDATION

Create awareness of opportunities among community actors and residents on the spectrums of opportunities available within coastal restoration, upward career pathways with entry-level positions as a starting point, and the requirements and industry-based and stackable credentials

### RESEARCH & ANALYSIS

Create career maps for occupations employed by coastal restoration projects to communicate the requirements necessary to move up the career ladder. Ensure that workforce development emphasizes occupations and career maps that require industry based credentials (IBCs) that are stackable (a sequence of credentials that build upon one another) and portable (move with the employee).

### MARKETING & OUTREACH

Form regional taskforces including a diversity of stakeholders to identify constraints and innovate effective strategies to overcome barriers to employment.

- Select and fund community champions to disseminate information and data to the stakeholders, service providers, and residents in their community.
- Create an online resource guide for coastal and water management professions (SASOL model)<sup>17</sup> that includes elements of remediation/adult basic education, individual case management, wrap-around supportive services, basic social/work skills, community building, social networking, etc.
- Use social media (YouTube videos) to highlight high-demand professions and employers in short videos and market them to K-12 schools, counselors, WIBs, and all other community-based providers.
- Target returning citizens (those with criminal backgrounds) currently ineligible to work in the energy/petchem sector because they cannot obtain a Transportation Worker Identification Card.<sup>18</sup>

### PROGRAM DEVELOPMENT

Establish regional Water Management Education & Training Coalitions, programmatically informed and supported by national and international coastal restoration industry partners.

- Establish relevant feeder programs at regional two-year colleges, i.e. LCTCS schools.
- Build out articulation agreements between two- and four-year colleges to create clear bridges and pathways up coastal career ladders.

Programs and investments have recently been made to prepare Louisiana's workforce for the state's high-growth, high-wage professions. For example, the Jump Start Program brings together secondary schools, colleges, and businesses to provide career courses to high school students. The Workforce and Innovation for a Stronger Economy (WISE) fund allocates new investments in higher education within the emerging growth sectors of the economy. These types of initiatives are essential to increase the capacity of training.

# No Instructors = No Workers = No Coastal Restoration

## FINDING

Louisiana Technical and Community College System (LCTCS) institutions do not have the capacity nor the ability to attract and retain certified faculty to meet the growing demand from the coastal/water and energy/petchem industries. This is primarily the result of two converging factors: funding decline and competing/higher wages from the energy/petchem industry.

Over the past six years, funding for LCTCS has declined. Representatives from these institutions stated they previously received 70 percent of their funding from the state and 30 percent from tuition. That ratio is now the inverse, 30 percent from the state and an average of 70 percent from tuition. Declines in overall resources have resulted in the consolidation of community and technical colleges and the cutting of programs. Skilled craft programs can be challenging for schools to support and sustain because both facilities and instructor costs make such programs more expensive to run compared to programs that only require a generic classroom.

Louisiana is experiencing an unparalleled energy boom. Over \$60 billion of new investment in the energy/petchem industries has been announced to take place over the next ten years (LED.gov). The build-out alone of facilities slated for the Lake Charles area will require 30,000 workers.<sup>20</sup> Compounding the issue, many of the highest demand occupations are staffed by those nearing retirement. For example, 21.6 percent of operating engineers and 21.4 percent of first-line supervisors of construction trades in Louisiana are age 55 or older.<sup>21</sup>

There is so much demand from the energy/petchem sector that certified faculty who might have taught in the LCTCS are being hired away by industry offering higher salaries. Representatives from South Louisiana Community College (SLCC) and SOWELA Technical and Community College both voiced challenges related to keeping faculty in high-demand fields such as welding and surveying. Demand for certified faculty is being further driven by new need and competition from high schools across the state who are looking to hire certified faculty for in-house skilled craft programs related to the Louisiana Department of Education's Jump Start initiative.

Many of these skilled craft professions are utilized in coastal/water generally. In order to ensure a seamless workforce to industry pipeline, we need the faculty to teach prospective students these high-demand skills.

# No Instructors = No Workers = No Coastal Restoration

## RECOMMENDATION

LCTCS must diversify its talent pipeline for instructors. LCTCS schools can meet their faculty needs 1) by hiring industry retirees as instructors, 2) from re-entry programs, and 3) from coalitions of industries or firms.

### OUTREACH

Canvas the LCTCS to gauge the appetite, feasibility and existing utilization of a pipeline of 1) workers retiring from industry, 2) returning citizens, and 3) current employees of industry partners. Interview the leadership of the system, Chancellors of individual schools, technical divisions, and human resource representatives. If these pipelines are viable options, then:

### PROGRAM DEVELOPMENT

Propose the LCTCS develop a pilot program to train and hire a cohort of instructors based on these recommendations and provide incoming faculty with training specific to teaching. If successful, roll out to other subject areas with faculty deficits.

### LEVERAGE EXISTING PARTNERSHIPS

LCTCS schools must effectively utilize existing Industry Advisory Committees. Employer partners must be made aware of faculty gaps and schools must request financial or in-kind support. LCTCS may also facilitate formation of industry coalitions to support colleges in difficult-to-retain faculty positions. This support could be in the form of providing an industry employee to LCTCS as an instructor or funding to supplement a salary to attract and retain the necessary talent.

### SYSTEMS SOLUTION

Establishment of a new position, at LCTCS system level, that aids each college with planning and management of their instructor talent pipeline and provides a single point of coordination and information sharing between all LCTCS schools and industry. This could ensure that, statewide, across all schools, industry partners share the burden and individual schools are diversifying their talent pipeline relationships.

The Louisiana Society of Professional Engineers is building a coalition of their members to support the survey technician program at South Louisiana Community College (SLCC) by providing a faculty member. The LCTCS 2020 Plan offers a strong commitment to meet projected industry needs and is a trusted and capable partner.

# Industry based certifications: A chicken or egg problem

## FINDING

Many high-demand jobs in the coastal/water and energy/petchem sectors do not require a 2- or 4-year degree but an industry-based certification. Students seeking an industry-based certification (IBC) are 'non-degree' seeking and therefore not eligible for the traditional forms of financial aid (Pell grants, student loans, etc.). Hence, you can make a lot of money if you have an IBC, but you cannot get a certification if you do not have money.

Many of the relevant certifications are sanctioned by the National Center for Construction Education and Research (NCCER). NCCER is a credentialing organization that certifies training and assessment programs according to mastered skill-sets. Their certifications are nationally recognized and stackable. NCCER has 70 craft areas they certify, all of which are being used in Louisiana related to the energy boom and many to coastal/water. Examples of these are:

- Heavy Equipment Operations
- Pipefitting
- Welding
- Pipeline
- Ironworking

There are several certified vendors in Louisiana. Two of the largest vendors are the LCTCS and the Associated Builders and Contractors (ABC). Many more individuals who are unemployed or underemployed could be enrolling in these programs if they had access to financial assistance, representing a large pool of underutilized labor and opportunities for long-term career pathways.



# Industry based certifications: A chicken or egg problem

## RECOMMENDATION

Change the paradigm of industry-based certifications to access more potential enrollees and expand the role of employers.

### OUTREACH

Review models used in other industries such as tuition reimbursement, tuition stipends, accelerated training funding, etc.

### PROGRAM DEVELOPMENT

Once an appropriate model is identified, pilot a program that first engages employers to identify workforce demands, then coordinates with stakeholders and service providers (education institutions, credit unions, foundations, government, WIBs, etc.) to recruit potential enrollees.

Examples of employer specific programs and partnerships exist to overcome this challenge. Turner Industries and other ABC members have developed a model to train their skilled craft employees at night with cost sharing between the employee and employer to ensure there is mutual buy-in. Laitram, L.L.C. provides tuition reimbursement and wages for year-round interns.

Shell, Turner, and ABC along with safety councils have refined a fully funded accelerated training program for multiple skilled craft trades. Every employer operates differently and there is no one-size-fits-all solution, but coastal employers could learn from these programs and adapt best practices to meet their needs.

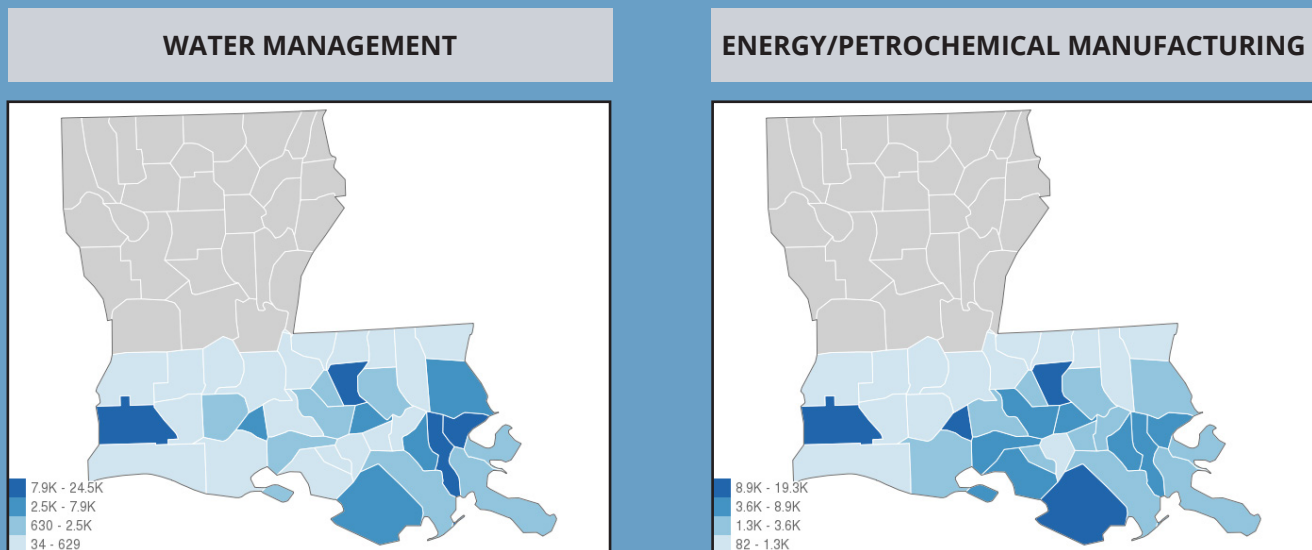
There are also nonprofit organizations that help individuals establish Individual Development Accounts (IDAs) which could be used towards education costs.

# Multiple industries need skilled craft workers

## FINDING

Most stakeholders and service providers are scrambling to meet the workforce demands coming from the booming (energy/petchem) industries with little knowledge of the opportunities available within coastal restoration and broader water management sector<sup>19</sup> (coastal/water). Many occupations are utilized by both industries, particularly in the skilled craft trades.

In its recent report *The Transformative Possibility of the New “Energy Boom” in Southeast Louisiana*, The Data Center outlines this struggle to meet energy/petchem workforce demands. Since the publication of this report, The Data Center has refined its definition of both the Energy Boom sector (energy/petchem) and the water management sector. Using this new classification, the overlap in occupations shared by these two sectors was analyzed and the geographic scope broadened to include all of coastal Louisiana. This broadened geographic area is pictured below with relative concentrations of employment in blue. (Areas in gray are not part of the analysis.)



Source: EMSI database using The Data Center's methodology

These findings indicate that there is significantly more overlap between professions than previously thought.

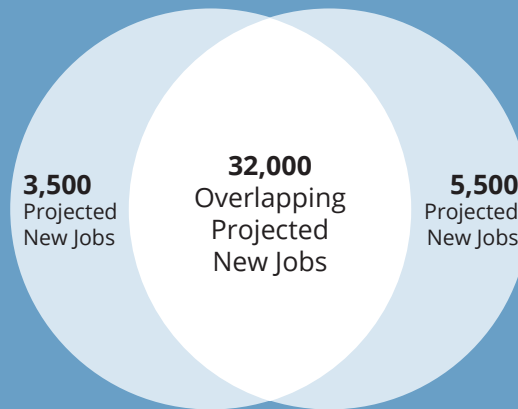
# Multiple industries need skilled craft workers

## FINDING (CONT'D)

New job growth in water management will be 19,400 while energy/petchem will add 21,700 jobs by 2024. Of these 41,100 new jobs, 32,000 or 78 percent will be in occupations shared by both industries, as pictured below.

### Water Management

19,400 Total  
Projected New Jobs  
27% Job Growth



### Energy & Petrochemical

21,700 Total  
Projected New Jobs  
20% Job Growth

Source: EMSI Database using The Data Center's methodology

Occupations	2013	2024	Change
Construction Laborers	11,973	15,286	3,313
Carpenters	6,365	8,577	2,212
First-Line Supervisors of Construction Trades & Extraction Workers	6,252	8,153	1,901
Operating Engineers and Other Construction Equipment Operators	6,864	8,487	1,623
General and Operations Managers	5,365	6,501	1,136
Welders, Cutters, Solderers, and Brazers	6,966	8,068	1,102
Civil Engineers	2,887	3,960	1,073
Construction Managers	2,967	3,951	984
Heavy and Tractor-Trailer Truck Drivers	4,090	4,972	882
Roustabouts, Oil and Gas	2,953	3,779	826
Plumbers, Pipefitters, and Steamfitters	4,165	4,745	580
Maintenance and Repair Workers, General	3,949	4,515	566
Laborers and Freight, Stock, and Material Movers, Hand	3,435	3,954	519
Machinists	1,869	2,388	519
First-Line Supervisors of Production and Operating Workers	3,490	3,986	496
Inspectors, Testers, Sorters, Samplers, and Weighers	2,467	2,902	435
Cost Estimators	1,080	1,511	431
Riggers	1,907	2,327	420
Business Operations Specialists, All Other	1,961	2,360	399
Mechanical Engineers	1,316	1,707	391

Source: EMSI database using The Data Center's methodology

Administrative occupations have been removed

# Multiple industries need skilled craft workers

## FINDING (CONT'D)

This 78 percent overlap of new job growth represents a potential bottleneck because both industries will be drawing from the same pool of labor that is already in high demand but low supply. From one perspective, there will be competition from both sectors for these workers. From another, there will be a diversity of industry opportunities for workers to choose from. If demand for these crossover occupations can be met, the coastal region will have a more diversified and resilient economy. The challenge will be to meet the demand for energy/petchem jobs that garner higher wages while having enough labor to complete coastal/water projects in an economically feasible manner.

A source for this pool of labor could come from the more than 15,000 individuals released each year from local and state prisons and whose criminal backgrounds prohibit employment in much of the energy/petchem industry. Louisiana has by far the highest rate of incarceration in the US: 847 per 100,000 in 2013 compared to the state with the second highest rate, Mississippi, who had a rate of 692 per 100,000.<sup>22</sup> However, many of these returning citizens are non-violent offenders who could benefit from programs that prepare them for jobs and heightened productivity.

Refineries and other industrial plants that interface with ports require that workers have a Transportation Worker Identification Credential (TWIC) card. This requirement was put in place under the federal Maritime and Transportation Security Act of 2002 following the September 11th attacks. Offenses that can make an individual ineligible for a TWIC card are diverse but fall under two categories – permanent and interim. Permanent offenses include crimes such as terrorism, unlawful use of hazardous materials, murder, and serious racketeering offenses. Interim offenses, which disqualify an applicant for a period of time,<sup>23</sup> include unlawful acts involving firearms, drug distribution, robbery, and lesser racketeering offenses.<sup>24</sup>



# Multiple industries need skilled craft workers

## RECOMMENDATION

There are scattered efforts underway across the coast looking at avenues for prison re-entry programs. What these lack are robust linkages to industries and employers. Coastal restoration firms are in a position to satisfy their workforce demands despite energy/petchem absorbing most of the available skilled craft labor, if they engage re-entry programs.

### RESEARCH

Catalog re-entry programs and points of contact at the federal, state, and local levels. Include information on what skills are taught as part of their current re-entry training and evaluate the effectiveness of each program.

### MARKETING

Educate re-entry programs on the unique opportunity presented by the coastal restoration industry versus other industry sectors that are not available to those with a criminal record. Support a regional or statewide convening of various re-entry programs to share strategies and lessons learned – and create a statewide network that could help increase the workforce pool. Encourage teaching skills that are in highest demand by industries where returning citizens are eligible to work, for example coastal restoration.

### OUTREACH & SUPPORT

Connect re-entry programs and coastal employers to build robust pipelines that lead from prison to gainful employment restoring our coast. Where appropriate, bring local Louisiana Technical and Community College System members to the table to provide accelerated training. Support existing re-entry coalitions that are currently working with re-entering residents to build economic opportunities and workforce training programs to prepare them for jobs.

Examples of such a coordinating body are the partnership between the City of New Orleans, New Orleans Business Alliance, GNO, Inc., local workforce development organizations, and employer champions working to create employment opportunities for those re-entering the New Orleans region. Additionally, efforts by the Capital Area Re-Entry Coalition, include working with energy/petchem industry partners and Baton Rouge Community College to train re-entering residents for jobs and careers.

# CONCLUSION

The need for coastal restoration is urgent and the resources needed to implement are in hand, with even more forthcoming. Potentially representing Louisiana's largest public works project in history, and providing a model for resilience for the country, the potential to include local companies and workforce is a major economic opportunity that cannot be overlooked. This report details strategies and tactics to mobilize local actors, funders, governments, service providers, and industry into action. Coordination and leadership are necessary to fulfill the goal of ensuring that the economic benefits of coastal restoration are maximized for Louisiana and its residents. We are advocating for a proactive approach in anticipation of coastal dollars being distributed and workforce demanded. Stakeholders and service providers should be positioning themselves and their programs to meet this coming need.

Over the past three years, GNO, Inc. and other regional economic development organizations have actively engaged the workforce development ecosystem. Despite this short track record, these agencies have gained a reputation as honest brokers working between employers and government, and have built a track record convening key stakeholders and facilitating strategic relationships between coalitions of industry, government, schools, and other organizations around issues critical to our economy. Reframing coastal restoration as economic opportunity and ensuring it is prioritized on local economic development agendas along the coast, as well as at the state level, will promote the discussion of who is involved and who will benefit from these activities. Coastal restoration has the potential to catalyze economic growth in Louisiana and its coastal communities. Moreover, if we are successful in laying the foundation of a robust coastal restoration industry, we will have a sector with the experience and expertise that can be exported around the country and world.

# ENDNOTES

1. <http://coastal.la.gov/a-common-vision/2012-coastal-master-plan/>
2. CPRA 2014 Annual Plan.
3. <http://www.treasury.gov/services/restore-act/Pages/default.aspx>
4. Coastal Impact Assistance Program (CIAP), Coastal Wetlands Planning Protection and Restoration Act (CWP-PRA), the Gulf of Mexico Energy Security Act (GOMESA), Natural Resource Damage Assessment (NRDA).
5. <http://www.waltonfamilyfoundation.org/environment/gulfjobsreport/>
6. The Data Center is an independent research institution that serves Southeast Louisiana.
7. Barowka and Bonura, Bertucci Construction, BFM Corporation, CB&I, CH2M Hill, Conestoga-Rovers & Associates, Digital Engineering, Eustis Engineering, Fenstermaker, Fugro, GAEA Consulting, HDR, HNTB, Royal Engineering, SJB Group, Weeks Marine, Wilco Marsh Buggies.
8. Associated Builders and Contractors (ABC) – New Orleans/Bayou Chapter, Catholic Charities Archdioceses of New Orleans, City of New Orleans Office of Workforce Development, Coastal Communities Consulting, Inc., Delgado, First Planning District Workforce Investment Board, Limitless Vistas, Louisiana Green Corps, New Orleans Business Alliance, New Orleans Works, Nunez Community College, Partnership for Youth Development, St. Bernard Chamber of Commerce, St. Bernard Economic Development Foundation, The Corps Network - Gulf Coast Restoration Corps, The Cowen Institute, The St. Bernard Project, Inc., Total Community Action, Inc., Urban League of Greater New Orleans, Inc., Urban Strategies, Youth Empowerment Project.
9. Note: Construction vendors are referred to as contractors and subcontractors. Professional services vendors (engineering services, environmental services, etc.) are referred to as consultants and sub-consultants.
10. <http://www.legis.state.la.us/lss/lss.asp?doc=410629>
11. This is historical data that does not capture consolidation among firms that has occurred after projects were completed. For example, Shaw Environmental acquired Coastal Engineering Consultants and was then acquired by CB&I in 2013. Nor does this analysis include contracts awarded by external partners on most large-scale hurricane protection projects.
12. Represents state level contracting – not federal contracting. Combined state and federal spending totals \$2.4B for this time period.
13. The Data Center is an independent research institution operating in Southeast Louisiana.
14. Represents state level contracting – not federal contracting. Combined state and federal spending totals \$2.4B for this time period.
15. The steering committee includes several municipalities within Calcasieu Parish, the Police Jury, the Sheriff's Office, the School Board, the Southwest Louisiana Economic Development Alliance, the West Calcasieu Chamber, IMCAL and the Port of Lake Charles. The Police Jury will lead the committee, and District 14 Police Juror Hal McMillin is the chairman.
16. Louisiana Society of Professional Surveyors.
17. [http://allianceswla.org/Images/Interior/sasol%20workforce%20resource%20guide%205-2014\(1\).pdf](http://allianceswla.org/Images/Interior/sasol%20workforce%20resource%20guide%205-2014(1).pdf)
18. A security measure that ensures individuals who pose a threat do not gain unescorted access to secure areas of the nation's maritime transportation system.
19. Water management is a broad industry classification that contains coastal restoration.
20. SWLA Economic Development Alliance.
21. EMSI Database.
22. [http://www.nola.com/politics/index.ssf/2014/09/louisianas\\_prison\\_population\\_f.html](http://www.nola.com/politics/index.ssf/2014/09/louisianas_prison_population_f.html)
23. Convicted in the past seven years and/or released from incarceration resulting from conviction within the past five years.
24. TSA.gov



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