ACKNOWLEDGEMENTS

This report is the final product of a three-phase research effort supported through two USDA Office of Rural Development Enterprise grants and a grant from the Louisiana Seafood Promotion and Marketing Board. Phase one of this research was supported through USDA Rural Development and included the coastal Acadiana parishes—Vermilion, Iberia, and St. Mary. Phase Two expanded the study area with a second grant from USDA Rural Development to St. Bernard, Plaquemines, and rural Jefferson parishes. A third and final round of support from the Louisiana Seafood Promotion and Marketing Board expanded the research to cover every coastal parish and included Cameron, Terrebonne, Lafourche, urban Jefferson, and Orleans parishes. The project team included the Meridian Institute and the University of Louisiana at Lafayette B.I. Moody III College of Business Administration, and in consultation with Louisiana SeaGrant.

Report Authors

Madelyn Smith
Geoffrey T. Stewart
Meghan Massaua
Deborah Atwood
Michael Lesnick
Thomas Hymel
Meridian Institute
Ph.D. – University of Louisiana
Meridian Institute
Meridian Institute
Meridian Institute
LSU Ag Center and Louisiana Sea Grant

About Meridian Institute:
Meridian Institute is a mission-driven, non-profit organization that has helped its clients and partners develop and implement solutions to complicated, often controversial problems—big and small, global and local—for over two decades. To learn more, visit www.merid.org or connect on Twitter @MeridOrg.

About the Louisiana Seafood Promotion and Marketing Board:
USDA Rural Development is committed to helping improve the economy and quality of life in rural America. USDA Rural Development administers a variety of programs that offer loans, grants, loan guarantees, and technical assistance to promote economic development and community empowerment.

About the University of Louisiana at Lafayette, B.I. Moody III College of Business Administration:
The B.I. Moody III College of Business Administration began as the Department of Business in 1902. For more than a century, Moody Business has developed ethically responsible professionals and scholars who positively impact our Acadiana region, Louisiana, and the global community.

About Louisiana Sea Grant:
Since its establishment in 1968, the Louisiana Sea Grant College Program has worked to promote stewardship of the state’s coastal resources through a combination of research, education, and outreach.

About the Louisiana Seafood Promotion and Marketing Board:
Louisiana Seafood Promotion & Marketing Board was created to support Louisiana’s world-class seafood industry and does so through programs that encourage the use of Louisiana seafood by consumers and commercial interests.
# Table of Contents

## Executive Summary

## Introduction

## RESEARCH APPROACH

## The Coastal Louisiana Seafood Industry

- Characteristics and Culture of Louisiana’s Coastal Seafood Industry
- Demographics of the Coastal Zone
- Economic Value of Louisiana’s Coastal Seafood Industry
- The Seafood Industry Supply Chain
- Industry-Wide Challenges and Economic Development Needs
- Looking Forward: a Vision for a More Resilient Seafood Industry

## An Economic Development Strategy for the Coastal Louisiana Seafood Industry

- Vision
- Engagement, Planning, and Resources
- Marketing Branding and Innovation
- Workforce and Infrastructure

## Conclusion

## Appendix A: Acknowledgments

## Appendix B: Detailed Summary of Seafood Supply Chain Actors

## Appendix C: Review of Financial Resources

## Appendix D: Detailed Demographic Statistics for Louisiana Coastal Parishes
EXECUTIVE SUMMARY

For as long as people have settled along Louisiana’s wetlands, they have fished for shrimp and crab, reeled in catfish, and harvested oysters from coastal reefs. While the state’s seafood industry has this strong legacy, today, it is an undervalued and under-resourced component of rural economies across the coastal parishes. Annually, Louisiana’s seafood industry produces an economic impact of over $2.4 billion, and Louisiana’s fishermen bring in the second largest volume of seafood by state, second only to Alaska. Despite the importance of this industry to the state economy, economic development initiatives often overlook seafood businesses. This is the case even as they struggle to survive devastating hurricanes (including Hurricane Laura in August 2020), adapt to supply chain disruptions and reduced demand for seafood caused by the COVID-19 pandemic, compete against increasing volumes of cheap foreign seafood imports, and face an uncertain future along Louisiana’s eroding coastline.

In order to highlight this important industry and catalyze economic development efforts to sustain it, we embarked on a research effort, supported by USDA’s Office of Rural Development and the Louisiana Seafood Promotion and Marketing Board. We engaged seafood businesses, learned about their challenges firsthand, and crafted an economic development strategy for the industry, grounded in a collaborative research approach. In this report, we characterize the coastal region of Louisiana and the seafood industry; provide an overview of the seafood supply chain; describe the industry’s challenges and needs; and outline a set of eight goals and 24 strategies to support the industry’s long-term success. The economic development strategies are tailored to those who can make a difference. The issues and solutions proposed in this report can be utilized by government agencies and legislators to support the seafood industry and coastal adaptation, operators pursuing innovative business development, and economic developers designing initiatives that target critical supply chain opportunities with cascading benefits throughout the industry.

Over the two years of this research effort, the team interviewed fishermen, processors, distributors, retailers, restaurant owners, chefs, economic developers, nonprofits, local, regional, state, and federal government officials, and industry leaders along Louisiana’s coastal parishes. Informed by their experiences and perspectives, we mapped the structure and character of the industry as well as its strengths, weaknesses, and economic development needs. This report is intended to provide independent insights and recommendations that can underpin future regional and state economic development actions to support and strengthen this critical element of Louisiana’s culture and economy.

REPORT BY THE NUMBERS

10 Coastal Parishes Visited

100+ Stakeholders Engaged

8 Goals for the Seafood Industry

24 Strategies to Get There
Louisiana’s coastal seafood industry has a unique culture and heritage that must be understood to create and implement economic development strategies for Louisiana’s coastal parishes. Seafood businesses operating in coastal Louisiana are primarily comprised of intergenerational family businesses, some of whom can trace their family involvement in the seafood industry back four or five generations. Pride of occupation, self-reliance, and adaptation to adversity are central to the culture and heritage of Louisiana fishing families. Generations of Louisiana fishermen have weathered hurricanes that have destroyed entire coastal communities, as well as economic downturns that shuttered businesses and forced community members to find work elsewhere. Fishing families have all faced these challenges in addition to the harsh, day-to-day conditions of living and working on the water. This long history of resilience and adaptation has been passed down through family storytelling and is the source of an intense pride in their culture, sense of place, and occupation.
This shared history and knowledge between fishing families creates an intense camaraderie with other fishermen and fishing families, who are quick to help one another in times of crisis. After a hurricane, fishermen help one another rebuild boats and call on business relationships to repair infrastructure so all can get back on the water as soon as possible. The self-reliant, tough, proud spirit of Louisiana fishermen permeates the industry and forms the heart and soul of Louisiana’s coastal culture.
Evaluating the coastal seafood industry supply chain to identify opportunities for improving industry efficiencies, market access, and customer product perceptions is key to increasing the value of Louisiana seafood and diversifying the supply chain. The coastal Louisiana seafood supply chain has multiple tiers and channels that move product into commerce. Figure 2 provides a breakdown of the supply chain businesses that influence the efficiency and effectiveness of getting Louisiana seafood onto consumers' plates in homes and restaurants. It is important to note that this figure represents an overall assessment of the seafood supply chain, which varies between individual businesses and type of seafood product.

Louisiana's coastal seafood industry is complex, featuring both large, medium, and small volume operators with varying business models, market strategies, and opportunities for growth. Louisiana's coastal seafood industry is composed of harvesters, docks, processors, distributors, retailers, and restaurants that deal with four major categories of species: shrimp, crab, oysters, and finfish (including a variety of species such as amberjack, black drum, grouper, mackerel, red snapper, mullet, and other finfish). Many operations harvest, process, and/or distribute multiple species based on price, availability, and demand. This range of operators forms the foundation of the industry's resilience, as a diversity of operations provides increased opportunities for adaptation, innovative partnerships, and growth.
### SEAFOOD SUPPLY CHAIN SUMMARY

<table>
<thead>
<tr>
<th>Inputs, Technology &amp; Financing</th>
<th>Seafood Production</th>
<th>Docks &amp; Buyers</th>
<th>Processing &amp; Manufacturing</th>
<th>Packaging</th>
<th>Warehousing</th>
<th>Transportation &amp; Logistics</th>
<th>Distributions &amp; Wholesalers</th>
<th>Retailers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shipyards &amp; Boat Launch</td>
<td>Fresh Operations</td>
<td>Docks</td>
<td>Large Volume Processors</td>
<td>Processor/Manufacturer Brands</td>
<td>Fresh Storage</td>
<td>Fresh Product</td>
<td>Local</td>
<td>Grocery Stores</td>
</tr>
<tr>
<td>Fuel Suppliers</td>
<td>Frozen Operations</td>
<td>Buyers</td>
<td>Micro-Processors</td>
<td>Private Label Brands</td>
<td>Cold Storage</td>
<td>Processed Product</td>
<td>Regional</td>
<td>Seafood Markets</td>
</tr>
<tr>
<td>Ice Suppliers</td>
<td></td>
<td></td>
<td></td>
<td>White Label Brands</td>
<td></td>
<td></td>
<td>National</td>
<td>Restaurants</td>
</tr>
<tr>
<td>Marine Suppliers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>International</td>
<td></td>
</tr>
<tr>
<td>LA Sea Grant &amp; University Support</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Direct to Consumer</td>
<td></td>
</tr>
<tr>
<td>Ports &amp; Economic Development</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial Institutions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Figure 2.** Summary of Louisiana's Seafood Supply Chain. This figure represents an overall assessment of the companies that comprise Louisiana's coastal seafood supply chain. Actual companies involved can vary within and across species of seafood – crab, oyster, finfish, and shrimp. Appendix B includes a more detailed table that outlines the value proposition offered by each supply chain actor.
Louisiana’s seafood industry is located primarily in the state’s rural coastal parishes, which has resulted in environmental, economic, logistics, and engagement challenges that threaten supply chain stability and industry longevity (Table I). Economically, Louisiana’s seafood industry faces steep competition with foreign imports and declining profitability due to stagnating seafood prices. Environmental disruptions to the industry include more frequent high-water events, coastal wetland loss, more frequent devastating hurricanes, and the Deepwater Horizon oil spill, all of which reduce fishery productivity and require longer term climate adaptation.

Two of the most significant of these challenges facing the coastal seafood industry today are competition with foreign imports and industry coordination with government agencies. Addressing these challenges are key to supporting the industry’s future success and are a primary focus of the economic development plan presented in this report.

The United States is now the largest global seafood importer by value and second largest by quantity in order to satisfy the skyrocketing consumer demand for seafood while domestic fishery landings have remained constant or declined. Louisiana’s fishermen, and particularly shrimpers, point to the high volume of imports as a major driver of stagnating domestic seafood prices. Foreign aquaculture companies, particularly those in major export countries such as India, Ecuador, Thailand, and Vietnam, conduct large-scale aquaculture operations with access to cheap labor, chemicals, inputs, and government subsidies that allow them to produce and export seafood products at a lower price than wild-caught Louisiana seafood with increased certainty in size and volume.

Another major challenge for Louisiana’s seafood industry is aligning industry-wide coordinating bodies and working with economic development agencies and coastal restoration planning efforts. Shrimp, crab, oyster, and finfish task forces represent Louisiana’s seafood and make recommendations to the Louisiana Department of Wildlife and Fisheries, the Seafood Promotion and Marketing Board, and various industry associations that engage in policy advocacy (such as the American Shrimp Processors Association). However, the industry lacks one clear voice, organization, or advocacy body that speaks cohesively on behalf of the entire industry to influence decision-making within two planning processes that significantly impact the industry- economic development planning and state coastal restoration planning.
<table>
<thead>
<tr>
<th>Economic Challenges</th>
<th>Logistics &amp; Workforce Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Competition with foreign imports</td>
<td>• Cold storage</td>
</tr>
<tr>
<td>• Reduction in profitability</td>
<td>• Transportation</td>
</tr>
<tr>
<td>• COVID-19 pandemic</td>
<td>• Workforce</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Industry Coordination with Government Agencies</th>
<th>Environmental Disruptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Coastal Protection and Restoration Authority</td>
<td>• Coastal Wetland</td>
</tr>
<tr>
<td>• Louisiana Economic Development</td>
<td>• High River Events</td>
</tr>
<tr>
<td></td>
<td>• Hurricanes</td>
</tr>
<tr>
<td></td>
<td>• Deepwater Horizon Oil Spill</td>
</tr>
</tbody>
</table>
2020’s Unparalleled Challenges

2020 battered Louisiana’s seafood industry with double crises – a global pandemic and a devastating hurricane season – just as the state faced an economic downturn as economic activity slowed due to pandemic lockdowns. These crises have hit Louisiana’s seafood industry particularly hard but have also created an opportunity to refocus state economic development efforts on local food systems and supply chains, supporting local businesses that can adapt to disruptions and improving the overall resilience of communities.

In early 2020, the COVID-19 pandemic reached southern Louisiana and began rapidly spreading across the state. By mid-March, a study by the University of Louisiana at Lafayette showed that Louisiana had the highest growth rate of coronavirus cases in the world, triggering Governor John Bel Edwards to issue a statewide stay-at-home order that lasted from March 22 until May 15. Since the vast majority of seafood products are consumed in restaurant settings, Louisiana fishermen, processors, and distributors faced a sharp decline in seafood demand and consumption just as the spring fishing season began to open. In response to this market disruption, some fishermen and processors quickly adapted to the reduced demand for seafood products from restaurants and pivoted to selling directly to consumers through local farmers markets, pop-up seafood markets, online sales platforms, and/or through posting on social media.

On August 27, 2020, Hurricane Laura made landfall on Louisiana’s coast with sustained winds of 150 miles per hour, making it one of the strongest storms ever to hit the United States. The storm devastated Calcasieu and Cameron Parishes in western Louisiana, destroying homes, businesses, and public infrastructure and leaving residents without power or electricity. Fishing boats and seafood businesses were similarly impacted, leaving the fishing industry in these parishes nonfunctional until infrastructure, businesses, and boats can be repaired. Six weeks after Hurricane Laura made landfall, Hurricane Delta hit nearly the same location as a Category 2 storm. All in all, the 2020 hurricane season had 27 named storms, tying with 2005 for the most-named storms on record.

Without affordable insurance to help rebuild, a single flood or storm can put fishermen, processors, and docks out of business permanently. Consequently, severe weather threatens not only individual businesses, but the entire seafood supply chain. State and parish programs that assist businesses and communities in planning for and responding to environmental hazards can have a significant impact on the local economy and community stability by considering longer-term climate adaptation strategies.
In order to understand how the industry’s challenges and needs relate to economic development opportunities, we categorized them as strengths, weaknesses, opportunities, or threats (Figure III). Factors threatening the industry today include economic challenges such as competition by foreign imports, the impacts of the COVID-19 pandemic, and a range of critical disruptions, including reduced fishery productivity, hurricanes, and coastal wetland loss. As demand for seafood has increased in the United States and foreign imports have skyrocketed to meet demand, prices for seafood have stagnated and fishermen who harvest wild-caught species struggle to compete against cheaper, more consistent sources of seafood (both farmed and wild). Exacerbating this issue is a general decline in fishery productivity in the Gulf, limiting the ability of Louisiana fishermen and processors to compete at scale. Furthermore, fishermen and processors’ location along the Gulf Coast makes them vulnerable to natural disasters, including hurricanes and coastal wetland loss, that threaten rural coastal communities and jeopardize essential infrastructure. In early 2020, the COVID-19 pandemic shuttered restaurants and disrupted seafood supply chains, requiring fishermen to quickly pivot business operations and further challenging the industry’s survival.

Weaknesses within the seafood industry include limited transportation and infrastructure in some parishes and the absence of a reliable labor pipeline. Flexible, convenient cold storage and transportation options are scarce in many rural Louisiana parishes, limiting fishermen’s ability to store and transport their catch to the most profitable markets. The industry’s labor issues include difficulties recruiting and training domestic workers as well as predictably securing visas for temporary, foreign laborers. Most significantly, the lack of an industry-wide organization and consistent coordination with state planning agencies inhibits the industry’s ability to develop coordinated responses to address these challenges.

**Figure 3.** Strengths, weaknesses, opportunities, and threats facing the Louisiana coastal seafood industry.
Fortunately, the seafood industry has several significant strengths and opportunities that can be leveraged to enhance its market position, build a national presence, diversify operations, and create sustained success. Louisiana’s seafood industry has a strong foundation for delivering product, bringing in significant fishery landings each year as compared to other states (Table II). In addition, the commercial fishing industry has a strong narrative and cultural significance in the state that can be leveraged for marketing and branding efforts to increase product value. There are several opportunities to explore new markets for Louisiana seafood, including markets for new species, new value-added products, and expanded direct marketing opportunities, including e-commerce. Ultimately, Louisiana seafood businesses have a long history of recovering from hurricanes, natural disasters, and long-term environmental changes. With the support of targeted economic development initiatives, decision-makers and practitioners can harness this tradition of coastal adaptation and resilience to build a more successful industry.

With this analysis in hand, we assembled a set of economic development strategies to address the

<table>
<thead>
<tr>
<th>State</th>
<th>2018 Seafood landings (million lbs.)</th>
<th>Percentage of total U.S. landings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alaska</td>
<td>5,400</td>
<td>57%</td>
</tr>
<tr>
<td>Louisiana</td>
<td>1,000</td>
<td>11%</td>
</tr>
<tr>
<td>Washington</td>
<td>590</td>
<td>6%</td>
</tr>
<tr>
<td>Virginia</td>
<td>362.5</td>
<td>4%</td>
</tr>
<tr>
<td>Mississippi</td>
<td>320.3</td>
<td>3%</td>
</tr>
</tbody>
</table>

Table 2. Top 5 states in 2018 seafood landings Source: NOAA Report, “Fisheries of the United States, 2018.”
industry's weaknesses, leverage its strengths, build systems to manage threats, and take advantage of emerging opportunities. As we brainstormed options, we reflected them back to industry stakeholders for feedback and refinement. Ultimately, we identified eight goals for the industry categorized into three focus areas — 1) Engagement, Planning, and Resources; 2) Marketing, Branding, and Innovation; and, 3) Workforce and Infrastructure. For each goal, we outlined a set of sub-strategies and designated whether a government agency, the industry as a whole, or individual businesses are best positioned to implement it (see Section III).

This suite of goals and strategies are designed to improve the industry’s market position, stimulate innovation, ensure a stable workforce, and improve transportation and distribution networks. In combination, these four critical elements are essential to maintain and improve the economic viability of the industry and ensure its long-term resilience to both economic and environmental disruptions. Fostering a resilient seafood industry has never been more important than it is today, as Louisiana fishermen, processors, distributors, and restaurants grapple with the impacts of the COVID-19 pandemic on seafood supply chain and the devastation caused by the devastating 2020 hurricane season.
In addition to its cultural value, this industry is critical to the economic resilience of the rural coastal parishes in which it is located. Despite their perseverance through hurricanes, oil spills, and coastal wetland loss, seafood businesses are suffering from profitability declines and struggling against foreign competition. The lack of attention to Louisiana's seafood industry in regional and state economic development planning only exacerbates these challenges. Targeted economic development initiatives are needed to support the industry's economic sustainability and ensure seafood businesses can not only survive, but thrive, in the face of a multitude of challenges described in the previous section.

Targeted economic development initiatives can ensure the industry benefits from economic development initiatives and local, state, and federal planning processes. There are four critical elements essential to maintaining and improving the economic viability of the industry:

- Improve the industry's market position;
- Stimulate innovation;
- Ensure a stable workforce; and
- Improve transportation and distribution networks.

This can be done through leveraging the industry's strengths, improving business practices, adapting to change, and, ultimately, increasing industry profitability.
through differentiating Louisiana seafood from other products. Eight practical goals, organized in three focus areas, can help Louisiana realize this vision for its seafood industry. **Appendix A** includes an inventory of financial resources, grants, and programs that can be leveraged to implement these strategies.

For each strategy, we have indicated whether government, industry, individual businesses, or a combination thereof should be the primary entity responsible for implementation using the symbols below. We also recognize that universities and non-governmental organizations are integral partners in these efforts and can contribute invaluable expertise.
GOALS FOR THE COASTAL LOUISIANA SEAFOOD INDUSTRY

ENGAGEMENT, PLANNING, AND RESOURCES

GOAL 1
Economic development agencies and financial entities should proactively engage the seafood industry to ensure all businesses can equitably access the capital they need to prosper.

GOAL 2
Ensure that the industry can participate in local, state, and federal decision making on issues critical to the industry's survival.

GOAL 3
Create venues for the industry to develop and implement shared strategies to thrive and adapt to future changes and disruptions.

GOAL 4
Improve the industry's market position by leveraging the culture and stories of Louisiana fishermen and the quality and sustainability of Louisiana fisheries.

WORKFORCE AND INFRASTRUCTURE
MARKETING BRANDING AND INNOVATION

GOAL 8
Improve seafood infrastructure resilience to protect against damage from high winds and storm surge associated with severe weather events, and proactively consider climate adaptation strategies.

GOAL 7
Improve the efficiency of the industry’s transportation and distribution networks.

GOAL 6
Ensure the seafood industry has a diverse and stable workforce of U.S. and foreign workers. Recruit and train a new generation of seafood workers and business owners.

GOAL 5
Stimulate industry innovation by developing new markets for Louisiana seafood, new value-added products, and technologies and connecting fishermen to new market opportunities to diversify the supply chain.
ENGAGEMENT, PLANNING, AND RESOURCES

While there have been advancements in recognizing the value of the seafood sector in Louisiana and supporting its survival, there are still several critical unmet needs. Chief among these is the opportunity to organize and elevate seafood industry voices to plan for the future, participate in critical decision-making processes, and provide seafood businesses with the resources to ensure their continued success.

The goals below create an ecosystem of support by linking resources and efforts across communities who can organize effectively to help the industry thrive. There is a strong need to align economic development resources, establish coordination mechanisms, and provide long-standing support in a neutral environment where industry and government actors can come together, pool their knowledge and skills, and plan for the future.

Economic development agencies and financial entities should proactively engage the seafood industry to ensure all businesses can equitably access the capital they need to prosper.

The economic resilience of Louisiana’s seafood industry depends on establishing equitable pathways for businesses to access financial resources, technical assistance, and capital. Under-capitalization of boats and processors is a major challenge for the industry, and many fishermen suffer from the inability to take out loans for boat repairs and improvements.

STRATEGIES

1.1 Connect under-capitalized seafood businesses to financial resources.
1.2 Develop new financing mechanisms to support seafood industry development.
1.3 Develop risk management products or programs for the seafood industry.
GOAL

2

Ensure that the industry can participate in local, state, and federal decision making on issues critical to the industry’s survival.

In order to access state programs and resources, seafood businesses in Louisiana currently navigate a web of agencies including the Louisiana Department of Wildlife and Fisheries, Louisiana Seafood Promotion and Marketing Board, Department of Agriculture, and Louisiana Economic Development. As a result, the seafood industry does not have a clear, single point of contact within Louisiana State Government for consistent support.

The lack of a unified seafood strategy and equitable representation across state agencies adds transaction costs, resulting in agency service gaps. With multiple state agencies struggling to support the growth of Louisiana's seafood industry, industry professionals do not have a clear understanding of each agency’s seafood-related services and programs and/or how these agencies can assist their operations. Streamlining interactions between the seafood industry and state agencies would help align state-level activities around industry priorities and would improve communications between stakeholders and decision makers.

STRATEGIES

2.1 Coordinate with seafood task forces to establish a centralized, statewide government coordinating entity for the seafood industry to interact with Louisiana’s state agencies, instead of the many touch points across a plethora of agencies.
GOAL 3

Create venues for the industry to develop and implement shared strategies to thrive and adapt to future changes and disruptions.

Although segments of the seafood industry are organized through the seafood task forces and industry associations, there is a need for the entire industry to come together with academics, NGOs, and government experts to plan for the industry’s long-term resilience to economic and environmental disruptions. A strategic planning effort that engages all segments of the seafood industry is essential to understand and articulate the industry’s challenges and plan for how partnerships and government can support the longevity of the industry. This would be a parallel, non-governmental effort to support alignment and planning within the industry, and inform government engagement efforts, such as the seafood task forces and the Seafood Promotion and Marketing Board.

STRATEGIES

3.1 Designate a central entity to convene a statewide forum on topics of importance to the future of the industry.
MARKETING, BRANDING, AND INNOVATION

Despite Louisiana seafood being a premium, wild-caught, domestic product, it is often not treated as such due to packaging that fails to distinguish it from commodity competitors. For example, a package of high quality, plate frozen shrimp placed in a white box with a black label instantly becomes a “bottom of the freezer” product. This failure of marketing and branding has significant implications for the way Louisiana seafood is perceived nationally and its competitiveness and price in the domestic seafood market.

The COVID-19 pandemic has consumers turning their attention to supporting regional food systems and small businesses. The Louisiana seafood industry can leverage this opportunity to highlight the culture and character of the small businesses that comprise its supply chain. We envision a new narrative for Louisiana’s seafood industry that utilizes creative marketing and branding to tell the story of generational fishermen living off the land and producing wild caught Gulf shrimp, oysters, crabs, and finfish.

In addition to improving marketing and branding of current products, the following goals are framed to help Louisiana’s seafood industry explore innovative value-added seafood products, new species to harvest, and new market opportunities. Ultimately, this group of goals is designed to distinguish Louisiana seafood from other seafood products and improve the profitability of Louisiana seafood businesses. Implementing these goals and strategies will require a commitment from individual entrepreneurs, the Louisiana Seafood Promotion and Marketing Board, and government economic developers, who should support these initiatives.
Improve the industry's market position by leveraging the culture and stories of Louisiana fishermen and the quality and sustainability of Louisiana fisheries.

Support for industry-wide and business-specific marketing and branding initiatives is needed to connect consumers to the faces and stories of Louisiana fishermen. Louisiana fishermen have a unique connection to wild-caught seafood, often passed down through generations of their family. Their distinct culture and independent spirit garners wide popular appeal, as demonstrated by the co-opting of Louisiana culture by national chain restaurants that do not source their seafood from Louisiana. This strong culture can be leveraged to differentiate products from competitors at each level of the supply chain.

A coordinated, industry-wide marketing and branding effort is needed to articulate the value proposition of Louisiana seafood and change its positioning in the minds of consumers and restaurants from a commodity product to a luxury good. In addition, individual entrepreneurs are key to advancing new approaches for their businesses. The strategies presented below attempt to harness the cultural interest of Louisiana fishermen to promote the product they produce, as well as propose partnerships and education efforts to strengthen and support infrastructure for marketing efforts.

**STRATEGIES**

1. **Louisiana's Seafood Promotion and Marketing Board** should undertake a strategic planning effort to determine how to best tell the story of Louisiana seafood locally and nationally and effectively influence purchasing by large volume distributors and retailers.
2. **Fishermen and seafood processors** should develop individualized marketing materials, including those targeting direct to consumer sales.
3. **Educate consumers and chefs** about seafood product quality and how to source, handle, and prepare Louisiana seafood products.
4. **The Louisiana state government** should increase monitoring and enforcement around the seafood labeling law.
5. **The Louisiana Seafood Promotion and Marketing Board** should encourage restaurants and retail markets that serve local seafood to proudly market the source of their seafood.
Stimulate industry innovation by developing new markets for Louisiana seafood, new value-added products, and technologies and connecting fishermen to new market opportunities to diversify the supply chain.

Assisting Louisiana entrepreneurs as they grow their companies, create new value-added products, and expand into new markets is essential to fostering industry innovation and increasing business competitiveness. The COVID-19 pandemic has created an environment where a business’ ability to be innovative and adaptive is key to success. Economic development resources should be aligned to help seafood businesses adapt to changing conditions by experimenting with innovative business strategies. The following strategies are designed to help Louisiana fishermen improve their profitability and differentiate their products from commodity competitors.

### STRATEGIES

5.1 Develop a New Orleans fish market where fishermen can sell fresh, high-quality seafood products directly to restaurants, chefs, and consumers.

5.2 Develop value-added products using Louisiana seafood.

5.3 Expand the range of harvested species and create new market opportunities, in concert with fishery managers.

5.4 Docks should develop a structure to pay premium prices for higher-quality products.

5.5 Assess the economic, environmental, and political viability of aquaculture.
Top: The research team met with Brian and Corina Mobley (center), the owners of Corina Corina seafood in Galliano, Louisiana.

Bottom left: An employee builds crab traps at Alario Brothers, a family owned and operated marine and fishermen supply store in Westwego, Louisiana.

Bottom right: Crews selling fresh-caught seafood off of fishing vessels at the Hopedale Seafood Market.
WORKFORCE AND DEVELOPMENT

A reliable workforce and accessible transportation and distribution systems are key competencies to enable the seafood industry’s current and future success. However, many business owners in Louisiana’s seafood industry indicate that labor is a critical bottleneck preventing the growth of their businesses and that limited distribution and cold storage options restrict where they can sell their products.

The following goals and strategies intend to address these fundamental needs and catalyze success, innovation, and growth in Louisiana’s seafood industry. Workforce and educational programs can generate interest in the industry and ensure a stable workforce. Training programs can ensure current workers and business owners are producing high quality seafood products and running profitable operations. New partnerships can be fostered to improve cold storage and distribution options in Louisiana’s coastal parishes. In combination with one another, these strategies can ensure the seafood industry has the fundamental support it needs to thrive well into the future.
Ensure the seafood industry has a diverse and stable workforce of U.S. and foreign workers. Recruit and train a new generation of seafood workers and business owners.

Workforce development programs are needed to bring young talent into the industry and provide training on how to run and operate fishery businesses. Existing fishermen are also in need of training programs to develop skills regarding good business practices, direct sales, micro processing, and packaging to enable them to produce higher-quality seafood products, facilitate their involvement in direct seafood markets, and improve their overall profitability. The following strategies are specifically designed to address the industry's labor shortage and succession planning challenges.

**STRATEGIES**

6.1 Partner with community colleges to develop seafood technical programs to provide an employment pathway for young people to enter the seafood industry.

6.2 Develop fisheries curriculum for 4-H and other agriculture-related outreach programs to educate elementary, middle, and high school students about opportunities in Louisiana’s seafood industry.

6.3 Improve seafood handling practices and assist fishermen in making technological upgrades to produce higher-quality seafood products.

6.4 Better organize the seafood industry to advocate for improvements to the federal H2B visa program.
Improve the efficiency of the industry's transportation and distribution networks.

There is an opportunity for Louisiana seafood producers to sell fresh, never frozen seafood products to markets around the country. The fresh seafood market provides a price premium that does not exist in the frozen markets and represents a critical economic development opportunity for Coastal Louisiana. However, the fresh market requires short-term refrigerated storage and transportation capacity that is limited in the region. The following strategies are specifically designed to address the industry’s cold storage and logistics challenges.

STRATEGIES

7.1 Seafood processors, distributors, and ports should collaborate to access northern U.S. markets.

7.2 Develop a cold storage cooperative model where the operator and users of the facility are all investors and work together to manage seasonal needs and availability and promote equitable access of resources.

7.3 Develop partnerships that link seafood producers with third-party logistics providers.
Improve seafood infrastructure resilience to protect against damage from high winds and storm surge associated with severe weather events, and proactively consider climate adaptation strategies.

As we saw with HurricanesisKatrina, Rita, Laura, Delta, and Zeta, severe weather events can decimate entire coastal communities and essential seafood industry infrastructure. Although these severe storms are unpredictable and unavoidable, advanced planning and investment can reduce damages and decrease recovery times. Anecdotal reports from Hurricane Laura recovery efforts currently underway in Cameron Parish indicate that coastal infrastructure and assets that had been upgraded survived the storm much better than older infrastructure. In addition, increasing the availability of safe harbor locations across the coast will ensure fishermen have ample choices for moving their boats out of harm’s way before a storm hits.

STRATEGIES

8.1 Seafood processors, distributors, and ports should collaborate to access northern U.S. markets.

8.2 Develop a cold storage cooperative model where the operator and users of the facility are all investors and work together to manage seasonal needs and availability and promote equitable access of resources.
IMPLEMENTATION

Several strategies proposed here can be implemented immediately to accelerate progress towards this vision. For example, regularly convening Louisiana seafood industry businesses through a nonprofit, university, or other third-party entity in the near term would help the industry identify priority areas of interest and develop shared strategies for action. Ultimately, helping the industry develop a unified voice will position the sector to advocate effectively on its own behalf.

The economic and environmental issues facing Louisiana's coastal seafood industry today are not unique to Louisiana. Working waterfronts across the nation are facing increasing economic and environmental threats. Urbanization, the economic downturn due to COVID-19, sea level rise, and more frequent natural disasters mean that rural communities are more vulnerable than ever. These shared vulnerabilities may mean that many of the eight goals and 24 strategies outlined in this report can be applied to other communities and geographic locations. The basic principles of supporting the industry's engagement in decision-making, strategic planning for the future, access to resources, marketing, branding, and innovation, and workforce and infrastructure capabilities can be leveraged to revitalize working waterfronts across the United States.

In Louisiana, with targeted support from economic development organizations and state government agencies, we believe the seafood industry can deliver high-quality seafood to restaurants in the region, available fresh to Louisianans at local farmers markets and flash frozen at peak quality to share with restaurants and grocery stores around the country. We envision a seafood industry with a national reputation for delivering premium seafood products that embody the taste of America’s Gulf Coast.
INTRODUCTION

Louisiana's seafood industry represents a traditional livelihood that has supported and enabled the state's vibrant cultural traditions for hundreds of years, as evidenced by Louisiana’s rich Cajun and Creole culinary history. Seafood gumbo, crawfish boils, oysters Rockefeller, and shrimp etouffee are global cultural symbols associated with Louisiana as strongly as Mardi Gras or king cake. The creators and sustainers of this culture are Louisiana's fishermen, processors, and distributors. However, despite the importance of seafood to Louisiana's renowned festivals, family celebrations, and restaurants, Louisiana's coastal seafood industry faces a myriad of economic and environmental challenges that threaten both the industry’s sustainability and the state's unique culinary traditions.

The vulnerabilities of Louisiana's seafood industry have never been more visible than during the COVID-19 pandemic. COVID-19 has disrupted traditional supply chains, shuttered restaurants, and reduced demand for seafood both in Louisiana and the nation, calling into question the long-term economic viability of many states' seafood industries. Exacerbating the impacts of COVID-19 in Louisiana, Hurricane Laura swept the western part of the state on August 27, 2020 with 150 miles per hour winds that decimated docks, seafood processing plants, and fishing vessels in Cameron Parish. In addition to the recent impacts of COVID-19 and Hurricane Laura, the industry faces persistent challenges from foreign imported seafood, sea-level rise, and freshwater intrusion. These threats to Louisiana's working waterfronts and culture call for a renewed focus on increasing the value of Louisiana seafood and supporting the state's seafood industry through coordinated federal, state, and local economic development efforts.

**Threats to Louisiana's working waterfronts and culture call for a renewed focus on increasing the value of Louisiana seafood and supporting the state's seafood industry through coordinated federal, state, and local economic development efforts.**
Research Approach

The research team took an inclusive and interdisciplinary approach to mapping the structure of Louisiana's seafood industry, the industry's systemic challenges and needs, and collecting community ideas for economic development initiatives through industry stakeholder interviews. Our research team consisted of a regional business development professor at the University of Louisiana at Lafayette, strategic planning and collaboration professionals from Meridian Institute, and an extension agent at Louisiana Sea Grant with deep knowledge of the industry. This diverse team focused on better understanding the Louisiana seafood supply chain and developed an integrated, state-wide economic development strategy to strengthen this critical industry.

There were three key iterative elements of the team's research approach (shown in Figure 1):

1. **Interview supply chain actors and key stakeholders:** The research team conducted interviews with supply chain actors and key stakeholders (e.g., economic developers, industry associations) to gather information about the state of the seafood industry, industry challenges, and economic development needs. A full list of interviewees can be found in Appendix A.

2. **Identify industry-wide themes and shared challenges:** The team analyzed interview notes to develop an understanding of the supply chain and draw out key themes, challenges, and critical needs shared across multiple industry stakeholders. These themes were reflected back to stakeholders for their input.

3. **Generate economic development strategies and solutions:** As themes and solutions emerged and were validated by stakeholder interviews, the research team generated practical economic development strategies and solutions to catalyze development across the industry. These proposed solutions were shared back with stakeholders to gauge effectiveness if implemented and to generate industry buy-in.
Hurricane Laura

On August 27, 2020, Hurricane Laura made landfall on Louisiana's coast with sustained winds of 150 miles per hour, making it one of the strongest storms ever to hit the United States. The storm devastated Calcasieu and Cameron Parishes in western Louisiana, destroying homes, businesses, and public infrastructure and leaving residents without power or electricity. Fishing boats and seafood businesses were similarly impacted, leaving the fishing industry in these parishes nonfunctional until infrastructure, businesses, and boats can be repaired. Six weeks after Hurricane Laura made landfall, Hurricane Delta hit nearly the same location as a Category 2 storm. All in all, the 2020 hurricane season had 27 named storms, tying with 2005 for the most-named storms on record. The devastating 2020 hurricane season has left the state of Louisiana to manage double crises—a global pandemic and storm recovery—just as an economic downturn has left state and local budgets across the country sparse. At the time of this report's writing, Louisiana is still assessing the damage from these storms and recovery efforts are just beginning. Although we do not yet know its full impacts, Hurricane Laura is a reminder that building resilient institutions and industries is crucial to survival in a state on the frontlines of environmental change.
The research team piloted this collaborative research approach by first conducting an assessment of the seafood supply chain in Louisiana's three coastal Acadiana parishes—Vermilion, St. Mary, and Iberia Parishes—and developing an economic development strategy for the region. The team found that the approach was a useful means of mapping key supply chain businesses, identifying challenges experienced by operators throughout the supply chain, and generating preliminary economic development ideas that could be tested in other coastal parishes.

The second phase of this research extended the research approach to Louisiana's seven remaining coastal parishes to further cultivate a comprehensive understanding of the state-wide supply chain challenges and identify additional regional concerns. Ultimately, research insights from all ten coastal
parishes informed the supply chain analysis and economic development strategy, which was then socialized with and validated by stakeholder groups and refined per community/industry feedback. The result is an economic development strategy for the seafood industry that is rooted in industry stakeholder concerns and widely supported by industry actors and economic developers.

Throughout phases one and two of the research process, the research team surveyed and conducted interviews with over 50 organizations and 100+ individuals between 2018 and 2020 (see Appendix A for a full list of interviews). Interviews targeted a broad cross-section of industry stakeholders, including fishermen, processors, distributors, restaurants, economic developers, nonprofit organizations, government officials, and industry leaders. We strove for diverse representation of individuals across these spaces. Interviews consisted of both individual stakeholder meetings, where the research team conducted field visits of docks, processing facilities, ports, and other operations, and community meetings involving business owners and economic developers. After the COVID-19 pandemic swept southern Louisiana in spring of 2020, interviews were conducted via Zoom video conference. During each meeting, the project team facilitated in-depth conversations about the industry’s challenges and needs, gaps in existing programs and policies, and how both new and existing programs and policies can be leveraged to support the industry.

Ultimately, we sought to create an economic development plan that integrates expert and local knowledge by engaging communities in identifying barriers and needs to best position businesses for success. We supplemented this community information with expert knowledge from state government

We believe that co-developed, collaborative economic development plans are more likely to be utilized by communities over time as the upfront partnership and collaboration earns early stakeholder buy-in.

Geoff Stewart visits with Maggie Woodruff, Director of Economic Development for the New Orleans Regional Planning Commission, regarding supply chain opportunities in eastern Louisiana.
agencies and industry experts. We believe that co-developed, collaborative economic development plans are more likely to be utilized by communities over time as the upfront partnership and collaboration earns early stakeholder buy-in. This work fills the urgent need to assess and understand the strengths and limitations within the seafood supply chain and to identify and develop an economic strategy that can catalyze the industry’s growth and contribute to local economic resilience in Louisiana’s coastal parishes.
Louisiana's seafood industry is primarily composed of small businesses and independent fishermen who sustain a livelihood through harvesting and processing shrimp, crabs, oysters, and finfish from Louisiana's productive waters. To experience the cultural and culinary contributions of the industry, one can purchase and prepare wild-caught seafood at home, experience it in one of the many restaurants serving Louisiana seafood, or simply visit a local farmers market or dock in coastal Louisiana. This direct connection to the water is significant to Louisianans both culturally, as a valued way of life, and materially, as this industry makes significant economic contributions to the state. In 2018, Louisiana's seafood industry generated $2.4 billion in economic impact alone and supported a vibrant state tourism industry that contributed $22.5 billion to the state economy.
Louisiana’s coastal seafood industry is composed of harvesters, docks, processors, distributors, retailers, and restaurants that deal with four major categories of species: shrimp, crab, oysters, and finfish (including a variety of species such as amberjack, black drum, grouper, mackerel, red snapper, mullet, and other finfish) (Figure 3). Many operations harvest, process, and/or distribute multiple species based on price, availability, and demand.

Louisiana’s coastal seafood industry is complex, featuring both large, medium, and small volume operators with varying business models, market strategies, and opportunities for growth. This range of operators forms the foundation of the industry’s resilience, as a diversity of operations provides increased opportunities for adaptation, innovative partnerships, and growth. However, different segments of the industry exhibit varying degrees of business expertise and organization based on their role in the industry, species harvested, and financial capital. For example, shrimp processors in Louisiana are well-organized and engaged in local, state, and federal government forums where they advocate for the industry’s needs.

**LOUISIANA SEAFOOD INDUSTRY: 2019 Volume & Value**

<table>
<thead>
<tr>
<th>Species</th>
<th>Volume Landed</th>
<th>Value</th>
<th>Avg Price/lb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oyster</td>
<td>6,399,138 lbs</td>
<td>$45,434,029</td>
<td>$7.10</td>
</tr>
<tr>
<td>Shrimp</td>
<td>81,445,546 lbs</td>
<td>$116,961,261</td>
<td>$1.44</td>
</tr>
<tr>
<td>Finfish*</td>
<td>19,586,804 lbs</td>
<td>$20,109,150</td>
<td>$1.03</td>
</tr>
<tr>
<td>Crabs</td>
<td>35,180,005 lbs</td>
<td>$48,797,218</td>
<td>$1.39</td>
</tr>
</tbody>
</table>

*Finfish numbers do not include menhaden because menhaden skew the average price/lb calculation. Menhaden have significantly lower value than other finfish, at $0.81/pound, and comprise 97% of finfish landings.

Figure 3. The volume and value of Louisiana’s seafood industry in 2019. Statistics sourced from NOAA Fisheries Office of Science and Technology, Commercial Landings Query, available at: https://foss.nmfs.noaa.gov/apexfoss/f?p=215:200

Other segments of the industry, such as crab fishermen, have been historically disaggregated, lacking established industry groups. This complexity and variation within Louisiana's coastal seafood industry poses challenges to creating industry-wide economic development strategies that meet the different needs of a wide range of operators interested in exploring different market segments and growth opportunities. Through public-private collaborations at the state and local level, the seafood industry has potential to make significant gains. To do so, it is imperative that the industry establishes a clear understanding of its market situation to assess opportunities to diversify. The following sections describe demographic trends in the coastal region, the structure and value of the seafood industry, industry-wide challenges, and economic development needs. This information provides relevant context for the Coastal Louisiana Seafood Community & Economic Development Strategy presented in Section III.

Characteristics and Culture of Louisiana's Coastal Seafood Industry

Louisiana's coastal seafood industry has a unique culture and heritage that must be understood to create and implement economic development strategies for Louisiana's coastal parishes. Seafood businesses operating in coastal Louisiana are primarily comprised of intergenerational family businesses, some of whom can trace their family involvement in the seafood industry back four or five generations. Many of these families began harvesting seafood from Louisiana's Gulf Coast in the early 1900s and late 1800s and witnessed the mechanization of vessels, experienced the modernization of seafood processing and distribution, and weathered significant economic and environmental change.

Pride of occupation, self-reliance, and adaptation to adversity are central to the culture and heritage of Louisiana fishing families. Generations of Louisiana fishermen have weathered hurricanes that have destroyed entire coastal communities, as well as economic downturns that shuttered businesses and forced community members to find work elsewhere.
Pride of occupation, self-reliance, and adaptation to adversity are central to the culture and heritage of Louisiana fishing families. Generations of Louisiana fishermen have weathered hurricanes that have destroyed entire coastal communities, as well as economic downturns that shuttered businesses and forced community members to find work elsewhere. Fishing families have all faced these challenges in addition to the harsh, day-to-day conditions of living and working on the water. This long history of resilience and adaptation has been passed down through family storytelling and is the source of an intense pride in their culture, sense of place, and occupation.

Commercial fishing is a dangerous and difficult livelihood. Managing a fishing vessel, weathering ocean currents, and bringing in nets of shrimp, finfish, or baskets of oysters is difficult and demanding work. Fishermen are focused, hard workers with a vast knowledge of the landscape in which they work. Through living and working on the water for generations, fishing families have developed and passed down what is referred to as “traditional ecological knowledge,” a deep understanding of how the ecosystem functions that is not taught or measured through academic sciences. In application, fishermen have an uncanny ability to predict where certain species are likely to be located at certain times of year and can navigate
complex coastal wetland ecosystems without maps. In addition to traditional ecological knowledge, fishermen also have significant technical skills as mechanics, net makers, and boat builders and are known to be skilled seafood chefs.

This shared history and knowledge between fishing families creates an intense camaraderie with other fishermen and fishing families, who are quick to help one another in times of crisis. After a hurricane, fishermen help one another rebuild boats and call on business relationships to repair infrastructure so all can get back on the water as soon as possible. The self-reliant, tough, proud spirit of Louisiana fishermen permeates the industry and forms the heart and soul of Louisiana’s coastal culture.

The working waterfronts along Louisiana’s coast are also subject to the economic and social challenges facing rural communities throughout the state and nation. These challenges include population decline, lack of access to rural broadband, and high rates of rural poverty. In the face of these challenges, coastal fishing businesses are searching for ways to be innovative and grow this culturally and economically important industry. The seafood industry’s potential for growth relies on the capability of businesses, government agencies, and economic developers to establish a shared understanding of the current business environment and build collaborative strategies to facilitate new market opportunities. This is where rural development initiatives can be critical in building the needed capacity and connectivity in rural businesses.

RURAL DEVELOPMENT INITIATIVES

At the state level, rural economic development is the focus of two major initiatives to address the needs of rural communities in Louisiana. Governor John Bel Edwards recently created the Governor’s Advisory Council on Rural Revitalization to advise the Governor on issues of concern to the citizens of rural Louisiana and identify practices from other states that can be implemented in Louisiana to achieve the goal of rural revitalization. The advisory council is comprised of 37 state and local stakeholders including legislators, state government officials, higher education representatives, nonprofit leadership, and the private sector.

Additionally, the Broadband for Everyone in Louisiana (BEL) Commission was established to improve the adoption and availability of broadband service for Louisiana residents, which is severely limited in Louisiana’s rural communities. Particular focus is given to business training opportunities on technology and software tools that facilitate business efficiencies and growth and training seminars for businesses establishing an online presence and e-commerce strategies. The Governor’s Advisory Council on Rural Revitalization and the BEL Commission represent opportunities for the seafood industry to (1) address infrastructure needs that
can create new economic opportunities and (2) engage in state-level discussions to increase the profile and relevance of the industry with legislative and economic development stakeholders. These initiatives to improve rural livelihoods demonstrate the types of innovation needed to create opportunities in today's economic environment.

In Cameron Parish, a collaboration between Tommy's Seafood and the Port of Cameron demonstrates the impact of targeted investments in working waterfronts. Through a partnership with the Port of Cameron, Tommy's Seafood leased a seafood dock and processing facility that was built by the Port after Hurricane Rita devastated the parish in 2010. After more than 10 years of vacancy, the dock now offers fuel, ice, and a dockside seafood buyer and processor to local fishermen. Tommy's Seafood's investment in this facility and the Cameron Parish fishing community is increasing fish landings in the Port of Cameron and generating tremendous excitement within a local industry that stagnated after the devastation of Hurricane Rita. The timing of this investment arrived shortly before Hurricane Laura made landfall in Cameron Parish (August 2020). The port facility housing Tommy's Seafood survived the storm and was providing fuel and ice to its community within three weeks after landfall, a critical lifeline and resource to support the industry's recovery after the storm.
Demographics of the Coastal Zone

The future of Louisiana's seafood industry relies on the knowledge and capabilities of people living along the coast. As such, it is important to understand the coastal zone in terms of poverty, employment, and educational attainment. These demographics are summarized below and in Table 1 for Louisiana overall and the three coastal regions—the western, central, and eastern coastal parishes. Louisiana as a whole, as well as its coastal parishes, exhibits higher levels of poverty and lower educational attainment than the national average, emphasizing the importance of rural economic development initiatives and investments in the seafood industry that expand job opportunities in the region.

Poverty is an important demographic indicator because it reflects the financial capacity of households to meet their basic needs and indicates potential for upward mobility in the employment market. As shown in Table 1, the Louisiana coast currently has significantly more people living in poverty (19.5%) than the United States as a whole (14.1%). Across the coastal zone, the western, central, and eastern coasts, 19.2%, 18.8%, and 19.7% of their populations are living in poverty, respectively. Accessible work opportunity can alleviate poverty, emphasizing the importance of supporting the development of vibrant regional industries.
Adding to the impact of poverty is the educational attainment rate within the coastal zone. While the percentage of high school graduates without any college experience (32.1%) is higher than the national rate (27.1%), the number of people not graduating from high school or achieving their GED tells a different story. In every region of the coast, the percentage of those who failed to graduate high school or achieve their GED is higher than the national rate of 12.4%. The rates of those failing to graduate high school along the western (20.6%) and central (22%) coast are substantially higher than those of the eastern coast (14.5%).

Availability of jobs is a vehicle for addressing poverty and for incentivizing people to complete high school. The unemployment rate along the coast in July 2020 was 11.9%, while the U.S. unemployment rate for the same period was 10.2%. These unemployment levels were heavily influenced by the COVID-19 pandemic, but unemployment rates in the coastal zone were still 1.7% higher than the rest of the country. The seafood industry was directly impacted by the closures of restaurants along the coast and in locales that normally serve wild-caught Louisiana seafood.

Regarding employment, COVID-19 has disproportionally impacted those who were employed in lower paying jobs prior to the pandemic. As shown in Figure 4, lower wage employment (less than $27K) in Louisiana through August 1, 2020 has decreased by over 20%. Likewise, middle wage jobs ($27K - $60K) have decreased by 9% and high wage jobs (over $60K) have only decreased by 3.1%.

**Louisiana as a whole, as well as its coastal parishes, exhibits higher levels of poverty and lower educational attainment than the national average,** emphasizing the importance of rural economic development initiatives and investments in the seafood industry that expand job opportunities in the region.

An employee loading seafood onto a truck at Harlon’s LA Fish processing plant in Kenner, Louisiana.
Table 1. Summary of poverty, employment, and educational attainment statistics for the United States, Louisiana overall, and the three coastal regions – the western, central, and eastern coastal parishes.

## LOUISIANA COAST OVERALL

<table>
<thead>
<tr>
<th></th>
<th>Poverty</th>
<th>Unemployed Labor Force – Not seasonally adjusted</th>
<th>Educational Attainment – Failed to graduate high school or attain GED</th>
<th>Educational Attainment – High school graduate, no college</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of individuals</strong></td>
<td>247,662</td>
<td>68,516</td>
<td>147,230</td>
<td>285,578</td>
</tr>
<tr>
<td><strong>% of total population</strong></td>
<td>19.5%</td>
<td>Unemployment rate: 11.9</td>
<td>16.5%</td>
<td>32.1%</td>
</tr>
</tbody>
</table>

## UNITED STATES

<table>
<thead>
<tr>
<th></th>
<th>Poverty</th>
<th>Unemployed Labor Force – Not seasonally adjusted</th>
<th>Educational Attainment – Failed to graduate high school or attain GED</th>
<th>Educational Attainment – High school graduate, no college</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of individuals</strong></td>
<td>44,257,979</td>
<td>6,280,000</td>
<td>26,948,057</td>
<td>59,265,308</td>
</tr>
<tr>
<td><strong>% of total population</strong></td>
<td>14.1%</td>
<td>Unemployment rate: 10.2</td>
<td>12.4%</td>
<td>27.1%</td>
</tr>
</tbody>
</table>
### WESTERN COAST - CAMERON, VERMILION, IBERIA, ST. MARY

<table>
<thead>
<tr>
<th></th>
<th>Poverty</th>
<th>Unemployed Labor Force – Not seasonally adjusted</th>
<th>Educational Attainment – Failed to graduate high school or attain GED</th>
<th>Educational Attainment – High school graduate, no college</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of individuals</td>
<td>36,181</td>
<td>7,560</td>
<td>25,937</td>
<td>55,990</td>
</tr>
<tr>
<td>% of total population</td>
<td>19.2%</td>
<td>Unemployment rate: 9.2</td>
<td>20.6%</td>
<td>44.4%</td>
</tr>
</tbody>
</table>

### CENTRAL COAST - LAFOURCHE, TERREBONNE, JEFFERSON

<table>
<thead>
<tr>
<th></th>
<th>Poverty</th>
<th>Unemployed Labor Force – Not seasonally adjusted</th>
<th>Educational Attainment – Failed to graduate high school or attain GED</th>
<th>Educational Attainment – High school graduate, no college</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of individuals</td>
<td>38,869</td>
<td>7,333</td>
<td>30,883</td>
<td>55,152</td>
</tr>
<tr>
<td>% of total population</td>
<td>18.8%</td>
<td>Unemployment rate: 8.5</td>
<td>22%</td>
<td>39.4%</td>
</tr>
</tbody>
</table>

### EASTERN COAST - PLAQUEMINES, ST. BERNARD, ORLEANS

<table>
<thead>
<tr>
<th></th>
<th>Poverty</th>
<th>Unemployed Labor Force – Not seasonally adjusted</th>
<th>Educational Attainment – Failed to graduate high school or attain GED</th>
<th>Educational Attainment – High school graduate, no college</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of individuals</td>
<td>172,612</td>
<td>53,623</td>
<td>90,410</td>
<td>174,436</td>
</tr>
<tr>
<td>% of total population</td>
<td>19.7%</td>
<td>Unemployment rate: 13.01</td>
<td>14.5%</td>
<td>37.90%</td>
</tr>
</tbody>
</table>
Figure 4. Impact of COVID-19 on employment in Louisiana. Source: https://tracktherecovery.org

Table 2. Measuring the value of the seafood industry.
<table>
<thead>
<tr>
<th></th>
<th>LOUISIANA COAST OVERALL</th>
<th>WESTERN COAST - CAMERON, VERMILION, IBERIA, ST. MARY</th>
<th>CENTRAL COAST - LAFOURCHE, TERREBONNE, JEFFERSON</th>
<th>EASTERN COAST - PLAQUEMINES, ST. BERNARD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Employment</td>
<td>Income ($)</td>
<td>Output ($)</td>
<td>Employment</td>
</tr>
<tr>
<td>Commercial fishing</td>
<td>7,351</td>
<td>141,227,156</td>
<td>815,636,923</td>
<td>2,074</td>
</tr>
<tr>
<td>Seafood product</td>
<td>1,173</td>
<td>53,630,650</td>
<td>418,948,460</td>
<td>660</td>
</tr>
<tr>
<td>preparation and</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>packaging</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The Seafood Industry Supply Chain

Evaluating the coastal seafood industry supply chain to identify opportunities for improving industry efficiencies, market access, and customer product perceptions is key to increase the value of Louisiana seafood. The coastal Louisiana seafood supply chain has multiple tiers and channels that move product into commerce. Figure 5 provides a breakdown of the supply chain businesses that influence the efficiency and effectiveness of getting Louisiana seafood onto consumers’ plates in homes and restaurants. It is important to note that this figure represents an overall assessment of the seafood supply chain, which varies between individual businesses and seafood species.

The supply chain begins with pre-fishing trip businesses that provide services and products including financial services, boat launches, fuel, ice, and other commercial fishing essentials. The fishing operation is the critical supply chain function producing and preserving the catch until unloading it at the dock. From the dock, seafood products are transferred to processing and/or manufacturing operations that prepare the product for distribution. Within local and state markets, products are either distributed immediately to retail or restaurant outlets (mostly for fresh product) or to warehouses, where the product is frozen and held until it is needed by restaurants and retailers. In many situations, frozen product is held until supply decreases and the price of the product increases. This is typically when the seafood species is no longer in season, or until seasonality increases the price of the product. As part of the packaging process, all product must be identified through branding and labeling before leaving the processor.

Another key element of the supply chain is transportation and logistics. Efficient transportation and logistics businesses ensure that the product is delivered to consumers through retailers, such as seafood markets and grocery stores, through e-commerce websites, or through restaurants. We explore these concepts further in the sections below.
### SEAFOOD SUPPLY CHAIN SUMMARY

<table>
<thead>
<tr>
<th>Inputs, Technology &amp; Financing</th>
<th>Seafood Production</th>
<th>Docks &amp; Buyers</th>
<th>Processing &amp; Manufacturing</th>
<th>Packaging</th>
<th>Warehousing</th>
<th>Transportation &amp; Logistics</th>
<th>Distributions &amp; Wholesalers</th>
<th>Retailers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shipyards &amp; Boat Launch</td>
<td>Fresh Operations</td>
<td>Docks</td>
<td>Large Volume Processors</td>
<td>Fresh Storage</td>
<td>Fresh Product</td>
<td>Local</td>
<td>Grocery Stores</td>
<td>Restaurants</td>
</tr>
<tr>
<td>Fuel Suppliers</td>
<td>Frozen Operations</td>
<td>Buyers</td>
<td>Micro - Processors</td>
<td>Cold Storage</td>
<td>Processed Product</td>
<td>Regional</td>
<td>Seafood Markets</td>
<td>National</td>
</tr>
<tr>
<td>Ice Suppliers</td>
<td></td>
<td></td>
<td></td>
<td>White Label</td>
<td>Product</td>
<td>International</td>
<td></td>
<td>Direct to Consumer</td>
</tr>
<tr>
<td>Marine Suppliers</td>
<td></td>
<td></td>
<td></td>
<td>Brand</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LA Sea Grant &amp; University Support</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ports &amp; Economic Development</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial Institutions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 5. Summary of Louisiana’s Seafood Supply Chain. This figure represents an overall assessment of the companies that comprise Louisiana’s coastal seafood supply chain. Actual companies involved can vary within and across species of seafood – crab, oyster, finfish, and shrimp. Appendix B includes a more detailed table that outlines the value proposition offered by each supply chain actor.
LARGE VOLUME PROCESSOR VS. MICRO-PROCESSOR SUPPLY CHAIN

The supply chain for Louisiana seafood can take many forms. To highlight two distinct variations of Louisiana's seafood supply chain in practice, we detail the supply chain for large volume processing operations and for a micro-processor. The primary difference in these channels is the type of product that is caught, processed, and sold into the market. Large volume processors purchase in bulk and process, pack, and distribute product through distributors, restaurant, and retailers. Micro-processors typically handle fresh product or product that they process, package, and ship under their own label through local retailers and restaurants. The large volume and micro-processed channels with the overall supply chain are shown in Figure 6 and described in two examples below.

Large volume processors either own their own dock and purchase directly from fishermen or purchase from a dock that has acquired product directly from fishermen. This product enters their facility and is processed into a variety of products that are packaged for market. These products can range from ten-pound frozen blocks of smaller shrimp, to individually frozen large shrimp in two-pound bags, to value-added products like crab and shrimp cakes. Once the product is packaged, these bulk items are branded under the processor's brand or under a customer's brand and shipped to a wholesaler or retailer. Through these channels, the product reaches its ultimate consumer through a grocery store, seafood market, or restaurant. Interestingly, during the COVID-19 pandemic, some large processors created direct to consumer channels using e-commerce to bridge the gap caused by restaurant closures.

Micro-processors differ from large volume processors in that they often cannot serve large stores or restaurants because they do not have consistent volume to meet the needs of these outlets. Thus, micro-processors frequently establish channels to reach customers that (1) do not have access to a store offering Louisiana seafood, (2) want to establish a deeper understanding of where the seafood product comes from and how it was caught, and/or (3) seek to connect to Louisiana's seafood culture through a relationship with the fishermen. Louisiana Direct Seafood is an e-commerce site that lists a variety of micro-processed seafood in its inventory. When orders come through the site, payment is received and sent to the vendor (micro-processor), from where the product is ultimately packaged and shipped.

Figure 6. Supply Chain Variation Across Large Volume and Micro Processors
BOTTLENECKS IN THE SUPPLY CHAIN

While the seafood supply chain operates and delivers quality seafood to market, there are functional areas which could increase the overall efficiency of the supply chain and improve the value of Louisiana seafood. These bottlenecks prevent the industry from reaching its full potential. The first is in the shortage of warehousing. There is a growing need for fresh and cold storage, particularly west of Plaquemines Parish. The shortage of available and/or affordable cold storage is causing companies to incur additional transportation costs as they move product out of their region. In some cases, companies are moving product as far as Baton Rouge for storage, then transporting it back to their facility for processing and shipment once an order is placed.

Transportation and logistics are the second bottleneck that must be addressed. As seen in industry discussion at Louisiana Sea Grant’s Beyond the Boat and Fisheries Forward Exposition in March 2020, many operators in the industry are unfamiliar with how transportation and logistics can be leveraged to open new markets for fresh product. Without the ability to get fresh product to market, high quality product is ultimately frozen, stripped of many of its unique value-added elements, and entered into the highly competitive and less lucrative frozen seafood market.

A third bottleneck in the existing supply chain is producer and processor ability to position their product in the consumer market. COVID-19 disrupted a complex, multi-echelon supply chain and highlighted the lack of consumer demand for seafood in traditional grocery store channels. In response to COVID-19 and restaurant closures, producers, processors, and in some cases, distributors experimented with alternative distribution channels that provided direct consumer access. In doing so, these businesses developed brands, marketing strategies, and purchasing platforms that were innovative, engaging, and timely. These efforts highlight the potential of updated marketing efforts to improve the positioning of Louisiana seafood in consumer markets. Ultimately, the message of what makes Louisiana seafood unique and valuable is not reaching consumers at the point of purchase.

---

Many operators in the industry are unfamiliar with how transportation and logistics can be leveraged to open new markets for fresh product. Without the ability to get fresh product to market, high quality product is ultimately frozen, stripped of many of its unique value-added elements, and entered into the highly competitive and less lucrative frozen seafood market.

---
Industry-Wide Challenges and Economic Development Needs

Louisiana’s seafood industry is located primarily in the state's rural coastal parishes, which has resulted in environmental, economic, logistics, and engagement challenges that threaten supply chain stability and industry longevity. Economically, Louisiana’s seafood industry faces steep competition with foreign imports and declining profitability due to stagnating seafood prices. Environmental disruptions to the industry include more frequent high-water events, coastal wetland loss, more frequent devastating hurricanes, such as Hurricane Laura and the Deepwater Horizon oil spill, all of which reduce fishery productivity and require longer term climate adaptation.

Most recently, the COVID-19 pandemic has exacerbated existing supply chain challenges related to cold storage, transportation, and access to labor. Louisiana's seafood industry has historically struggled to attract assistance from state economic developers, who have primarily focused on attracting and engaging industrial businesses in oil and gas development, advanced manufacturing, and agribusiness. However, the COVID-19 pandemic has created an opportunity to refocus state economic development efforts on local food systems and supply chains, supporting local businesses that can adapt to disruptions and improving the overall resilience of communities. The impacts of COVID-19 on the seafood supply chain are described in the following section.

This section further details the industry-wide challenges relating to state-wide environmental disruptions, general economic trends, logistics and workforce challenges, and a lack of effective industry representation within state agencies responsible for coastal planning and state economic development. Section III, An Economic Development Strategy for the Coastal Louisiana Seafood Industry, outlines sets of strategies to address the challenges described in this section.

Louisiana’s seafood industry has historically struggled to attract assistance from state economic developers, who have primarily focused on attracting and engaging industrial businesses in oil and gas development, advanced manufacturing, and agribusiness. However, the COVID-19 pandemic has created an opportunity to refocus state economic development efforts on local food systems and supply chains, supporting local businesses that can adapt to disruptions and improving the overall resilience of communities.
Table 3: Overview of Louisiana Seafood Industry Challenges and Needs
ECONOMIC CHALLENGES

Challenge 1: Competition with Foreign Imports

As the United States has grown in population and wealth, consumer demand for seafood has increased. Coupled with an explosion of seafood aquaculture globally, particularly for commodity species such as shrimp, and relatively constant domestic fishery landings, this increased demand has resulted in significant increases of foreign seafood imports to the United States (Figure 7). The United States is now the largest global seafood importer by value and second largest by quantity. 6

Louisiana’s fishermen, and particularly shrimpers, point to the high volume of imports as a major driver of stagnating domestic seafood prices. Foreign aquaculture companies, particularly those in major export countries such as India, Ecuador, Thailand, and Vietnam, conduct large-scale aquaculture operations with access to cheap labor, chemicals, inputs, and government subsidies that allow them to produce and export shrimp at a lower price than wild-caught Louisiana seafood. Competition with foreign aquaculture products is most significant for Louisiana’s shrimpers.

In addition to lower prices, foreign importers guarantee a certain volume, size, and quality of seafood to restaurants and grocery stores up to a year in advance, since aquaculture provides increased certainty of harvest. Wild-caught fisheries have little control over naturally fluctuating fish stocks, and distributors therefore struggle to aggregate enough suppliers to guarantee the same volumes and certainty demanded by larger restaurants and restaurant chains.

Louisiana’s fishermen, and particularly shrimpers, point to the **high volume of imports as a major driver of stagnating domestic seafood prices.**

Figure 7. U.S. exports and imports by quantity, 1975 - 2017. Source: Shamshak et al.

6. [https://sites.nationalacademies.org/cs/groups/pgasite/documents/webpage/pga_198073.pdf](https://sites.nationalacademies.org/cs/groups/pgasite/documents/webpage/pga_198073.pdf)
The American Shrimp Processors Association has been vocal that imported shrimp products often fail to meet U.S. food safety standards due to chemicals used in foreign aquaculture operations and poor inspection protocols at the U.S. border. Since only a small percentage of imports face inspection, there are also concerns about the practice of “port shopping,” where import products that fail to pass inspection are re-loaded onto vessels and brought to another port, where they are unlikely to face inspection again. The American Shrimp Processors Association advocates for federal seafood import quotas, increased inspections, and destruction of products that fail inspection in order to mitigate domestic competition against foreign imports and protect public health.

Without a clear national strategy on how to position seafood from the United States in the market, each state is fighting to compete against “foreign” or “imported” seafood. From the perspective of consumers or industrial buyers, it is not easy to compare “foreign seafood” or “imported seafood” with “Louisiana seafood” due to a lack of shared understanding of their differences. To date, some individual businesses have expended money, time, and effort to educate consumers about the dangers of imported seafood products. However, these businesses often run out of energy and funds.

before communicating to consumers the positive attributes of local, wild-caught seafood products.

Although seafood import quotas and stronger border inspections may marginally decrease the total volume of seafood imported to the U.S., economists interviewed for this report argued that as long as the Louisiana seafood industry produces a commodity product in a global marketplace, the industry will struggle to compete against aquaculture products that can be produced more efficiently and consistently than wild-caught seafood, particularly shrimp.

Brian Mobley, owner of Corina Corina Seafood, shows off the packaging used to box and transport frozen shrimp.

Freshly shucked oyster harvested by Robin's Seafood in St. Bernard, Louisiana.
In an attempt to mitigate competition from foreign imports and communicate to customers when they are consuming imported seafood, Louisiana’s seafood industry successfully advocated for the passage of HB 335 through the Louisiana legislature in May 2019. HB 335 is a seafood labelling law requiring that Louisiana restaurants serving imported seafood display that fact prominently on their menu and signage. The seafood industry believes that this messaging can increase awareness over time and will reduce consumption of foreign seafood products by tourists or other Louisianans seeking local seafood at restaurants, many of which serve imported products.

Despite the legislation’s widespread support, the seafood labelling law includes a loophole that allows imported seafood processed in the United States to be labelled as domestic. The industry hopes to close this loophole during the 2020 legislative session. In addition, the industry acknowledges that the labelling law is not yet widely implemented or enforced, and additional funding is needed to educate the public about the economic and ecological benefits of consuming locally harvested, wild-caught seafood. Consistent labelling of imported products across southern states would also help build consumer awareness. Louisiana’s seafood industry is advocating for similar labeling bills to be implemented in Alabama, Mississippi, Florida, Texas, South Carolina, and Georgia.

Although Louisiana’s wild-caught seafood industries face significant challenges in competing against seafood imports, imported products have been successful in making seafood accessible to more Americans and therefore expanding the seafood market to a broader, nationwide audience. As Americans increasingly prioritize supporting their local and regional food systems during, and possibly after, the COVID-19 pandemic, wild-caught Louisiana seafood can capitalize on this expanded audience by leveraging the industry’s unique history and successfully differentiating their products from imports. This is a key recommendation of the economic development plan presented in Section III of this report.
Challenge 2: Reduction in Profitability

As a result of declines in fishery productivity, increased operational expenses (including gas, maintenance, and equipment costs), and competition with foreign imports, many seafood operations in Louisiana struggle to generate profit. Many Louisiana fishermen, and particularly shrimpers, anecdotally report being paid more per pound of seafood product in the 1990s than they are paid today. Since the majority of Louisiana seafood businesses operate in the commodity marketplace, low prices—driven by a significant increase in foreign seafood imports in the last two decades—are driving consolidation in the processing segment of the industry. This is because firms must sell higher volumes of product to be profitable at a lower price point.

This reduction in profitability is a key challenge that the economic development plan presented in Section III of this report addresses.
**Challenge 3: COVID-19 Pandemic**

In early 2020, the COVID-19 pandemic reached southern Louisiana and began rapidly spreading across the state. By mid-March, a study by the University of Louisiana at Lafayette showed that Louisiana had the highest growth rate of coronavirus cases in the world, triggering Governor John Bel Edwards to issue a statewide stay-at-home order that lasted from March 22 until May 15. These guidelines limited Louisiana residents to only engaging in “essential” activities and refrain from dining at restaurants. Since the vast majority of seafood products are consumed in restaurant settings, Louisiana fishermen, processors, and distributors faced a sharp decline in seafood demand and consumption just as the spring fishing season began to open.

The stay-at-home order had a tremendous impact on restaurants and service industry professionals. According to the Louisiana Restaurant Association, 30-40% of restaurants statewide will close permanently. Additionally, full-service restaurants that have re-opened are reporting sales at roughly 50% of pre-COVID levels.

The closing and/or reduction in restaurant capacities created a ripple effect in the supply chain. When restaurants closed, demand for seafood from food service companies was virtually eliminated. Thus, the capacity of these companies to purchase from processors was also eliminated. Ultimately, this reduced demand significantly and depressed the dockside price of seafood, impacting fishermen’s livelihoods.

In an attempt to mitigate the impacts of the COVID-19 pandemic on the U.S. economy, Congress passed The Coronavirus Aid, Relief and Economic Security Act, or CARES Act, in late March 2020. This legislation included $300 million in fisheries assistance to be distributed across the entire United States seafood industry, with $14.7 million allocated to Louisiana. Louisiana's congressional delegation criticized this allocation as a disproportionally small percentage that failed to recognize the national importance of Louisiana’s fisheries. Furthermore, an Executive Order issue by the
Despite a lack of resources from federal COVID-19 relief efforts, some fishermen and processors quickly adapted to the reduced demand for seafood products from restaurants and pivoted to selling directly to consumers through local farmers markets, pop-up seafood markets, online sales platforms, and/or through posting on social media.

The COVID-19 pandemic has created a market environment where innovation is key to businesses' survival. Seafood businesses that explored new markets, adopted new marketing strategies, and improved product handling practices to deliver a high-quality product are discovering newfound success in selling seafood directly to consumer.

Trump Administration suspended the distribution of H2B visas, exacerbating workforce challenges for some seafood processors.

Small businesses in the fishing industry were able to apply for the small business Paycheck Protection Program established in the CARES Act to support up to 8 weeks of payroll costs. However, many small businesses in Louisiana’s fishing industry struggled to apply for the program, which quickly ran out of funds. Other federal efforts to mitigate the economic impacts to Louisiana’s fishing industry included an agreement by USDA’s Agricultural Marketing Service to purchase 20 million pounds of Gulf Coast shrimp to be distributed through the agency’s food security programs.\(^\text{13}\) This action was applauded by the American shrimp processors association but did not benefit other sectors of the Louisiana seafood industry.

The general failure of government relief efforts to adequately support Louisiana’s seafood industry as it struggled to adapt to the COVID-19 pandemic emphasizes the disconnect between this economically valuable industry and government economic development efforts.


**Adaptation to COVID-19 Supply Chain Disruptions**

Despite a lack of resources from federal COVID-19 relief efforts, some fishermen and processors quickly adapted to the reduced demand for seafood products from restaurants and pivoted to selling directly to consumers through local farmers markets, pop-up seafood markets, online sales platforms, and/or through posting on social media.

The COVID-19 pandemic has created a market environment where innovation is key to businesses’ survival. Seafood businesses that explored new markets, adopted new marketing strategies, and improved product handling practices to deliver a high-quality product are discovering newfound success in selling seafood directly to consumer.
LOGISTICS AND WORKFORCE CHALLENGES
Challenge 4: Cold Storage and Ice Availability

Flexible, convenient cold storage options are scarce in coastal Louisiana. For most businesses, this shortage is not a business-threatening supply challenge but becomes problematic at certain times of the year. Due to the seasonal nature of the seafood industry, fishermen do not need storage space year-round. However, they must secure cold storage seasonally by paying for an entire year’s worth of space.

Ice to keep seafood products fresh is also limited. Fishermen have traditionally relied on ice plants, or ice houses, for their supply of ice to transport fresh seafood. The number of ice plants servicing the seafood industry has declined over recent years and many remaining ice plants are in dire need of repairs and upgrades. However, because the fishing industries that purchase ice from ice plants are declining, some of the plants’ key customer bases are shrinking, in turn hindering the ability of ice plants to remain profitable. With this uncertain financial outlook, it is challenging for ice plant owners to secure financing for renovations or construction.

Without reasonably priced and readily available ice, docks and processors have filled the void by setting up small-scale ice plants. The docks and processors often provide ice in advance, with fishers paying for the ice when they unload and sell their catch to the dock or processor. While the docks and processors provide much-needed ice, this transaction structure may foster a power imbalance where a fisher is overly dependent on a specific processor.

If ice and cold storage availability can be expanded in rural coastal parishes, fishermen, processors, and distributors could supply restaurants directly with local product that is frozen for stability, produce new products based on the ability to store and sell them on an as-needed basis, and access new fresh and frozen markets.

If ice and cold storage availability can be expanded in rural coastal parishes, fishermen, processors, and distributors could supply restaurants directly with local product that is frozen for stability, produce new products based on the ability to store and sell them on an as-needed basis, and access new fresh and frozen markets.
Challenge 5: Transportation

The transportation of seafood is a gateway competency that connects seafood producers and processors to markets. In interviews conducted during this research, a lack of transportation options was identified as a barrier to growth for businesses interested in distributing fresh product outside of their immediate area. In several cases, fishermen in rural areas did not produce enough supply to warrant an expansion of service by companies that transport fresh seafood products. Improved transportation and logistics options, including implementing creative solutions to aggregate the seafood products from multiple producers and accumulate high enough volumes for economical transportation, can connect rural seafood producers to new markets.

For example, in Acadiana, without large seafood producers, the market potential of fresh, locally sourced product is dependent upon a distribution channel that can accumulate inventory from multiple smaller producers. Currently, small producers are not active in providing fresh product because they lack refrigerated storage and accompanying distribution channels.

In interviews conducted during this research, a lack of transportation options was identified as a barrier to growth for businesses interested in distributing fresh product outside of their immediate area.
Challenge 6: Labor

Labor is a key supply challenge for the seafood industry in Coastal Louisiana. Across businesses, the seafood industry struggles to adequately staff operations (e.g., captains, deck hands, truck drivers, and seafood processing workers). Many business owners see labor as the most critical bottleneck preventing the growth of their businesses. The current shortage of labor derives from an absence of interested local laborers and continuous challenges with obtaining H2B visas. Unfortunately, the labor challenges do not stop with today’s business needs but extend into the future. Succession planning is especially difficult, as many seafood businesses face uncertain futures; if a business’ future is suspect, it is unclear how current assets can be sold or transferred to a new generation. Moreover, succession planning challenges and current labor shortages reinforce each other. If this cycle can be broken through targeted workforce development programs, the industry may be able to initiate a positive cycle of job creation and predictable succession planning.

Yankee Canal Seafood

Yankee Canal Seafood is a seafood processor that sells fresh crabmeat, live blue crabs, and crawfish tails. One of Yankee Canal’s most significant business challenges is securing the immigrant labor they need on a timely basis. Each year, Yankee Canal brings in 21 workers from Mexico with H2B visas. The timing of their arrival is always uncertain—in 2019, the workers arrived in May, and in 2018, they arrived in July and August. If workers do not arrive on time, processing becomes delayed, and Yankee Canal loses customers who begin sourcing crab meat from other states.

In recent years, Yankee Canal Seafood has not been able to process crawfish because labor has arrived too late in the season to do so. These challenges highlight the impacts of workforce supply challenges in the Louisiana seafood industry.
Shortage of H2B Visas

The H2B visa program allows American employers to temporarily hire foreign workers for nonagricultural labor on a seasonal or intermittent basis. Seafood processors in coastal Louisiana often hire groups of H2B visa workers during the peak fishing season of their species, often in the spring and summer, to process and package seafood products.

Due to federal immigration policy, there was an absence of H2B visas available nationally in 2017 and 2018. In 2020, American embassies shut down due to the COVID-19 pandemic, and Proclamation 10014 suspended the entry of immigrants with H2B visas due to high domestic unemployment and layoffs caused by the pandemic. This shortage of H2B visas and frequent uncertainty surrounding if, and how many, immigrant laborers seafood businesses will be able to employ is a recurring challenge for many of the seafood processors we interviewed. Immigrant labor is an essential component of seafood business operation because local laborers are often uninterested in performing the work H2B laborers have historically completed, and businesses experience low retention rates among local laborers.

Absence of Local Laborers

Throughout our interviews, seafood businesses identified several factors that could explain the lack of local interest in the industry. These factors include a lack of promotion of the industry as a viable career option by educational institutions, a perception that fishing is not a high-skilled and/or high paying-job, a perception that the industry is declining, and the reality that shrimping has become less profitable due to competition from global shrimp markets. Increased visibility for Louisiana’s seafood industry and training options to draw new workers into the industry would mitigate some of these factors, and several of the recommendations in Section III of this report target this issue. Ultimately, improving the industry’s ability to attract new workers hinges on improving the industry’s economic success.

Succession Problems

Succession planning, or the process of developing new workers and leaders to replace older individuals as they leave the industry, is integral for ensuring the long-term sustainability of Louisiana’s seafood supply chain. Succession planning is a challenge for the industry as it faces a myriad of economic and environmental challenges and a disinterest from local laborers.

It is important to note that succession planning and labor challenges will only further exacerbate the current labor shortage. The inherent value proposition that the fishing industry offers to young workers is that by working hard, they can establish a career path, make good money, eventually purchase their own vessel, and later sell their vessel to secure their retirement. Succession challenges signal that young workers do not view the value proposition of a life in fishing as viable. As such, young workers do not enter the industry. Without young workers, succession problems only increase, further eroding the industry’s value proposition. In this way, the absence of younger workers and unclear succession planning negatively reinforce one another in a cycle detrimental to the industry’s health.
Succession Challenges in the Vietnamese Shrimping Fleet

Succession challenges in Louisiana’s seafood industry are most pronounced in the Vietnamese shrimping fleet. After the end of the Vietnam War, many Vietnamese shrimping families immigrated to the United States and established communities in New Orleans and surrounding areas. Currently, there are 147 federally permitted shrimping vessels in the Louisiana Vietnamese fishing fleet, accounting for 41% of Louisiana’s federal shrimping fleet.

Many Vietnamese shrimpers encourage their children to pursue higher education rather than employment in the fishing industry, calling into question who will take over the Vietnamese fleet. In addition, there is a high degree of expertise required to operate shrimping boats and language barriers between Vietnamese captains/deckhands and American or Latin American crew members exacerbate succession challenges. With few workers entering the fleet, the ability of boat owners to sell their boats to new generations of fishermen is in jeopardy.
A major challenge for Louisiana’s seafood industry is aligning industry-wide coordinating bodies and working with economic development agencies and coastal restoration planning efforts. Shrimp, crab, oyster, and finfish task forces represent Louisiana’s seafood and make recommendations to the Louisiana Department of Wildlife and Fisheries, the Seafood Promotion and Marketing Board, an organization under the Lieutenant Governor’s office that publicly represents the industry, and various industry associations that engage in policy advocacy (such as the American Shrimp Processors Association). However, the industry lacks one clear voice, organization, or advocacy body that speaks cohesively on behalf of the entire industry to influence decision-making within two planning processes that significantly impact the industry—economic development planning and state coastal restoration planning.

**Challenge 7: Coordination with Economic Development Agencies**

Across Louisiana’s coast, the relationship between the seafood industry and economic development agencies varies depending upon the local density of business operations and the history of man-made and natural disasters. Historically, parish, regional, and state economic development efforts have primarily engaged the seafood industry in planning efforts when disasters have occurred along the coast. Damage from these disasters typically brings relief dollars to local areas, which are invested through economic development agencies. For example, the Port of Cameron used Hurricane Rita disaster recovery dollars to invest in physical infrastructure by building a facility that could house a private-sector seafood dock and processing operation.

The industry lacks one clear voice, organization, or advocacy body that speaks cohesively on behalf of the entire industry to influence decision-making within two planning processes that significantly impact the industry—economic development planning and state coastal restoration planning.
At the state level, Louisiana Economic Development (LED) is the agency responsible for creating and executing integrated economic development strategies to support a vibrant state economy. Despite the cultural and economic significance of the seafood production to Louisiana, the seafood industry is primarily served by the Small Business Division of LED and is not recognized one of LED’s “key industries.”

Improving the competitiveness of an entire industry requires commitment on the state, regional, local, and business levels. Individual businesses must innovate and refine strategies, while economic development agencies must commit to investing in the industry’s future through physical infrastructures (e.g., docks, bulkheads) and incentives for private investment, job creation, and training. Through meetings convened during this study, the New Orleans Regional Planning Commission and South-Central Planning and Development Commission engaged with the industry, explored new opportunities, and ultimately founded several seafood industry start-up companies. In addition, the research team engaged LED Secretary Don Pierson and Deputy Secretary Brad Lambert in this study, who both communicated a desire to create more situational awareness of industry activity within LED and are willing to engage LED in advancing industry initiatives. These examples of increased engagement demonstrate the potential impact of increased further collaboration between the industry and the economic development community.

15. https://www.opportunitylouisiana.com/key-industries
Challenge 8: Coordination with the Coastal Protection and Restoration Authority

Louisiana’s Coastal Protection and Restoration Authority (CPRA) is the state entity that develops and implements state-wide coastal restoration planning, primarily through the Coastal Master Plan. Although CPRA has conducted outreach to engage fishing communities in collecting public input, the industry feels that there are limited opportunities to significantly influence planning processes. When the seafood industry has engaged in public outreach meetings in the past, meetings have been perceived as attempts to educate communities about coastal restoration plans nearly finalized or already in progress, as opposed to opportunities for providing input that will shape planning process outcomes.

Building productive dialogue between CPRA and Louisiana’s seafood industry is critical to understanding the impacts of coastal restoration plans and to developing an integrated, comprehensive plan for industry adaptation and co-existence with restoration efforts. Coordination between state planning agencies and the Louisiana seafood industry is needed to align public resources and bolster the industry’s economic development. Developing a unified voice for the industry and elevating its coordination with state planning processes is essential to facilitate long-term planning for the industry’s resilience and provide economic development opportunities to support the industry’s survival.

ENVIRONMENTAL DISRUPTIONS

Challenge 9: Coastal Wetland Loss

Louisiana is experiencing the highest rate of coastal wetland loss in the United States: between 1932 and 2016, Louisiana lost 2,006 square miles of wetlands due to subsidence, hurricanes, sea level rise, and saltwater intrusion. These threatened coastal areas are productive estuary ecosystems, providing habitat, resources, and spawning grounds to important coastal fisheries. The Coastal Protection and Restoration Authority is tasked with developing and implementing a $50 billion Coastal Master Plan to address this monumental environmental challenge. However, coastal restoration projects are expensive long-term investments that take years to site, plan, and construct. Despite ongoing restoration efforts, some coastal scientists argue that further loss of Louisiana’s wetlands is inevitable due to sea level rise.

References:
17. [Source](https://advances.sciencemag.org/content/6/21/eaaz5512)
Mississippi River diversions are a key Coastal Master Plan strategy to facilitate landscape-scale coastal restoration. River diversions are highly contentious in the coastal communities where they are planned. Louisiana's seafood industry is concerned that the influx of freshwater from diversions will disrupt local ecosystems and lead to declines in fishery productivity. Additionally, fishermen argue that the 50-year timescale predicted for river diversion land building is not immediate enough to benefit coastal communities. Generally, the Louisiana seafood industry would prefer that CPRA continue to pump sediment into degraded coastal wetlands using pipelines as an alternative to river diversions. They point to sediment pumping as a proven, less harmful, and more immediate land-building strategy. However, coastal scientists argue that this piecemeal land-building strategy is prohibitively expensive to conduct on a scale large enough to stave off further coastal wetland loss and have continued the planning and permitting process for several diversions along the Mississippi River. This conflict is a key disagreement that increased dialogue and coordination between the Louisiana's seafood industry and CPRA could mitigate.

One coastal scientist interviewed in this research noted that the spatial distribution of fisheries is likely to shift due to these significant alterations and loss of Louisiana's coastline. As a result, Louisiana's seafood supply chain will likely need to shift operations and coastal infrastructure to accommodate these environmental and spatial changes. This is a long-term planning challenge that is beyond the scope of this economic development plan, which focuses on initiatives to implement in the next five to seven-year timeframe. However, creating a long-term plan for how Louisiana's seafood supply chain can adapt to the realities of coastal wetland loss is a necessary planning effort that will require coordination and resources between the industry, economic development authorities, and state entities responsible for coastal planning and management.

Creating a long-term plan for how Louisiana’s seafood supply chain can adapt to the realities of coastal wetland loss is a necessary planning effort that will require coordination and resources between the industry, economic development authorities, and state entities responsible for coastal planning and management.

Challenge 10: High River Events

In addition to coastal wetland loss, coastal fishermen are concerned about the impacts of increased freshwater flows from the Mississippi River, proposed river diversions, and coastal erosion that will change the water salinity in Louisiana’s estuaries—where target seafood species are sensitive to salinity gradients when selecting habitat and breeding areas. Intense seasonal flooding in the Midwest resulted in high river events on the Mississippi River in 2017, 2019, and 2020, leading to an influx of freshwater in Louisiana’s wetlands in the eastern and central parts of the state.

When flooding and high rainfall events in the river basin significantly increase water levels in the Mississippi River’s main channel, the Army Corps of Engineers opens the Bonnet Carre Spillway, a flood control structure north of New Orleans. This releases water into the Lake Pontchartrain estuary, lowers water levels in the main river channel, and reduces pressure on downstream levees. In addition, increased freshwater flows into the Atchafalaya River, a distributary of the Mississippi, and through the Wax Lake Outlet, freshening wetlands in the coastal Acadiana parishes. Although opening the Bonnet Carre spillway reduces the threat of flooding to Louisiana communities, fishermen have been vocal that the increased freshwater inputs to key estuaries stress fisheries, reduce productivity, and disrupt seafood harvest.

Higher flood volumes from the Midwest also send increased agricultural fertilizer run-off into the Mississippi River and Gulf of Mexico, contributing to algae blooms and subsequent low-oxygen conditions inhospitable to aquatic life. The resultant hypoxic zone, known as the “dead zone”, constrains habitat availability for commercial fish species and reduces fishery productivity. The dual threats of increased freshwater and hypoxia, and an inability for Louisiana to influence the actions of more northern states along the Mississippi that influence water quality in the Gulf of Mexico, pose significant long-term challenges to the industry.
Challenge 11: Hurricanes

The combination of high winds and storm surge associated with hurricanes can decimate entire fishing communities, as seen in Hurricanes Katrina, Rita, and Laura. These severe hurricane threats pose a significant risk to seafood industry operations, which are typically located in flood plains and coastal zones. As a result, many seafood businesses are unable to find affordable flood insurance and must operate without insurance, assuming significant business risks.

Without affordable insurance to help rebuild, a single flood or storm can put fishermen, processors, and docks out of business permanently. Consequently, severe weather threatens not only individual businesses, but the entire seafood supply chain. State and parish programs that assist businesses and communities in planning for and responding to environmental hazards can have a significant impact on the local economy and community stability by considering longer-term climate adaptation strategies.

An aerial rendering of the eye of Hurricane Laura over Cameron Parish, Louisiana (provided by NOAA).

Challenge 12: Deepwater Horizon Oil Spill

On April 20, 2010, the Deepwater Horizon oil rig exploded off the coast of Louisiana, spilling more than four million barrels of oil into the Gulf of Mexico that subsequently dispersed through marine ecosystems and coated the shorelines of Texas, Louisiana, Mississippi, Alabama, and West Florida. An economic impact analysis of the oil spill on the Gulf of Mexico Seafood Industry commissioned by the U.S. Bureau of Ocean Energy Management found that the seafood industry as a whole lost between $94.7 million to $1.6 billion in economic output due to the spill, with Louisiana experiencing the greatest impacts.

Oil spills have well-documented impacts on fisheries—as a result of exposure, marine species can experience heightened mortality rates, genetic damage, and stunted physiological development and can suffer from life cycle impacts such as decreased food availability and habitat degradation. In addition to the physical impacts on fishery species from the spill, temporary fishery closures and subsequent consumer concerns regarding the safety of seafood consumption impacted the ability of the seafood industry to harvest, process, and sell product. Even as the fishing moratorium lifted and testing conducted by the Food and Drug Administration determined that Gulf seafood was safe to eat, consumers continued to express safety concerns.

Ten years later, Louisiana fishermen still point to the Deepwater Horizon oil spill as a turning point in their businesses. Many coastal fishermen received financial compensation from British Petroleum, both through privately settled damage claims through BP’s Gulf Coast Claims Facility, the Deepwater Horizon Claims Facility, and the Vessels of Opportunity Program, through which BP paid fishermen to engage in the oil spill cleanup efforts. Many fishermen reinvested those dollars to improve their vessels. However, they continue to bring in reduced landings than before the oil spill. Since 2010, shrimp landings have dropped from 100 million pounds a year to 30 million pounds a year due to land loss, extreme high river events, and environmental damage from the Deepwater Horizon oil spill. Fishery productivity losses due to Deepwater Horizon are documented across state, federal, and deepwater fisheries. Many fishermen interviewed...
anecdotally reported a reduction in business volumes after the Deepwater Horizon spill, which persist to this day.

Looking Forward: A Vision for a More Resilient Seafood Industry

Despite the environmental, economic, logistical, and coordination challenges facing Louisiana’s coastal seafood industry, there are significant economic development and market opportunities that can be developed to directly address or mitigate these challenges. The following section describes a vision for a more profitable, robust, and resilient seafood industry and outlines an economic development strategy to leverage the industry’s strengths in achieving that vision.

Adapting to Environmental Change

In response to decades of environmental damage and reduced inland fishery productivity, some Louisiana fishermen are purchasing larger boats and outfitting them with flash freezers to fish farther offshore and reduce their reliance on inland bays and bayous. Additionally, many fishing towns have moved inside the levee system to reduce their flood risk. Fishermen often commute 30 – 40 minutes to access their docks located outside the levee system.

One oyster fisher and processor interviewed in this study purchases oyster leases in multiple parishes so that operations can shift geographically as the environment changes. In the past, the business has changed its practices to spread cultch and harvest oysters in shallower waters as centers of productivity shifted. Fishermen often acknowledge that adaptation is necessary for their business' success but argue that river diversions will change the environment too rapidly for them to gradually adapt and shift geographies.
AN ECONOMIC DEVELOPMENT STRATEGY FOR THE COASTAL LOUISIANA SEAFOOD INDUSTRY

VISION

Louisiana's seafood industry is a unique resource with immense cultural value to both the rural coastal parishes in which it is located, and the state-wide population who benefits from the fresh, local seafood products underlying the state's world-famous culinary traditions. The industry is composed of dedicated small business owners, many of which operate multi-generational family businesses, who have deep relationships with Louisiana's natural resources and have exhibited economic resilience to decades of environmental changes to Louisiana's coastline and fishery stocks.

In addition to its cultural value, this industry is critical to the economic resilience of the rural coastal parishes in which it is located. Despite their perseverance through hurricanes, oil spills, and coastal wetland loss, seafood businesses are suffering from profitability declines and struggling against foreign competition. The lack of attention to Louisiana's seafood industry in regional and state economic development planning only exacerbates these challenges. Targeted economic development initiatives are needed to support the industry's economic sustainability and ensure seafood businesses can not only survive, but thrive, in the face of a multitude of challenges described in the previous section.

Targeted economic development initiatives can ensure the industry benefits from economic development initiatives and local, state, and federal planning processes. There are four critical elements essential to maintaining and improving the economic viability of the industry:

- Improve the industry's market position;
- Stimulate innovation;
- Ensure a stable workforce; and
- Improve transportation and distribution networks.

This can be done through leveraging the industry's strengths, improving business practices, adapting to change, and, ultimately, increasing industry profitability.
through differentiating Louisiana seafood from other products. Eight practical goals, organized in three focus areas, can help Louisiana realize this vision for its seafood industry.

**Engagement, Planning, and Resources**

I. Economic development agencies and financial entities should proactively engage the seafood industry to ensure all businesses can equitably access the capital they need to prosper.

II. Ensure that the industry can participate in local, state, and federal decision making on issues critical to the industry's survival.

III. Create venues for the industry to develop and implement shared strategies to thrive and adapt to future changes and disruptions.

**Marketing, Branding, and Innovation**

IV. Improve the industry's market position by leveraging the culture and stories of Louisiana fishermen and the quality and sustainability of Louisiana fisheries.

V. Stimulate industry innovation by developing new markets for Louisiana seafood, new value-added products and technologies, and connecting fishermen to new market opportunities to diversify the supply chain.

**Workforce and Infrastructure**

VI. Recruit and train a new generation of seafood workers and business owners to ensure the seafood industry has a diverse and stable workforce of both U.S. and foreign workers.

VII. Improve the efficiency of the industry's transportation and distribution networks.

VIII. Improve infrastructure resilience to protect against damage from high winds and storm surge associated with severe weather events, and proactively consider climate adaptation strategies.

In the following sections, specific strategies are outlined to accomplish each of these goals. For each strategy, we have indicated whether government, industry, individual businesses, or a combination thereof should be the primary entity responsible for implementation using the symbols below. We also recognize that universities and non-governmental organizations are integral partners in these efforts and can contribute invaluable expertise in designing or implementing any number of these strategies.

Appendix A includes an inventory of financial resources, grants, and programs that can be leveraged to implement these strategies.
Engagement, Planning, and Resources

While there have been advancements in recognizing the value of the seafood sector in Louisiana and supporting its survival, there are still several critical unmet needs. Chief among these is the opportunity to organize and elevate seafood industry voices to plan for the future, participate in critical decision-making processes, and provide seafood businesses with the resources to ensure their continued success.

The goals below create an ecosystem of support by linking resources and efforts across communities who can organize effectively to help the industry thrive. There is a strong need to align economic development resources, establish coordination mechanisms, and provide long-standing support in a neutral environment where industry and government actors can come together, pool their knowledge and skills, and plan for the future.

The economic resilience of Louisiana's seafood industry depends on establishing equitable pathways for businesses to access financial resources, technical assistance, and capital. Under-capitalization of boats and processors is a major challenge for the industry, and many fishermen suffer from the inability to take out loans for boat repairs and improvements. Similarly, under-capitalized processors are sometimes forced to sell frozen product even when prices are low to increase cash flow, further exacerbating low prices. Access to economic development and financial resources are essential to ensuring that Louisiana's seafood industry can adapt to today's changing economic and environmental conditions. the future.

**GOAL 1**

Economic development agencies and financial entities should proactively engage the seafood industry to ensure all businesses can equitably access the capital they need to prosper.
STRATEGIES

1.1 Connect under-capitalized seafood businesses to financial resources so they can invest in improving and maintaining their fishing vessels and adopt new technology to improve their product handling and quality control. These financial resources include grants, low-interest loans, and technical assistance offered by entities such as the USDA Office of Rural Development, the Small Business Administration, the Economic Development Association, and other local, state, and federal entities. Although these resources are already available to promote innovation and small business development, seafood industry businesses are often unaware or unfamiliar with the process to find and apply for these types of funding. A more comprehensive list of these financial resources can be found in Appendix C.

1.2 Develop new financing mechanisms to support seafood industry development. Innovative thinking is needed to explore financing options that leverage local financial institutions and municipal funding to pull in private and philanthropic investments. Possible opportunities include using philanthropic dollars to assess creative uses of municipal bonds and blended finance models that can support low-interest lending for seafood industry development.

1.3 Develop risk management products or programs for the seafood industry. Business owners interviewed for this research identified the absence of risk management policies as a barrier to soliciting investments in the industry. Risk management products that insure against fluctuations in fishery productivity are challenging to develop in the current fisheries management context. However, it could be possible to offer programs or products that mitigate risk from fluctuating seafood prices and/or natural or human-caused disasters.

For example, there is a precedent for risk management programs at USDA to support farmers who suffer from natural and human-caused flooding. However, fishermen who experience productivity declines due to flooding or other weather events are not eligible for similar risk management programs. One way that USDA has partially mitigated disaster risk in the Louisiana seafood industry was through purchasing Louisiana shrimp during the COVID-19 pandemic to offset supply chain disruptions and decline in demand for seafood products.
Risk management programs could also be designed to address the root cause of risks to the seafood industry, including freshwater flooding from diversions or fluctuations in fishery productivity.

Ensure that the industry can participate in local, state, and federal decision making on issues critical to the industry’s survival.

In order to access state programs and resources, seafood businesses in Louisiana currently navigate a web of agencies including the Louisiana Department of Wildlife and Fisheries, Louisiana Seafood Promotion and Marketing Board, Department of Agriculture, and Louisiana Economic Development. While agricultural businesses are aligned with the Department of Agriculture, and oil and gas companies are aligned with the Department of Natural Resources, the seafood industry does not have a clear, single point of contact within Louisiana State Government for consistent support.

The lack of a unified seafood strategy and equitable representation across state agencies adds transaction costs, resulting in agency service gaps. With multiple state agencies struggling to support the growth of Louisiana’s seafood industry, industry professionals do not have a clear understanding of each agency’s seafood-related services and programs and/or how these agencies can assist their operations. Streamlining interactions between the seafood industry and state agencies would help align state-level activities around industry priorities and would improve communications between stakeholders and decision makers.

(From left - right), Ramesh Kolluru, Lieut. Gov. Billy Nungesser, and Thomas Hymel enjoy Louisiana seafood.
2.1 Coordinate with seafood task forces to establish a centralized, statewide government coordinating entity for the seafood industry to interact with Louisiana’s state agencies, instead of the many touch points across a plethora of agencies. This entity should represent seafood interests consistently in legislative, coastal management, and economic development efforts. It should go beyond fisheries management discussions to address a broad array of industry needs. Building a single government organization to interact and coordinate across all segments and levels of Louisiana’s seafood industry will help the industry better organize and advocate for legislation, funding allocations, and support that it critically needs from government agencies.

Coastal Community Consulting: A Model for Effective, Equitable Engagement

Coastal Community Consulting (CCC) is a nonprofit organization based in Jefferson Parish, Louisiana that utilizes a “wraparound service” model to assist local fishermen in building business acumen and navigating government programs.

In addition to providing technical assistance and social support services, CCC assists fishing communities in preparing for stakeholder engagement meetings with government agencies. Sandy Nguyen, CCC’s Executive Director, meets with fishermen’s spouses before public agency meetings to inform them of the meeting’s purpose, encourage attendance, and help fishing communities streamline their comments to communicate their needs and concerns.

An expansion of this model to other parishes could improve the industry’s equitable representation in state planning efforts.
Create venues for the industry to develop and implement shared strategies to thrive and adapt to future changes and disruptions.

Although segments of the seafood industry are organized through the seafood task forces and industry associations, there is a need for the entire industry to come together with academics, NGOs, and government experts to plan for the industry’s long-term resilience to economic and environmental disruptions. A strategic planning effort that engages all segments of the seafood industry is essential to understand and articulate the industry’s challenges and plan for how partnerships and government can support the longevity of the industry. This would be a parallel, non-governmental effort to support alignment and planning within the industry, and inform government engagement efforts, such as the seafood task forces and the Seafood Promotion and Marketing Board.

3.1 Designate a central entity to convene a statewide forum on topics of importance to the future of the industry such as addressing competitiveness of Louisiana seafood in a global market where foreign imports dominate, ensuring a robust workforce in the future, and building industry resilience to hurricanes, environmental disasters, and coastal wetland loss. This effort will likely need to be supported by a non-governmental organization or university entity with convening power to maximize its effectiveness. A third-party convener could also organize a grassroots effort to identify diverse leaders from different seafood sectors to represent the industry, identify issues critical to the industry, and support strategic planning efforts to address current threats to the industry and predicted future disruptions.

This parallel planning effort would complement and inform the efforts of a central, statewide government coordinating entity to advocate on behalf of the industry. Ultimately, both top-down and grassroots approaches are needed to organize, communicate, and better advocate for the needs of Louisiana’s seafood businesses and communities.
Marketing, Branding, and Innovation

Despite Louisiana seafood being a premium, wild-caught, domestic product, it is often not treated as such due to packaging that fails to distinguish it from commodity competitors. For example, a package of high quality, plate frozen shrimp placed in a white box with a black label instantly becomes a “bottom of the freezer” product. This failure of marketing and branding has significant implications for the way Louisiana seafood is perceived nationally and its competitiveness and price in the domestic seafood market.

The COVID-19 pandemic has consumers turning their attention to supporting regional food systems and small businesses. The Louisiana seafood industry can leverage this opportunity to highlight the culture and character of the small businesses that comprise its supply chain. We envision a new narrative for Louisiana’s seafood industry that utilizes creative marketing and branding to tell the story of generational fishermen living off the land and producing wild caught Gulf shrimp, oysters, crabs, and finfish.

In addition to improving marketing and branding of current products, the following goals are framed to help Louisiana’s seafood industry explore innovative value-added seafood products, new species to harvest, and new market opportunities. Ultimately, this group of goals is designed to distinguish Louisiana seafood from other seafood products and improve the profitability of Louisiana seafood businesses. Implementing these goals and strategies will require a commitment from individual entrepreneurs, the Louisiana Seafood Promotion and Marketing Board, and government economic developers, who should support these initiatives.
Support for industry-wide and business-specific marketing and branding initiatives is needed to connect consumers to the faces and stories of Louisiana fishermen. Louisiana fishermen have a unique connection to wild-caught seafood, often passed down through generations of their family. Their distinct culture and independent spirit garners wide popular appeal, as demonstrated by the co-opting of Louisiana culture by national chain restaurants that do not source their seafood from Louisiana. This strong culture can be leveraged to differentiate products from competitors at each level of the supply chain.

A coordinated, industry-wide marketing and branding effort is needed to articulate the value proposition of Louisiana seafood and change its positioning in the minds of consumers and restaurants as a commodity product to a luxury good. In addition, individual entrepreneurs are key to advancing new approaches for their businesses. The strategies presented below attempt to harness the cultural interest of Louisiana fishermen to promote the product they produce, as well as propose partnerships and education efforts to strengthen and support infrastructure for marketing efforts. The following strategies are designed to address the competition with foreign import challenges described in Section II.

**STRATEGIES**

4.1 Louisiana’s Seafood Promotion and Marketing Board should undertake a strategic planning effort to determine how to best tell the story of Louisiana seafood locally and nationally and effectively influence purchasing by large volume distributors and retailers. This strategy should aim to develop a national, recognizable, and sought-after brand for Louisiana seafood, similar to those evoked by “black angus beef” and Alaska seafood. Louisiana’s “Certified Authentic Louisiana Wild” is an attempt to create such a brand, but unfortunately has not been successful in attracting national attention. A coordinated branding effort should combine storytelling, visual marketing, and strategic national placements to begin building Louisiana seafood’s national reputation, possibly leveraging the pre-existing “Certified Authentic Louisiana” branding. A strategic planning effort should also consider the most effective applications of “Louisiana seafood” branding and “Gulf seafood” branding, and how these two marketing and branding strategies can best complement and enhance one another.
4.2 Fishermen and seafood processors should develop individualized marketing materials, including those targeting direct to consumer sales.

Anecdotal efforts by some Louisiana fishermen have demonstrated that improved marketing and branding is successful in generating significant price premiums, in one case increasing the price per pound a fishermen can get from king mackerel from $0.90 to $3.25 per pound at the dock. In addition to supporting the economic profitability of seafood businesses, improved marketing and storytelling will support and strengthen coordinated marketing efforts and contribute to building a sought-after national brand for Louisiana seafood.

Direct to consumer marketing is also key to giving seafood businesses the tools to manage supply chain disruptions (e.g., from COVID-19) by providing alternative markets to sell product through in addition to restaurants and traditional distributors. Furthermore, fishermen can increase their profit margins generally by developing their own packaging and/or value-added products and selling direct to consumer. It is unknown how long COVID-19 will continue to impact supply chains; therefore, ingenuity and lessons learned in spring 2020 need to be harnessed and built upon. For example, a program to support fishermen in developing individualized marketing and branding strategies could assist seafood businesses in writing one-paragraph narratives that emphasize their history in the industry and personal connection to the resource. These short narratives could be integrated into product packaging and provided on small sheets to restaurants for waitstaff to share with consumers.
to connect the seafood served to the fishermen who caught it, delivering value for both the consumer and the seafood supply chain, and building the industry’s collective narrative.

In addition, access to seafood purchasing online by consumers (e.g. through Facebook, Louisiana Direct, etc.) has proven to be useful beyond measure. Consistent investment in a central online platform for fishermen to reach consumers in the future could ensure this strategy has staying power.

4.3 Educate consumers and chefs about seafood product quality and how to source, handle, and prepare Louisiana seafood products. A coordinated, state-wide effort is needed to educate Louisiana consumers, restaurants, and chefs about seafood product quality and make the value proposition for why the consumption of local, wild-caught seafood products should be prioritized over seafood imported from other regions or countries. Education of consumers through statewide marketing campaigns could emphasize the quality of Louisiana seafood and the economic impacts of supporting local businesses. To target restaurants and chefs, the Louisiana Seafood Promotion and Marketing board could create an online course to educate restaurant staff about how to source, identify, and handle quality seafood products, and communicate this process to patrons.

4.4 The Louisiana state government should increase monitoring and enforcement around the seafood labeling law that requires restaurants serving imported seafood products to label the origin of their seafood prominently in their restaurant and on their menu. Thus far, this law has not been well enforced and many restaurants remain out of compliance. A third-party verification body could be enlisted to audit seafood restaurant sourcing and ensure labeling compliance.

4.5 In addition to improving enforcement of the labeling law against restaurants that serve imported seafood, the Louisiana Seafood Promotion and Marketing Board should encourage restaurants and retail markets that serve local seafood to proudly market the source of their seafood. There is a need for greater differentiation between Louisiana seafood and imported competitors across the restaurant industry to educate the public about the difference in seafood quality and create incentives for restaurants to source local ingredients. This will contribute to building a consistent brand for Louisiana seafood that guarantees a high quality, premium product.
Marketing Pilot at the Louisiana Fisheries Forward Summit

The research team developed and tested an industry-wide marketing slogan and logo (Image 3) during the 2020 Fisheries Forward Summit hosted by Louisiana Sea Grant.

The slogan “Louisiana Seafood: Ask for it by Name” was inspired by the recent legislation requiring restaurants that serve imported seafood products to label the origin of their seafood prominently on their menu.

Stickers with this slogan and logo were printed and placed onto donated Yeti cups, which were given away at the event in exchange for answering a survey about the seafood industry. The research team received enthusiastic and positive feedback. This approach could be replicated at national seafood industry summits and conferences to build a nationwide brand for Louisiana seafood.
Louisiana Seafood Program

Louisiana Direct Seafood Program is partnership between the Port of Delcambre, LSU AgCenter, and Louisiana Sea Grant that provides customers with direct access to purchasing seafood products from commercial fisherman through an online marketplace.

In addition to supporting direct to consumer sales, the Louisiana Direct Seafood Program assists fishermen and small microprocessors with creating eye-catching labels and packaging, and with the development of a wide variety of value-added seafood products. Examples include black drum, hand peeled and deveined shrimp, garfish, oysters, snapper, grouper, catfish, and many others. Their work focuses on high-quality, frozen, vacuum-packed products that are packed during peak production and sold for higher profits during the off-season. These specialty boat-to-table seafood packs are becoming widely known as the best in local frozen seafood products. There are many additional opportunities to leverage this micro-processing expertise and develop new value-added seafood products in Coastal Acadiana.
Assisting Louisiana entrepreneurs as they grow their companies, create new value-added products, and expand into new markets is essential to fostering industry innovation and increasing business competitiveness. The COVID-19 pandemic has created an environment where a business’ ability to be innovative and adaptive is key to success. Economic development resources should be aligned to help seafood businesses adapt to changing conditions by experimenting with innovative business strategies. The following strategies are designed to help Louisiana fishermen improve their profitability and differentiate their products from commodity competitors.

**STRAIGHTS**

5.1 Develop a New Orleans fish market where fishermen can sell fresh, high-quality seafood products directly to restaurants, chefs, and consumers. A New Orleans fish market where fishermen could sell directly to chefs would create a central hub connecting fishermen, consumers, and chefs. Some fishermen in the eastern coastal parishes are interested in selling product directly to restaurants in New Orleans but face transportation logistics issues. Many restaurants request small quantities of fish, making it logistically and economically challenging for fishermen to engage in direct sales relationships with individual restaurants. A direct to consumer market in New Orleans would help fishermen sell larger quantities of higher-quality seafood products directly to consumers, chefs, and restaurants. For example, inshore shrimp are better quality than brine-frozen, offshore shrimp, but are only available for four months of the year. This inconsistency in supply is difficult for processors to manage in a commodity supply chain. However, some seafood restaurants in New Orleans would be interested in purchasing these higher quality, seasonal products. Fishermen noted that an ideal market would include cold storage space, an ice machine, public bathrooms, a covered awning for incoming trucks, a fish cleaning station, and floor drains.
5.2 Develop value-added products using Louisiana seafood. Economic developers can support this through technical assistance and support for small processors to make necessary infrastructure investments. This should include increased resources for Louisiana Sea Grant’s Innovation Hub and the seafood demonstration lab so they can introduce fishermen to new packaging, ideas, and products.

Value-added products provide an important price premium for seafood businesses and improve profit margins significantly. However, developing new products and capabilities often require capital investments in machinery or other infrastructure to create products and meet Board of Health safety standards for food processing. Economic development efforts can assist businesses in developing value-added products through technical assistance, connecting businesses with incubators, such as the LSU Food Laboratory, that can provide equipment and expertise, and financial resources to facilitate equipment investments. Below are several promising opportunities for value-added products in Louisiana’s seafood industry.

Small shrimp: Developing a value-added product for small shrimp would help Louisiana’s seafood industry increase the profit margin on this low-value product. Possibilities include domestic cooked salad shrimp or producing dried shrimp for coastal Asian markets.

Large shrimp: Expanding production of premium, head-on shrimp by connecting shrimpers with the necessary equipment, such as plate freezers, would improve the profitability of shrimping.

Crab: Value-added products including crab cakes, stuffed crabs, seafood boudin, and corn and crab bisque can be produced when crab meat is abundant and extra supply is frozen, lowering the product’s value at the time of future sales.

Oysters: Freezing oysters on the half shell for use by restaurants, casinos, and cruise ships is a lucrative value-added product.

5.3 Expand the range of harvested species and create new market opportunities, in concert with fishery managers. There are several opportunities to explore harvesting other commercially viable species for new and existing markets. For example, meat mullet is a profitable finfish harvested in Florida that is also found in waters off Louisiana’s coastline and could
is a profitable finfish harvested in Florida that is also found in waters off Louisiana’s coastline and could be harvested by Louisiana fishermen. There is also an opportunity to harvest and process seafood products for Asian markets including dried fish, squid, cuttlefish, and sea cucumber. Economic developers and fishery managers should work with interested business owners to analyze these new market opportunities and design individual business strategies to capitalize on those that are most promising.

5.4 Docks should develop a structure to pay premium prices for higher-quality products. Currently, offering fishermen different prices for their catch based on seafood quality is not a cultural norm in the relationship between fishermen, docks, and processors. If a fisherman produces a higher-quality product, they have to sell it directly to consumers, restaurants, or to processors with a higher-quality brand to generate a price premium. If docks implemented protocols to pay different rates and separate harvests of different quality, fishermen would be incentivized to make the investments necessary to improve handling and freezing practices and produce a higher-quality, more profitable seafood product.

5.5 Assess the economic, environmental, and political viability of aquaculture. Developing aquaculture operations in Louisiana state waters would help the seafood industry achieve a consistent supply and flatten the “feast and famine” volatility of the seafood industry. However, in order to responsibly scale aquaculture development, there must be a coordinated effort by state regulatory agencies to engage fishermen in designing an industry that minimizes disruptions to wild-caught fisheries and developing a streamlined permitting process that ensures environmental protections. The most immediate opportunities for expanding aquaculture in Louisiana include off-bottom oyster cultivation, which is already practiced by a few operators, and shrimp farming, which has been successful in Texas. Louisiana already has many successful inland aquaculture operations that grow and harvest crawfish and catfish.
South Plaquemines Safe Harbor and Seafood Market

In 2018, South Plaquemines Parish received a $6 million LA Safe Grant for the “Plaquemines Harbor of Refuge” project, a resilient infrastructure project to construct a seafood market and safe harbor behind the parish flood gates near the Empire Mississippi River bridge.

This facility will include at least 50 high piling slips for safe harbor, an educational center, a market, and a lookout tower. Fishermen in the area anticipate that this market will provide greater opportunities to sell directly to chefs in New Orleans. The project is currently in the engineering and design phase, and construction is expected to be completed by the end of 2020. Fishermen hope this facility will develop direct sales business for the parish and capture some of the New Orleans market for fresh seafood.
Workforce and Infrastructure

A reliable workforce and accessible transportation and distribution systems are key competencies to enable the seafood industry’s current and future success. However, many business owners in Louisiana’s seafood industry indicate that labor is a critical bottleneck preventing the growth of their businesses and that limited distribution and cold storage options restrict where they can sell their products.

The following goals and strategies intend to address these fundamental needs and catalyze success, innovation, and growth in Louisiana’s seafood industry. Workforce and educational programs can generate interest in the industry and ensure a stable workforce. Training programs can ensure current workers and business owners are producing high quality seafood products and running profitable operations. New partnerships can be fostered to improve cold storage and distribution options in Louisiana’s coastal parishes. In combination with one another, these strategies can ensure the seafood industry has the fundamental support it needs to thrive well into the future.

Ensure the seafood industry has a diverse and stable workforce of U.S. and foreign workers. Recruit and train a new generation of seafood workers and business owners.

Workforce development programs are needed to bring young talent into the industry and provide training on how to run and operate fishery businesses. Existing fishermen are also in need of training programs to develop skills regarding good business practices, direct sales, micro processing, and packaging to enable them to produce higher-quality seafood products, facilitate their involvement in direct seafood markets, and improve their overall profitability. The following strategies are specifically designed to address the industry’s labor shortage and succession planning challenges described in Section II.
6.1 Partner with community colleges to develop seafood technical programs to provide an employment pathway for young people to enter the seafood industry. A key component of these programs should be apprenticeships at seafood businesses where young people can develop industry skills. Programs should include diversity, equity and justice considerations in their design. Possible partners for this effort include Nichols State University and Nunez Community College.

6.2 Develop fisheries curriculum for 4-H and other agriculture-related outreach programs to educate elementary, middle, and high school students about opportunities in Louisiana’s seafood industry.

6.3 Improve seafood handling practices and assist fishermen in making technological upgrades to produce higher-quality seafood products. Improving the overall handling and quality of seafood products through education and outreach is a natural complement to marketing efforts to help Louisiana seafood differentiate from commodity products. For example, assisting shrimpers with the purchase and installation of plate freezers and shrimp grading machines on their vessels would allow for increased production of high-value, head-on shrimp that can be sold at a higher price than headless, brine frozen shrimp and build a positive reputation for Louisiana seafood. Delcambre Direct Seafood has been successful in training fishermen on how to improve the quality of their shrimp and solicit a price premium for their product, in addition to facilitating a direct to consumer farmer’s market and online marketplace.

6.4 Better organize the seafood industry to advocate for improvements to the federal H2B visa program. The H2B visa program is administered by the U.S. Department of Labor, subject to regulatory guidance from the Executive Branch and Congress. If Louisiana’s seafood industry is successful in achieving Goals 2 and 3 to improve industry organization and strengthen its influence in government decision-making, seafood industry coordination bodies could document the implications of H2B visa shortages and develop effective messaging around potential improvements in the program. These improvements could include increasing the number of H2B visas issued annually and improving the certainty that individual businesses will have access to the labor they need to operate.
There is an opportunity for Louisiana seafood producers to sell fresh, never frozen seafood products to markets around the country. The fresh seafood market provides a price premium that does not exist in the frozen markets and represents a critical economic development opportunity for coastal Louisiana. However, the fresh market requires short-term refrigerated storage and transportation capacity that is limited in the region. The following strategies are specifically designed to address the industry’s cold storage and logistics challenges described in Section II.

**STRATEGIES**

**7.1 Seafood processors, distributors, and ports should collaborate to access northern U.S. markets.**

Recent developments at Plaquemines Port provide an opportunity for the seafood industry to foster collaboration with new shipping companies and quickly access northern U.S. markets. Since 2013, Plaquemines Port has been actively expanding, and has been successful in soliciting over $20 billion in private port investments. Plaquemines Port plans to construct a container terminal and warehousing facility and expressed interest in working with the seafood industry to develop cold storage facilities and shipping relationships to diversify the port’s revenue. This could be harnessed to collaboratively plan a strategy to distribute more consistently to northern U.S. markets.

**7.2 Develop a cold storage cooperative model** where the operator and users of the facility are all investors and work together to manage seasonal needs and availability and promote equitable access of resources. Vessels would allow for increased production of high-value, head-on shrimp that can be sold at a higher price than headless, brine frozen shrimp and build a positive reputation for Louisiana seafood. Delcambre Direct Seafood has been successful in training fishermen on how to improve the quality of their shrimp and solicit a price premium for their product, in addition to facilitating a direct to consumer farmer’s market and online marketplace.

**GOAL 7**

Improve the efficiency of the industry’s transportation and distribution networks.
7.3 Develop partnerships that link seafood producers with third-party logistics providers, like Southwest Airlines and Refrigerated Express, by engaging them in educational sessions for producers/processors and in evaluating regional strategic plans for the coastal seafood industry. In turn, partners are more likely to become engaged in identifying market opportunities that are aligned with the seafood transportation capabilities in the coastal region.

Improve seafood infrastructure resilience to protect against damage from high winds and storm surge associated with severe weather events and proactively consider climate adaptation strategies.

As we saw with Hurricanes Katrina, Rita, Laura, Delta, and Zeta severe weather events can decimate entire coastal communities and essential seafood industry infrastructure. Although these severe storms are unpredictable and unavoidable, advanced planning and investment can reduce damages and decrease recovery times. Anecdotal reports from Hurricane Laura recovery efforts currently underway in Cameron Parish indicate that coastal infrastructure and assets that had been upgraded survived the storm much better than older infrastructure. In addition, increasing the availability of safe harbor locations across the coast will ensure fishermen have ample choices for moving their boats out of harm’s way before a storm hits.

**STRATEGIES**

8.1 Ensure that there are frequent safe harbor locations throughout the coast so that fishermen can shelter their boats in when a storm is approaching. Boats are the lifeblood of the fishing industry and a crucial asset at the center of a fishing business. Since many fishermen do not have insurance on their boats, it is imperative that they have options to prevent severe damage. In the absence of both safe harbor options and boat insurance, a fishing vessel destroyed by a hurricane can put an independent fisherman out of business that are aligned with the seafood transportation capabilities in the coastal region.
damage. In the absence of both safe harbor options and boat insurance, a fishing vessel destroyed by a hurricane can put an independent fisherman out of business. That are aligned with the seafood transportation capabilities in the coastal region.

8.2 Upgrade essential coastal infrastructure to withstand more severe weather and flooding events. There is a concerted need to invest in coastal community infrastructure to ensure its ability to withstand severe weather events and adapt to a changing climate. Docks, ice houses, and processing plants are all in danger of being devastated by hurricanes and need to be upgraded. Possible building upgrades include raising building elevations, installing metal, wind-resistant roofing, replacing windows with impact-resistant windows, and installing fiberglass doors. While costly, these upgrades reduce the possibility of severe damages that take months, or years, for communities to recover from. There is a role for government agencies to support these resilient infrastructure efforts through incentives or low-interest loans to increase the affordability of upgrading.

Gov. John Bel Edwards announced the 10 flood protection projects of the LA Safe Grant program that will be implemented in six coastal parishes.
In combination, this set of economic development goals and strategies will support the economic viability of Louisiana's coastal seafood industry and ensure its long-term resilience to both economic and environmental disruptions. This collaboratively developed economic development plan is designed to improve the industry's market position, stimulate innovation, ensure a stable workforce, and improve transportation and distribution networks. Implementing targeted economic development initiatives to foster a resilient seafood industry and support rural economies in Louisiana has never been more important than it is today.

Ultimately, many of the economic and environmental issues facing Louisiana's coastal seafood industry today are not unique to Louisiana. Working waterfronts across the nation are facing increasing economic and environmental threats.

During the two years of this study, Louisiana's coastal parishes faced both the COVID-19 pandemic, Hurricane Zeta, and Hurricane Laura, one of the strongest, most devastating hurricanes to make landfall in the United States. These events only highlighted the well-understood need to support industry innovation and adaptation to changing economic and environmental conditions.
Supporting coastal seafood industries, which are often comprised of small, multigenerational businesses deeply rooted in their sense of place, is a powerful strategy to support rural revitalization and job creation. Many employment opportunities in the seafood industry have an attainable barrier to entry and can make a significant difference in rural communities, like those in Louisiana’s coastal parishes that have high rates of poverty and low levels of educational attainment. Supporting the success of even one small business in an economically depressed area can build a keystone competency and initiate a ripple effect across a coastal region.

The shared vulnerabilities of coastal seafood industries and waterfront communities mean that many of the eight goals and 24 strategies outlined in this report can be applied to other communities and geographic locations. The basic principles of supporting an industry’s engagement in decision-making, strategic planning for the future, access to resources, marketing, branding, and innovation, and workforce and infrastructure capabilities are a recipe for success for many industries.

We welcome creative interpretations and applications of these strategies to support rural revitalization in working waterfronts throughout the nation. Moving ahead, it will be important for all engaged in the Louisiana coastal seafood industry to carefully consider and implement the strategies in this report, identifying ways to collaboratively strengthen both individual businesses and the entire seafood supply chain.
APPENDIX A: ACKNOWLEDGEMENTS

This study was funded by two USDA Rural Business Development Grants and a grant from the Louisiana Seafood Promotion and Marketing Board. The research team would like to thank the USDA, Louisiana State Director of Rural Economic Development Roy Holleman, Farm Production and Conservation Mid-South Coordinator Dr. Carrie Castille, and Lieutenant Governor Billy Nungesser for their support and for entrusting us to address the needs of this important industry. The research team would also like to give a special thanks to Kiera Givens, who was a critical member of the research team during the first phase of this work.

Additionally, the research team would like to acknowledge and thank the following people and organizations for their contributions and support of this research effort.

**Ports and Economic Development Organizations**

- Acadiana Planning Commission, CEO Monique Boulet
- Cameron Parish Port, Harbor and Terminal District, Port Director Claire Marceaux
- Grand Isle Port Commission, Port Director Wayne Keller
- Iberia Industrial Foundation, President and CEO Mike Tarantino
- Lafitte, Louisiana, Mayor Tim Kerner Jr.
- New Orleans Regional Planning Commission, Maggie Woodruff, Director of Economic Development and Contract Administrator
- One Acadiana, Rebecca Shirley, Director of Business Retention and Expansion
- Plaquemines Port Harbor and Terminal District, Deputy Port Director Paul Matthews
- Port of Delcambre and Delcambre Direct Seafood, Port Director Wendell Veret
- St. Mary Parish, Frank Fink, Director of Economic Development
- Vermilion Economic Development Alliance, Executive Director Anne Falgout
State Entities

- Louisiana Economic Development, Secretary Don Pearson
- Louisiana Department of Wildlife and Fisheries
- R. Harry Blanchet, Biologist Director/Marine Fisheries
- Jack Issacs, Economist
- Louisiana Lieutenant Governor’s Office, Lieutenant Governor Billy Nungesser
- Louisiana Seafood Promotion and Marketing Board, Executive Director Samantha Carroll
- Louisiana Sea Grant, Dr. Robert Twilley, Executive Director
- Thui Bui, Extension Agent
- Mark Shirley, Extension Agent

Industry Professionals and Companies

- Alario Brothers, Eva Alario
- Anna Marie Shrimp, Owner Lance Nacio
- Bayou Shrimp, Shepherd Baumer Jr.
- Big D’s Seafood Inc., Owners Douglas and Chrystel Olander
- Coastal Community Consulting, Founder Sandy Nguyen
- Corina Corina Seafood, Owners Bryan and Corina Mobley
- Cory Carroll, Crawfish Farmer and Chef
- David Chauvin’s Seafood Co, Owners Kim and David Chauvin
- Dean Blanchard Seafood Inc, Owner Dean Blanchard
- Delta Marina, Oyster Grower and Founder Mitch Jurisich
- Dickie Brennan’s Restaurant Group
- Stephanie Bernard, Purchasing director
- Taylor Lorio, Chef at Dickie Brennan’s Steakhouse
- Grant Wallace, Executive Chef at Dickie Brennan’s Steakhouse and The Commissary
- Faith Family Shrimp Co, Owner Angela Portier
- Fins, Owner and Chef Tenney Flynn
- Granger Seafood, Owners Cheryl and Albert Granger
- Gulf Crown Seafood Go, President Jeff Floyd
- Gulf South Shrimp Dock
- Harlon’s La Fish and Seafood, Owner Harlon Pearce
- Kindra Armesan, Fisherman
- LA Bait
- Joey Anzalone
- Kirk Mitchell
- Leonard Franques, Restaurateur
- Louisiana Blue Crab, Owner Sheb Callahan
- Louisiana Fine Food Companies, President and CEO Jim Gossen
Louisiana Shrimp Association
President Acy Cooper
Chairman Rodney Olander
Louisiana Shrimp Task Force, Chairman Thomas Olander
Louisiana United Crabbers Alliance, Founder Eddie Chagnard
Meraux Foundation
Bill Haines, Board Member, Meraux Foundation Board of Directors
Chris Haines, Board Member, Meraux Foundation Board of Directors
Blaise Pezold, Coastal and Environmental Program Manager, Meraux Foundation
McIlhenny Co, CEO Harold Osborn and Suzanne Hollis Apple
Newpack Shrimp Co, Consultant Don Schuab
Nunez Community College, Marcus Mantz
Omega Protein
Steve Williams
Seth Riché
P & J Oyster House, Sal and Al Sunseri
Paul Piazza, President Kristen Baumer
Peche, Chef Ryan Pruitt
Pontchartrain Blue Crab, Owner Gary Bauer
Refrigerated Express, Owner Pat Barker
Robin’s Oysters, Owner Brad Robin
Signette Landing
St. Mary Seafood and Marina, Owner and Founder Daniel Edgar
Southwest Airlines
Sysco Food Distribution
Dan G’sell, Seafood Specialist
Kimberly Brewster, Center of the Plate Specialist
Michael Sanchez, Merchandiser
The Picard Group
Mike Michot
Nick Cahanin
Nic Waltz
Tideland Seafood, Owner Andy Gibson
Tommy’s Seafood, Chalin Delaunes
Touchard’s Marine and Supply, Owner Clark Touchard
Wilsons Oysters, Owner Toby Voisin
Yankee Canal Seafood, Owner Jody Rousse
## APPENDIX B: DETAILED SUMMARY OF SEAFOOD SUPPLY CHAIN ACTORS

<table>
<thead>
<tr>
<th>Pre-Fishing Trip</th>
<th>Primary Function</th>
<th>Supporting Function</th>
<th>Value Offered</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Primary Function</td>
<td>Supporting Function</td>
<td>Value Offered</td>
</tr>
<tr>
<td></td>
<td>Shipyards &amp; Boat Launch</td>
<td>Provides access to waterways, parking, and often houses service providers of boat repair, outrigging, fuel, etc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fuel Suppliers</td>
<td>Provides fuel for fishing vessels.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ice Suppliers</td>
<td>Provides ice to vessel that is used to store the catch on a vessel.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Marine Suppliers</td>
<td>Provide supplies need for commercial fishing operations. This will range from bait, nets, rigging, trap to generators, freezers, and radios.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LA SeaGrant &amp; University Support</td>
<td>Provides consultative services and data to industry stakeholders on practices that will improve catch/yield and/or mitigate threats faced in fishing operations.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ports &amp; Economic Development</td>
<td>Serve as an industry liaison to local/state government and provide programming, incentives, and consulting which on workforce, capital expansion, and tax related issues.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Financial Institutions/Instruments</td>
<td>Provide access to money that is used to prepare for and to execute a fishing operation. This can range from long-term strategic tools to finance boat and dock purchases to short-term tactical tools that provide resources to execute a specific fishing trip (repaid upon sale of catch to the buyer).</td>
<td></td>
</tr>
<tr>
<td>Primary Function</td>
<td>Supporting Function</td>
<td>Value Offered</td>
<td></td>
</tr>
<tr>
<td>--------------------------</td>
<td>---------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Fishing Operations</strong></td>
<td>Fresh Operations</td>
<td>Produce, store and sell a catch that is stored and sold fresh to a buyer.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen Operations</td>
<td>Produce, store and sell a catch that is frozen prior to selling to a buyer.</td>
<td></td>
</tr>
<tr>
<td><strong>Docks &amp; Buyers</strong></td>
<td>Dock</td>
<td>Operations that unload boats and prepare catch for transportation and/or processing.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Buyer</td>
<td>Operations that purchase ownership of catch from fishing operation.</td>
<td></td>
</tr>
<tr>
<td><strong>Processing/Manufacturing</strong></td>
<td>Large Volume Professors</td>
<td>Companies which operate to solely process product for packaging and shipment to wholesalers and/or retailers’ operations.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Small/Micro-Processors</td>
<td>Companies which operate to process their own catch for packaging and shipment to retailers and consumers.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Value-Added Product Producers</td>
<td>Companies which add value to catch in ways that create an enhanced product for sale to wholesalers and/or retailers.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Financial Services</td>
<td>Provide access to money that is used to prepare for and to execute a fishing operation. In many cases, processors provide short-term credit through the provision of fuel and ice to vessels that are leaving port for the fishing grounds. Vessels, in turn, sell their catch to these processors upon return. The extended credit for fuel and ice is fulfilled by reducing the amount of the purchase price by the value of the credit that was initially extended.</td>
<td></td>
</tr>
<tr>
<td><strong>Primary Function</strong></td>
<td><strong>Supporting Function</strong></td>
<td><strong>Value Offered</strong></td>
<td></td>
</tr>
<tr>
<td>---------------------------</td>
<td>------------------------</td>
<td>----------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Warehousing</strong></td>
<td>Fresh Storage</td>
<td>Facility which provides storage for fresh product that is held for a short period of time, never frozen and transferred to a refrigerator truck. This may come in the form of a refrigerated facility or a repurposed refrigerated freight trailer.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cold Storage</td>
<td>Facility which provides storage for frozen product that can be held for an extended period of time prior to processing and/or shipment to retailers.</td>
<td></td>
</tr>
<tr>
<td><strong>Transportation &amp; Logistics</strong></td>
<td>Fresh Product</td>
<td>Truck and air are the primary modes of transportation for product that is fresh and never frozen. These modes can effectively move fresh product markets throughout the USA and to major cities in Canada.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Processed Product</td>
<td>Truck is the primary mode of transportation for frozen product. This product is shipped throughout the USA and Canada.</td>
<td></td>
</tr>
<tr>
<td><strong>Brands</strong></td>
<td>Processor/Manufacturer Brands</td>
<td>Large volume and micro-processor brands which position product from their operations within retail and wholesale channels of distribution.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Private Label Brands</td>
<td>Brands created for and sold exclusively in one retailer.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>White Label Brands</td>
<td>Product which is sold under different brands to multiple retailers.</td>
<td></td>
</tr>
<tr>
<td>Primary Function</td>
<td>Supporting Function</td>
<td>Value Offered</td>
<td></td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-------------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Distributors &amp; Wholesalers</strong></td>
<td>Local and Regional</td>
<td>Supply seafood products to local stores and other businesses that sell to consumers.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>National</td>
<td>Supply seafood products to national stores and other businesses that sell to consumers.</td>
<td></td>
</tr>
<tr>
<td><strong>Retailers</strong></td>
<td>Grocery Stores</td>
<td>General food retail outlets that sell fresh and/or frozen seafood products.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Seafood Markets</td>
<td>Specialty websites and retail stores focused solely on the sale of fresh and/or frozen seafood.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Restaurants</td>
<td>Retail outlet focused on the sale of prepared seafood meals to consumers.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Direct to Consumer</td>
<td>Dockside, farmers' markets, and online websites where fishers sell directly to consumers.</td>
<td></td>
</tr>
<tr>
<td><strong>Consumers</strong></td>
<td></td>
<td>Purchase seafood for consumption.</td>
<td></td>
</tr>
</tbody>
</table>
The following table outlines business support, grant, loan, tax, and workforce development programs that could be leveraged to implement or advance the goals and strategies in the Economic Development Plan. Note that this table is meant to be a source of information and inspiration but is not an exhaustive list of potential funding sources.

### APPENDIX C: REVIEW OF FINANCIAL RESOURCES

<table>
<thead>
<tr>
<th>Category</th>
<th>Sponsoring Entity</th>
<th>Program Name</th>
<th>Description</th>
<th>Accountability</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bond Program</strong></td>
<td>US Department of Labor</td>
<td>The Fidelity Bonding Program</td>
<td>Provides an employer with a bonded insurance guarantee for hiring hard-to-place job seekers as new employees.</td>
<td>Workforce development</td>
</tr>
<tr>
<td><strong>Business Services Support</strong></td>
<td>Louisiana LED</td>
<td>CEO Roundtables</td>
<td>Peer groups that give executives the opportunity to discuss business practices and management strategies with other executives who deal with similar growth challenges.</td>
<td>Business mentoring and business expansion</td>
</tr>
<tr>
<td></td>
<td>Louisiana LED</td>
<td>Economic Gardening Initiative</td>
<td>Provides customized core business strategies, market research, qualified sales leads, and improved internet and technology tailored to your growing needs.</td>
<td>Expand Delcambre Direct to Improve Region’s Web Presence and E-commerce Capabilities</td>
</tr>
<tr>
<td></td>
<td>LSU and Louisiana LED</td>
<td>Louisiana Veteran Entrepreneurship Program</td>
<td>Provides training to give veterans the tools needed to develop their business ideas, including business planning, marketing, financing, capital formation, and other aspects of business development. Resources to execute a specific fishing trip (repaid upon sale of catch to the buyer).</td>
<td></td>
</tr>
<tr>
<td>Category</td>
<td>Sponsoring Entity</td>
<td>Program Name</td>
<td>Description</td>
<td>Accountability</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-------------------------</td>
<td>--------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Business Services Support</strong></td>
<td>State of Louisiana</td>
<td>Small and Emerging Business Development Program</td>
<td>Provides developmental assistance, including entrepreneurial training, marketing, computer skills, accounting, legal and industry-specific assistance.</td>
<td>Stimulate entrepreneurship and encourage new workers to enter industry</td>
</tr>
<tr>
<td></td>
<td>Louisiana LED</td>
<td>CEO Roundtables</td>
<td>A state workforce program offered as an incentive to eligible companies that locate or expand in Louisiana. LED FastStart provides customized employee recruitment, screening, training development, and training delivery at no cost to qualifying projects and companies.</td>
<td>Support Cold Storage Facilities</td>
</tr>
<tr>
<td><strong>Grant and Loan Program</strong></td>
<td>USDA Rural Development</td>
<td>The Rural Economic Development Loan &amp; Grant Program</td>
<td>Provides funding for rural projects through local utility organizations. USDA provides zero-interest loans to local utilities which they, in turn, pass through to local businesses (ultimate recipients) for projects that will create and retain employment in rural areas. The ultimate recipients repay the lending utility directly. Eligible projects include business incubators, facilities and equipment for training, business expansion, and start-up venture costs.</td>
<td>Seafood Demonstration and Innovation Laboratory</td>
</tr>
<tr>
<td>Category</td>
<td>Sponsoring Entity</td>
<td>Program Name</td>
<td>Description</td>
<td>Accountability</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>--------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------</td>
</tr>
<tr>
<td>Grant and Loan Program</td>
<td>USDA Rural Development</td>
<td>Rural Energy for America Program Renewable Energy Systems &amp; Energy Efficiency Improvement Guaranteed Loans &amp; Grants</td>
<td>Assists rural small businesses and agricultural producers by conducting and promoting energy audits and providing renewable energy development assistance (REDA). The assistance must be provided to agricultural producers and rural small businesses. Funds can be used for lighting, cooling units, electric irrigation motors, equipment upgrades, and HVAC.</td>
<td>Support labor for seasonal fishing businesses</td>
</tr>
<tr>
<td></td>
<td>USDA Rural Development</td>
<td>Farm Labor Housing Direct Loans &amp; Grants</td>
<td>Provides affordable financing to develop housing for year-round and migrant or seasonal domestic farm laborers. Farmers, associations of farmers and farmworkers, family farm corporations and non-profit organizations may apply.</td>
<td>Support Cold Storage Facilities</td>
</tr>
<tr>
<td></td>
<td>USDA Rural Development</td>
<td>The Rural Economic Development Loan &amp; Grant Program</td>
<td>Provides affordable funding to develop essential community facilities in rural areas. An essential community facility is defined as a facility that provides an essential service to the local community for the orderly development of rural communities, and does not include private, commercial or business undertakings.</td>
<td>Cold storage cooperative Seafood Demonstration and Innovation Laboratory</td>
</tr>
<tr>
<td>Category</td>
<td>Sponsoring Entity</td>
<td>Program Name</td>
<td>Description</td>
<td>Accountability</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------------------------</td>
<td>------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Grant Program</td>
<td>USDA Rural Development</td>
<td>The Value-Added Producer Grant (VAPG) Program</td>
<td>Provides grants to assist farmers and ranchers to create greater value for agricultural commodities and helps producers enter into activities related to the processing and/or marketing of value-added products.</td>
<td>Development of Value-added products</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Seafood Demonstration and innovation Laboratory</td>
</tr>
<tr>
<td></td>
<td>USDA Rural Development</td>
<td>The Rural Business Development Grants (RBDBG) Program</td>
<td>Supports targeted technical assistance, training and other activities leading to the development or expansion of small and emerging private businesses in rural areas which will employ 50 or fewer new employees. Funds can be used for technical assistance, land development, incubators, community development etc.</td>
<td>Economic development - funds can be used to support the development of the innovation hub, incubator, etc.</td>
</tr>
<tr>
<td></td>
<td>USDA Rural Development</td>
<td>The Rural Cooperative Development Grant (RCDG) Program</td>
<td>Helps improve the economic condition of rural areas by helping individuals and businesses start, expand or improve rural cooperatives and other mutually owned businesses through Cooperative Development Centers. Funds can be used for feasibility studies, business plans, training, and strategic planning.</td>
<td>Cold storage cooperative</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Transportation cooperative</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Marketing cooperative</td>
</tr>
<tr>
<td>Category</td>
<td>Sponsoring Entity</td>
<td>Program Name</td>
<td>Description</td>
<td>Accountability</td>
</tr>
<tr>
<td>----------</td>
<td>------------------</td>
<td>--------------</td>
<td>-------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Grant Program</td>
<td>USDA Rural Development</td>
<td>The Socially Disadvantaged Groups Grant</td>
<td>Provides technical assistance to socially disadvantaged groups through cooperatives and Cooperative Development Centers. Examples of technical assistance are feasibility studies, business plans, strategic planning, and leadership training.</td>
<td>Cold storage cooperative, Transportation cooperative, Marketing cooperative</td>
</tr>
<tr>
<td></td>
<td>EPA</td>
<td>Brownfields and Land Revitalization Program</td>
<td>Helps states, communities, and other stakeholders in economic redevelopment to work together in a timely manner to prevent, assess, safely clean up, and sustainably reuse brownfields. Seeks to clean up a site/facility and return it to commerce. Seven different grant programs are available.</td>
<td>Locations that are out of commerce due to environmental issues. Examples may include oilfield service yards, old filling stations, dry cleaners, mechanic shops, etc.</td>
</tr>
<tr>
<td>State of Louisiana</td>
<td>Step Grant</td>
<td></td>
<td>Provides financial awards to state and territory governments to assist small businesses with export development.</td>
<td>Economic development strategies to facilitate exporting</td>
</tr>
<tr>
<td>State of Louisiana</td>
<td>The Wise Fund</td>
<td></td>
<td>Provides up to $40 million per year to public postsecondary institutions to enhance degree and certification production and research in high demand fields to meet the state's future workforce and innovation needs.</td>
<td>Local workforce development program for seafood industry boat captains</td>
</tr>
<tr>
<td>Category</td>
<td>Sponsoring Entity</td>
<td>Program Name</td>
<td>Description</td>
<td>Accountability</td>
</tr>
<tr>
<td>-------------------</td>
<td>-------------------------</td>
<td>--------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------</td>
</tr>
<tr>
<td><strong>Loan Program</strong></td>
<td>USDA Rural Development</td>
<td>The Business and Industry Guaranteed Loan (B&amp;I) Program</td>
<td>Provides financial backing for rural businesses through guarantees up to 90 percent of a loan made by a commercial lender.</td>
<td>New business ventures and business expansions</td>
</tr>
<tr>
<td></td>
<td>State of Louisiana</td>
<td>Small Business Loan and Guaranty Program</td>
<td>Provides loan guarantees to banks and other small business lenders in association with the SSBCI ranging from $5,000 to $1.5 million.</td>
<td>New business ventures and business expansions</td>
</tr>
<tr>
<td></td>
<td>Multiplier</td>
<td>Sustainable Seafood Fund</td>
<td>A pooled Fund to make partially forgivable loans to organizations and supply chain players that are tied directly to the accomplishment of targeted outcomes that can advance seafood sustainability. Provides low interest flexible loans in the range of $25,000 - $250,000 with the opportunity to have a portion of the loan forgiven.</td>
<td>New business ventures and business expansions</td>
</tr>
<tr>
<td></td>
<td>Lift Fund</td>
<td>Small business loans from $500 to $1 million</td>
<td>Lift Fund, a 501(c)(3) non-profit organization, provides small business lending to those who do not have access to capital from typical lenders, such as traditional banks. Additionally, Lift Fund provides educational services at no cost to borrowers, which are essential to foster self-sufficiency.</td>
<td>New business ventures and business expansions</td>
</tr>
<tr>
<td>Category</td>
<td>Sponsoring Entity</td>
<td>Program Name</td>
<td>Description</td>
<td>Accountability</td>
</tr>
<tr>
<td>-------------------</td>
<td>----------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------</td>
</tr>
<tr>
<td>Loan Program</td>
<td>TruFund Financial</td>
<td>Small business and non-profit organizations loans; variety of loan programs</td>
<td>Promotes and fosters economic development within underserved communities and among disadvantaged populations. TruFund achieves this by providing innovative financial solutions that have TruImpact, revitalize communities and create jobs.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Louisiana</td>
<td>for disaster recovery, women in business, new markets, workforce development, etc.</td>
<td></td>
<td>New business ventures and business expansions</td>
</tr>
<tr>
<td>Tax Incentive</td>
<td>State of Louisiana</td>
<td>Angel Investor Tax Credit</td>
<td>Provides an up to 25 percent tax credit for individual investors who invest in early stage, wealth-creating businesses that seek start-up and expansion capital.</td>
<td>Investment in early-stage seafood related start-up companies</td>
</tr>
<tr>
<td></td>
<td>US Federal Government</td>
<td>Enterprise Zone</td>
<td>Provides either a $3,500 or $1,000 tax credit for each certified net, new job created and either a state sales/use tax rebate on capital expenses or 1.5 percent investment tax credit for qualifying expenses.</td>
<td>Economic development tool to promote investment and expansion in the region</td>
</tr>
<tr>
<td></td>
<td>US Federal Government</td>
<td>Federal Opportunity Zone</td>
<td>Provides a federal tax incentive for investors to re-invest their capital gains into Opportunity Zones</td>
<td>Plaquemines Harbor of Refuge Plaquemines Harbor of Refuge</td>
</tr>
</tbody>
</table>

87
<table>
<thead>
<tr>
<th>Category</th>
<th>Sponsoring Entity</th>
<th>Program Name</th>
<th>Description</th>
<th>Accountability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tax Incentive</td>
<td>State of Louisiana</td>
<td>Quality Jobs</td>
<td>Provides up to a 6 percent rebate on annual payroll expenses for up to 10 years and either a state sales/use tax rebate on capital expenses or a 1.5 percent project facility expense rebate for qualifying expense.</td>
<td>Training and workforce development</td>
</tr>
<tr>
<td></td>
<td>State of Louisiana</td>
<td>Restoration Tax Abatement</td>
<td>Provides a 100 percent property tax abatement for up to 10 years for the rehabilitation of an existing structure.</td>
<td>Restoring existing facilitates such as marinas or icehouses</td>
</tr>
<tr>
<td></td>
<td>US Federal Government</td>
<td>The Work Opportunity Tax Credit</td>
<td>Provides a federal tax credit available to employers for hiring individuals from certain target groups who have consistently faced significant barriers to employment.</td>
<td>New business ventures and business expansions</td>
</tr>
<tr>
<td>Revenue Generation</td>
<td>Local, Parish, and State Government</td>
<td>Ad Valorum Millage on Property</td>
<td>Example is the establishment of a millage by the Twin Parish Port Commission in Delcambre, LA. Revenue was used to improve boat launch, marina, and seafood and farmers market infrastructures.</td>
<td>Port or economic development entity could utilize a millage to fund the construction of ice production and/or cold storage facilities</td>
</tr>
<tr>
<td>Category</td>
<td>Sponsoring Entity</td>
<td>Program Name</td>
<td>Description</td>
<td>Accountability</td>
</tr>
<tr>
<td>-----------------------</td>
<td>------------------------------------------</td>
<td>--------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Workforce Development Program</td>
<td>Louisiana Workforce Commission</td>
<td>The Incumbent Worker Training Program</td>
<td>Creates training partnerships among the Louisiana Workforce Commission, business and industry, and training provides. It is designed to benefit business and industry by assisting in the skill development of existing employees, thereby increasing employee productivity and company growth.</td>
<td>Education for branding and marketing of locally produced and processed products</td>
</tr>
<tr>
<td></td>
<td>Louisiana Workforce Commission</td>
<td>Registered Apprenticeship</td>
<td>A voluntary industry-driven training program in which an apprentice-eligible occupation is learned through a structured program of supervised on-the-job training; is clearly identified and commonly accepted throughout the industry; requires a minimum of 2,000 hours of work experience to learn; requires related supplemental instruction; and involves the development of manual, mechanical, and technical skills.</td>
<td>Deck hand apprenticeship program</td>
</tr>
<tr>
<td></td>
<td>Louisiana LED</td>
<td>Louisiana Job Connection</td>
<td>A free, online job-matching website that connects Louisiana employers with qualified candidates.</td>
<td>Could include the seafood industry</td>
</tr>
<tr>
<td>Category</td>
<td>Sponsoring Entity</td>
<td>Program Name</td>
<td>Description</td>
<td>Accountability</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>--------------------------------------------------------</td>
<td>-------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>------------------------------</td>
</tr>
<tr>
<td>Workforce Development Program</td>
<td>Louisiana's Community and Technical Colleges</td>
<td>LCTCS Workforce Solutions</td>
<td>Leads and facilitates successful workforce training opportunities at all Louisiana and Technical College Campuses.</td>
<td>Could include the seafood industry</td>
</tr>
<tr>
<td>Workforce Support Program</td>
<td>Multiplier</td>
<td>Sustainable Seafood Fund</td>
<td>An early intervention service that helps workers affected by major layoffs and plant closings qualify for new jobs. The goal of the program is to transition workers into re-employment as quickly as possible.</td>
<td>Could include the seafood industry</td>
</tr>
<tr>
<td></td>
<td>Louisiana LED</td>
<td>Trade Adjustment Assistance</td>
<td>Provides services to workers who lose their jobs or whose hours of work and wages are reduced because of international competition. TAA services, which are offered at no cost, may include training awards, job search, relocation allowances, income support, and health coverage tax credits.</td>
<td>Could include the seafood industry</td>
</tr>
</tbody>
</table>
## APPENDIX D: DETAILED DEMOGRAPHIC STATISTICS FOR LOUISIANA COASTAL PARISHES

<table>
<thead>
<tr>
<th></th>
<th>LA Coast</th>
<th>% of Total</th>
<th>U.S.</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Population</td>
<td>1,270,584</td>
<td>100%</td>
<td>314,943,184</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In Poverty</td>
<td>247,662</td>
<td>19.5%</td>
<td>44,257,979</td>
<td>14.1%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Western Coast</th>
<th>% of Total</th>
<th>U.S.</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Population</td>
<td>188,255</td>
<td>100%</td>
<td>314,943,184</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In Poverty</td>
<td>36,181</td>
<td>19.2%</td>
<td>44,257,979</td>
<td>14.1%</td>
</tr>
</tbody>
</table>

**Poverty Statistics, 2018**
<table>
<thead>
<tr>
<th>Region</th>
<th>Population (for whom poverty status determined)</th>
<th>Total Population</th>
<th>In Poverty</th>
<th>U.S. Population</th>
<th>In Poverty (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Central Coast</strong></td>
<td>206,356</td>
<td>100%</td>
<td>38,869</td>
<td>44,257,979</td>
<td>14.1%</td>
</tr>
<tr>
<td><strong>Western Coast</strong></td>
<td>188,255</td>
<td>100%</td>
<td>36,181</td>
<td>314,943,184</td>
<td>14.1%</td>
</tr>
<tr>
<td><strong>Eastern Coast</strong></td>
<td>499,697</td>
<td>100%</td>
<td>80,115</td>
<td>44,257,979</td>
<td>14.1%</td>
</tr>
</tbody>
</table>
### Orleans Parish

<table>
<thead>
<tr>
<th>Total Population (for whom poverty status determined)</th>
<th>Orleans Parish</th>
<th>% of Total</th>
<th>U.S.</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>376,276</td>
<td>100%</td>
<td>314,943,184</td>
<td>100%</td>
</tr>
<tr>
<td>In Poverty</td>
<td>92,497</td>
<td>24.6%</td>
<td>44,257,979</td>
<td>14.1%</td>
</tr>
</tbody>
</table>

#### Educational Attainment Statistics, 2018

Source: U.S. Census Bureau, American Community Survey, latest 5-Year Estimates

<table>
<thead>
<tr>
<th>Total Population 25 and Older</th>
<th>LA Coast</th>
<th>% of Total</th>
<th>U.S.</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Population 25 and Older</td>
<td>890,966</td>
<td>100%</td>
<td>218,446,071</td>
<td>100%</td>
</tr>
<tr>
<td>Less Than 9th Grade</td>
<td>54,620</td>
<td>6.1%</td>
<td>11,521,575</td>
<td>5.3%</td>
</tr>
<tr>
<td>9th to 12th, No Diploma</td>
<td>92,610</td>
<td>10.4%</td>
<td>15,426,482</td>
<td>7.1%</td>
</tr>
<tr>
<td>High School Graduate (incl. equiv.)</td>
<td>285,578</td>
<td>32.1%</td>
<td>59,265,308</td>
<td>27.1%</td>
</tr>
<tr>
<td>Some College, No Degree</td>
<td>184,789</td>
<td>20.7%</td>
<td>45,027,332</td>
<td>20.6%</td>
</tr>
<tr>
<td>Associate Degree</td>
<td>47,408</td>
<td>5.3%</td>
<td>18,338,323</td>
<td>8.4%</td>
</tr>
<tr>
<td>Bachelor's Degree</td>
<td>143,663</td>
<td>16.1%</td>
<td>42,470,927</td>
<td>19.4%</td>
</tr>
<tr>
<td>Graduate or Professional Degree</td>
<td>82,298</td>
<td>9.2%</td>
<td>26,396,124</td>
<td>12.1%</td>
</tr>
<tr>
<td>Education Level</td>
<td>Western Coast</td>
<td>% of Total</td>
<td>U.S.</td>
<td>% of Total</td>
</tr>
<tr>
<td>-----------------------------------------</td>
<td>---------------</td>
<td>------------</td>
<td>------------</td>
<td>------------</td>
</tr>
<tr>
<td>Total Population 25 and Older</td>
<td>126,225</td>
<td>100%</td>
<td>218,446,071</td>
<td>100%</td>
</tr>
<tr>
<td>Less Than 9th Grade</td>
<td>9,704</td>
<td>7.7%</td>
<td>11,521,575</td>
<td>5.3%</td>
</tr>
<tr>
<td>9th to 12th, No Diploma</td>
<td>16,233</td>
<td>12.9%</td>
<td>15,426,482</td>
<td>7.1%</td>
</tr>
<tr>
<td>High School Graduate (incl. equiv.)</td>
<td>55,990</td>
<td>44.4%</td>
<td>59,265,308</td>
<td>27.1%</td>
</tr>
<tr>
<td>Some College, No Degree</td>
<td>21,373</td>
<td>16.9%</td>
<td>45,027,332</td>
<td>20.6%</td>
</tr>
<tr>
<td>Associate Degree</td>
<td>7,089</td>
<td>5.6%</td>
<td>18,338,323</td>
<td>8.4%</td>
</tr>
<tr>
<td>Bachelor's Degree</td>
<td>11,459</td>
<td>9.1%</td>
<td>42,470,927</td>
<td>19.4%</td>
</tr>
<tr>
<td>Graduate or Professional Degree</td>
<td>4,377</td>
<td>3.5%</td>
<td>26,396,124</td>
<td>12.1%</td>
</tr>
<tr>
<td></td>
<td>Central Coast</td>
<td>% of Total</td>
<td>U.S.</td>
<td>% of Total</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>---------------</td>
<td>------------</td>
<td>--------------</td>
<td>------------</td>
</tr>
<tr>
<td><strong>Total Population 25 and Older</strong></td>
<td>140,118</td>
<td>100%</td>
<td>218,446,071</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Less Than 9th Grade</strong></td>
<td>13,052</td>
<td>9.3%</td>
<td>11,521,575</td>
<td>5.3%</td>
</tr>
<tr>
<td><strong>9th to 12th, No Diploma</strong></td>
<td>17,831</td>
<td>12.7%</td>
<td>15,426,482</td>
<td>7.1%</td>
</tr>
<tr>
<td><strong>High School Graduate (incl. equiv.)</strong></td>
<td>55,152</td>
<td>39.4%</td>
<td>59,265,308</td>
<td>27.1%</td>
</tr>
<tr>
<td><strong>Some College, No Degree</strong></td>
<td>24,463</td>
<td>17.5%</td>
<td>45,027,332</td>
<td>20.6%</td>
</tr>
<tr>
<td><strong>Associate Degree</strong></td>
<td>7,089</td>
<td>5.6%</td>
<td>18,338,323</td>
<td>8.4%</td>
</tr>
<tr>
<td><strong>Bachelor's Degree</strong></td>
<td>16,014</td>
<td>11.4%</td>
<td>42,470,927</td>
<td>19.4%</td>
</tr>
<tr>
<td><strong>Graduate or Professional Degree</strong></td>
<td>6,598</td>
<td>4.7%</td>
<td>26,396,124</td>
<td>12.1%</td>
</tr>
<tr>
<td>Education Level</td>
<td>Eastern Coast</td>
<td>% of Total</td>
<td>U.S.</td>
<td>% of Total</td>
</tr>
<tr>
<td>-----------------------------------------------------</td>
<td>---------------</td>
<td>------------</td>
<td>-----------</td>
<td>------------</td>
</tr>
<tr>
<td>Total Population 25 and Older</td>
<td>349,960</td>
<td>100%</td>
<td>218,446,071</td>
<td>100%</td>
</tr>
<tr>
<td>Less Than 9th Grade</td>
<td>20,741</td>
<td>5.9%</td>
<td>11,521,575</td>
<td>5.3%</td>
</tr>
<tr>
<td>9th to 12th, No Diploma</td>
<td>31,639</td>
<td>9.0%</td>
<td>15,426,482</td>
<td>7.1%</td>
</tr>
<tr>
<td>High School Graduate (incl. equiv.)</td>
<td>111,421</td>
<td>31.8%</td>
<td>59,265,308</td>
<td>27.1%</td>
</tr>
<tr>
<td>Some College, No Degree</td>
<td>79,431</td>
<td>22.7%</td>
<td>45,027,332</td>
<td>20.6%</td>
</tr>
<tr>
<td>Associate Degree</td>
<td>20,335</td>
<td>5.8%</td>
<td>18,338,323</td>
<td>8.4%</td>
</tr>
<tr>
<td>Bachelor's Degree</td>
<td>58,246</td>
<td>16.6%</td>
<td>42,470,927</td>
<td>19.4%</td>
</tr>
<tr>
<td>Graduate or Professional Degree</td>
<td>28,147</td>
<td>8.0%</td>
<td>26,396,124</td>
<td>12.1%</td>
</tr>
<tr>
<td>Category</td>
<td>Orleans Parish</td>
<td>% of Total</td>
<td>U.S.</td>
<td>% of Total</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>----------------</td>
<td>------------</td>
<td>-------------</td>
<td>------------</td>
</tr>
<tr>
<td>Total Population 25 and Older</td>
<td>274,663</td>
<td>100%</td>
<td>218,446,071</td>
<td>100%</td>
</tr>
<tr>
<td>Less Than 9th Grade</td>
<td>11,123</td>
<td>4.0%</td>
<td>11,521,575</td>
<td>5.3%</td>
</tr>
<tr>
<td>9th to 12th, No Diploma</td>
<td>26,907</td>
<td>9.8%</td>
<td>15,426,482</td>
<td>7.1%</td>
</tr>
<tr>
<td>High School Graduate (incl. equiv.)</td>
<td>63,015</td>
<td>22.9%</td>
<td>59,265,308</td>
<td>27.1%</td>
</tr>
<tr>
<td>Some College, No Degree</td>
<td>59,522</td>
<td>21.7%</td>
<td>45,027,332</td>
<td>20.6%</td>
</tr>
<tr>
<td>Associate Degree</td>
<td>12,976</td>
<td>4.7%</td>
<td>18,338,323</td>
<td>8.4%</td>
</tr>
<tr>
<td>Bachelor's Degree</td>
<td>57,944</td>
<td>21.1%</td>
<td>42,470,927</td>
<td>19.4%</td>
</tr>
<tr>
<td>Graduate or Professional Degree</td>
<td>43,176</td>
<td>15.7%</td>
<td>26,396,124</td>
<td>12.1%</td>
</tr>
<tr>
<td>Region</td>
<td>Labor Force - Not Seasonally Adjusted</td>
<td>Employed Labor Force - Not Seasonally Adjusted</td>
<td>Unemployed Labor Force - Not Seasonally Adjusted</td>
<td>Unemployment Rate</td>
</tr>
<tr>
<td>------------</td>
<td>--------------------------------------</td>
<td>-----------------------------------------------</td>
<td>-------------------------------------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>LA Coast</td>
<td>LA Coast</td>
<td>573,480</td>
<td>504,964</td>
<td>68,516</td>
</tr>
<tr>
<td>Western Coast</td>
<td>Cameron Parish, LA</td>
<td>3,525</td>
<td>3,310</td>
<td>215</td>
</tr>
<tr>
<td></td>
<td>Vermilion Parish, LA</td>
<td>23,807</td>
<td>21,774</td>
<td>2,033</td>
</tr>
<tr>
<td></td>
<td>Iberia Parish, LA</td>
<td>28,450</td>
<td>25,239</td>
<td>3,211</td>
</tr>
<tr>
<td></td>
<td>St. Mary Parish, LA</td>
<td>19,238</td>
<td>17,137</td>
<td>2,101</td>
</tr>
<tr>
<td>Central Coast</td>
<td>Terrebonne Parish, LA</td>
<td>45,553</td>
<td>41,370</td>
<td>4,183</td>
</tr>
<tr>
<td></td>
<td>Lafourche Parish, LA</td>
<td>40,871</td>
<td>37,721</td>
<td>3,150</td>
</tr>
<tr>
<td>Eastern Coast</td>
<td>Jefferson Parish, LA</td>
<td>205,463</td>
<td>181,866</td>
<td>23,597</td>
</tr>
<tr>
<td></td>
<td>Plaquemines Parish, LA</td>
<td>9,248</td>
<td>8,471</td>
<td>777</td>
</tr>
<tr>
<td></td>
<td>St. Bernard Parish, LA</td>
<td>19,186</td>
<td>16,786</td>
<td>2,400</td>
</tr>
<tr>
<td>Orleans Parish</td>
<td>Orleans Parish, LA</td>
<td>178,139</td>
<td>151,290</td>
<td>26,849</td>
</tr>
</tbody>
</table>