PLAN FOR OPPORTUNITY

Mississippi Gulf Coast Food System Stakeholder Analysis

September, 2011

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This is a Working Document that has been approved by the Working Group and the Executive Committee. Working Documents provide information and recommendations that guide the on-going discussions and preparation of the final plan; these are not final plan documents. Once the draft final plan has been prepared, it will brought to the public through various outreach activities and reviewed by the various planning committees before the Executive Committee votes on adopting as the Final Plan for Opportunity.

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The Plan for Opportunity

The Plan for Opportunity is a collaborative planning project intended to guide the economic growth and development of the Mississippi Gulf Coast and to improve housing, employment and transportation opportunities throughout the region. The three year planning process will be guided by the Constituency for a Sustainable Coast (CSC), a stakeholder working committee including city and county leadership, key community and public partners, and residents of the region. The food systems subcommittee is charged with examining how the region's food system can be used to support increasing economic competitiveness, support existing communities, leverage federal investment and value communities and neighborhoods. To support the work of the food systems subcommittee, this stakeholder analysis has been undertaken to provide important perspectives on the challenges and opportunities facing the food system.

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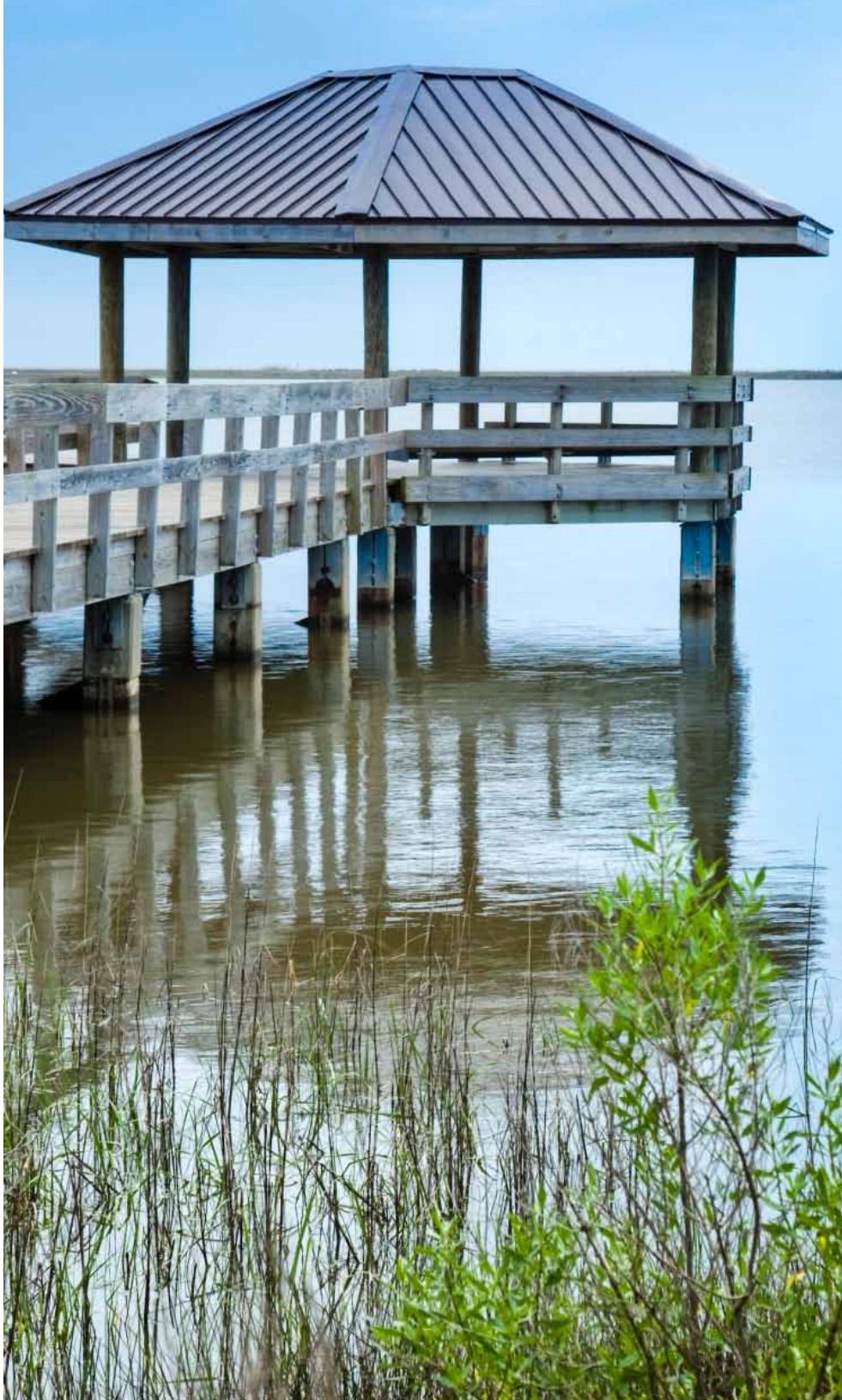


Introduction

A stakeholder assessment was conducted to gain local knowledge into relevant resources, challenges, and opportunities for the 100-mile foodshed. Stakeholders throughout the food system—producers, processors, distributors, educators, retailers, consumers, and waste managers—were interviewed between January and June 2011 to compile a comprehensive understanding of the Gulf Coast's current food system and its future. This analysis summarizes efforts to engage in discussions around the food system as part of *The Plan for Opportunity*.

Purpose

The goal of the engagement effort was to understand the entire cycle of the regional food system from production to plate and the disposal of waste. The Mississippi Gulf Coast food system is large and complex. The individuals and organizations directly involved in and affected by the food system are the best sources to explain who is doing what, when, where, and how. These stakeholders provided the stories that help explain the data included in the Mississippi Gulf Coast Food System Assessment. They provide the context for changes throughout the foodshed, its future challenges and opportunities, and creates a context for *The Plan for Opportunity* food element.

Methodology

The first step in understanding the entirety of the food system was to concentrate on the relationships between producers and consumers. This relationship encompasses the production to plate story; what food is produced in the foodshed, how it is prepared for sale, where it is purchased and by whom. Stakeholder engagement included meetings with farmers, fishers, processors, wholesalers, distributors, retailers, farmers' markets, community gardens, food pantries/food banks, educators, consumers, environmental protection organizations and regulatory agencies.

The second step was to identify the waste stream throughout the food system. In this context, the waste stream includes both inedible food scraps and non-salable edible products. Diversion of edible foods to food banks and inedible refuse away from landfills is an important component of a sustainable food system. Stakeholders involved in this aspect of the foodshed include farms, processors, distributors, solid waste authorities, food banks, consumers, and regulatory agencies.

Source: *Jennifer Evans-Cowley*

Charter boat captains reported that the oil spill has reduced demand for recreational fishing due to concerns about seafood safety.

The results of this analysis are organized by the stakeholders' position in the food system: production, processing, distribution, markets, consumption, and waste disposal.

Key government agencies involved in the food system were contacted to begin the stakeholder engagement process. These agencies provided insight on stakeholders within the categories listed above. Participating agencies include the Mississippi Department of Agriculture and Commerce, Mississippi Department of Environmental Quality, Mississippi Department of Health, Mississippi Department of Marine Resources, Mississippi Department of Wildlife and Fisheries, U.S. Department of Agriculture, and the U.S. Environmental Protection Agency. The Mississippi State University Agricultural Extension and Coastal

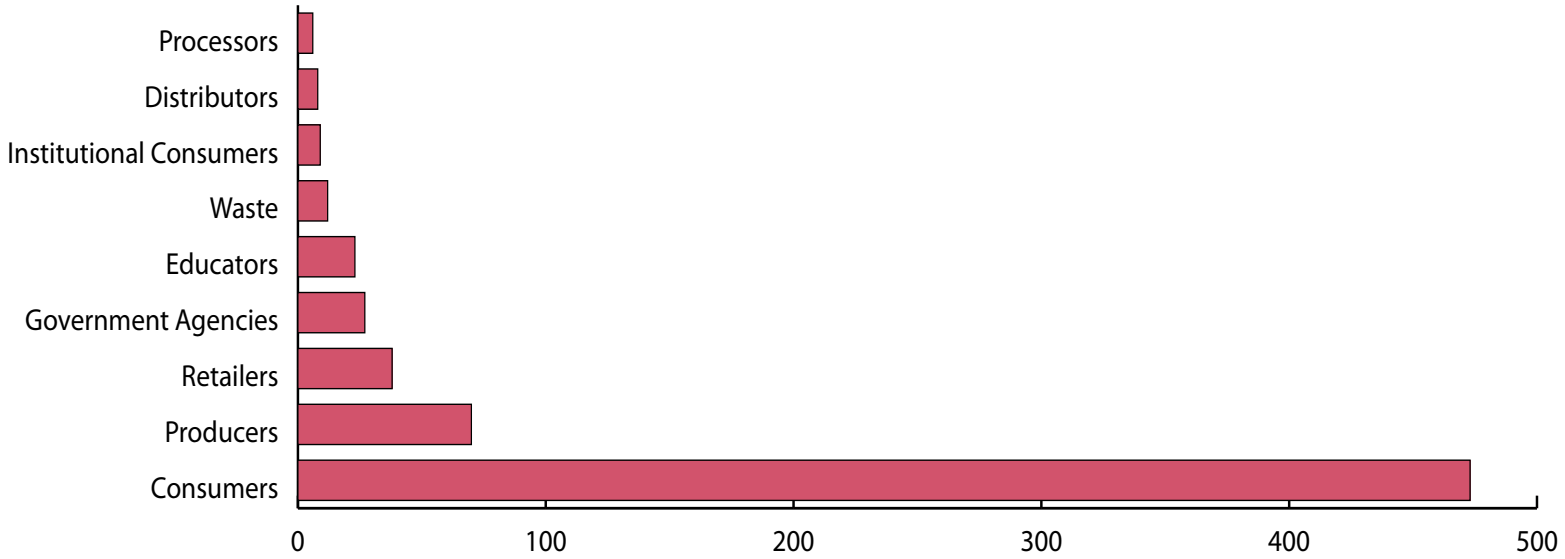


Figure 1
Number of stakeholders engaged by group
Source: *The Constituency for a Sustainable Coast*
Note: A number of stakeholders can be associated with multiple groups. Stakeholders were classified based on their primary role for the purposes of the interview questions.

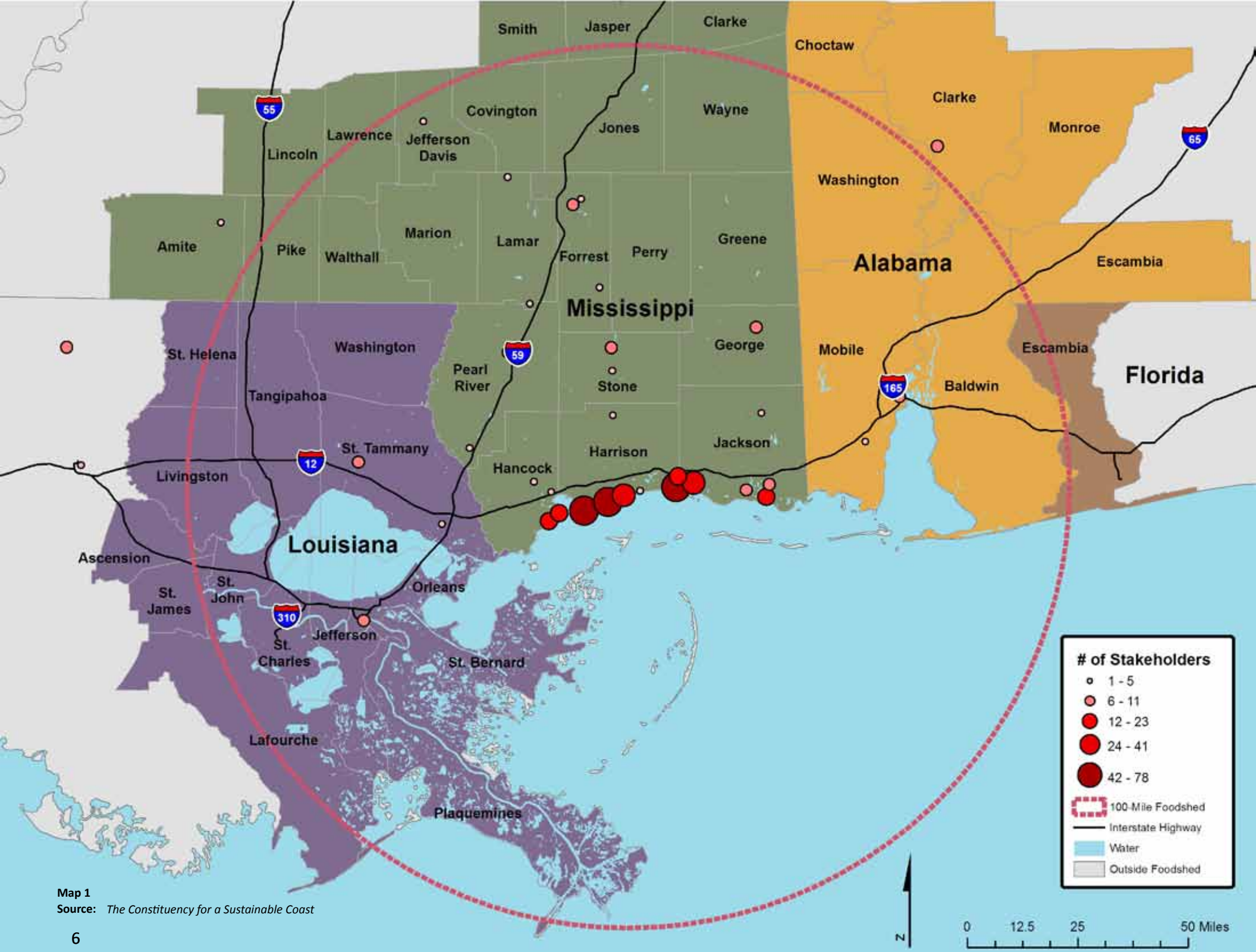
Research and Extension Center also provided valuable insight into the food system and its relevant stakeholders.

Individual interviews and group meetings were arranged with the stakeholders identified in part by the government agencies. In many cases, the stakeholders themselves identified other pertinent stakeholders. Consumers were engaged through visits to farmers' markets, talking to bus riders, an in-school event, and informal conversations at restaurants and other food outlets. Through this organic process, the total numbers of participating stakeholders grew to exceed 660 individuals, see Figure 1. The majority of the stakeholders are located in the three coastal counties, see Map 1. Where possible, stakeholders were contacted in the broader foodshed, particularly as it related to the production of food. While not every stakeholder in the food system could be contacted, a diversity of representatives were included to inform *The Plan for Opportunity*. A list of organizations and individuals involved in this process are available in Appendix A.

Face to face interviews were undertaken where possible and constitute 85 percent of all stakeholder interactions. Other communication efforts include telephone and e-mail correspondence, as well as surveys. In many cases, telephone calls and e-mail were used to clarify information provided during an individual or group interview. During these individual and group interviews, stakeholders were asked about their role in the food system and their perspectives on the challenges and opportunities to improve the food system at their level. A survey was undertaken asking consumers about their preferences for whether they purchase seafood.

Findings

The Mississippi Gulf Coast Food System is complex. In order to understand this complexity, the food system is presented as a series of steps including production, processing, distribution, markets, consumers and waste management. Stakeholders identified critical issues, challenges and opportunities in each



Map 1
Source: *The Constituency for a Sustainable Coast*

To get oysters to consumers the oyster travels through a complicated supply chain including fishers, buyers, processors, distributors, and retailers.

step in the food system which is summarized on the following pages.

Production

The starting point for any food system is the production and harvesting of raw products from the natural environment. In the 100-mile foodshed, these products originate from water and land sources. Fresh and saltwater species are either wild caught or farm raised in artificial ponds, tanks, rivers, ponds, or coastal waters. Many freshwater species are aquaculture products including catfish, crawfish, gamefish and tilapia. The popular, locally-sourced marine species in the foodshed—shrimp, crab, oysters and finfish—are wild caught. Produce, grain and livestock are raised on farms throughout the foodshed.

Aquaculture

The aquaculture farms of Mississippi are the highest value in the United States, primarily from catfish production. However, some stakeholders were skeptical of the industry's future importance due to the high cost of food and low market prices for catfish. Within the foodshed there is a tilapia farm. Tilapia fillets are imported because domestic production costs are too high to be competitive on the global market. There is significant market opportunity for tilapia in the live fish market, with current Mississippi production being shipped to New York for consumption. However, there is significant challenge in marketing live fish for consumption in Mississippi.

Seafood

Marine seafood is an important piece of the foodshed's culture and economy, and future viability of the industry is largely dependent on maintaining a healthy environment. Estuary health was recognized as a major concern among stakeholders because it serves as the nursery for the majority of commercially significant species. The Mississippi Department of Marine Resources' Living Shoreline initiative is one effort to protect estuary health by replacing concrete seawalls with biodegradable material reinforced by vegetation. With the National Oceanic and Atmospheric Administration currently considering rules for mariculture in federal waters, stakeholders expressed concerns about the potential environmental impacts of such operations.

Fishers also expressed concerns about environmental quality. Among charter and recreational fishing captains, the oil spill, customer concerns about seafood safety and lack of tourists were cited as the most significant barriers in their business. Government and educational agencies identified the importance of reconsidering bulkhead construction practices and moving to more natural systems to minimize erosion and promote environmental health.

Commercial fishers identified a lack of communication with regulatory agencies as a major constraint in their operations. Inconsistencies in information that fishers receive and the regulations Mississippi Department of Marine Resources officers enforce create confusion and impedes on successful harvests.

Stakeholders also identified a need for improved marketing strategies for locally harvested seafood. For example, stakeholders recommended promoting local consumption, in addition to national marketing campaigns. Stakeholders identified the opportunity for exporting Gulf Coast seafood to Asia, providing a wild caught export product. They also identified culinary tourism as a significant opportunity to highlight Gulf Coast seafood.

Fishers and experts from Mississippi State University Coastal Extension worry that the fishing industry and culture is not sustainable. They cite the cost of material inputs for fishers, such as fuel, continues to rise while the selling price of seafood to wholesalers remains relatively flat. It is difficult for the fishers to compete with the sheer volume and price of imports. Adding to this, fishers perceive a price discrepancy in the sale of their products with intermediaries including dealers and processors receiving the largest portion of the seafood's value, while fishers receive the least. Fishers and other key stakeholders recognize direct marketing is an opportunity for fishers to receive a higher price per pound for their catch, retain more value, and promote local seafood. Some fishers expressed interest in selling their products at area farmers' markets but were unsure about where to begin or who to talk to. Public officials and farmers' markets identified the importance of bringing back and building new dockside markets to support the direct sale of seafood to consumers.

Farmers reported that goats and other specialty meats offer an opportunity to provide a high value product directly to consumers.

Source: *Jennifer Evans-Cowley*

Consumers expressed a desire to purchase their food directly from producers, such as this beekeeper.

Agriculture

The farmers in the foodshed recognize the potential to increase production due to a year-round growing season, frequent rains, and warm weather. Stakeholders believe that encouraging vegetable and fruit production would provide an opportunity to increase community awareness about the origin of the food consumed, demonstrate the ability of the region to provide food for itself, and increase food security in the region.

Although increasing the amount of produce harvested by foodshed farmers would have positive impacts on regional food security, farmers cite challenges in reaching local consumers. Farmers acknowledged there could be opportunities in direct marketing, such as sale of produce at area farmers' markets and pick-your-own farms; however, vendors at area farmers' markets recognized that income from direct sales are limited. Many vendors at farmers' markets were either leisure gardeners or small producers interested in social interaction. Medium and large scale farmers did not see direct sales as a viable source of income.

Larger farms collect their income through sales to wholesalers or directly to large retailers when possible. Farmers operating at this scale identified opportunities for food diversion at this point in the food system; produce not salable to wholesalers could be sold at farmers' markets or diverted to food banks. Farmers felt that, with this infrastructure in place, they could operate at multiple scales and better connect with the local food economy.

Farmers identified a lack of local or regional meat processing plants as a prohibitive factor to increasing consumption of local livestock. Some small scale facilities exist, but farmers interviewed lived nearly 100 miles from a large slaughterhouse, and are often put on waiting lists for several days before they can bring in their livestock. Not only can this affect the optimal weight of the animal at time of slaughter, but it incurs high costs of transportation and lodging for farmers. Having to rely on large processing facilities in other states inhibits the farmer's ability to market a high-quality, local meat product to consumers within the region. Farmers were confident the demand for quality local

Source: *Jennifer Silcott*

School Children's Perspective on the Local Food System

In March 2011, the gifted third grade class of W.J. Quarles Elementary School in Long Beach hosted an event to help students learn about the sustainability of the food system. Their teacher, Mrs. Carol Paola, believed the curriculum was a nice complement to the students' recent social studies work. Students were led in a discussion of food, why it is important to know where it comes from and what some of the advantages of having a local food source are.

With the attention turned towards food the students were asked about where their parents buy their food, and how they get to the store. Most of the students went by car. All of the students reported that their parents hunted or fished and they get to eat the catch. Many of the students held hunting licenses themselves. Students were also asked about recycling and composting. Only one student said that his parents composted, but most students know what composting is.

Students also brainstormed a list of things vital to a community. All students included roads, grocery stores, banks and expressed interest in community gardens and greenhouses. Some, however, felt that sugar factories and circuses were equally relevant to a community's well being. Overall, the students were able to demonstrate how the production, distribution and disposal of food can be incorporated into their own community.

Small scale producers raised concerns about state requirements for commercial kitchens making it difficult to sell low risk value added products such as jellies.

meat products by consumers and/or businesses who wished to purchase them (whether by whole cow or side cow) was such that they would have no difficulty in selling their products if they had a more convenient means of processing their products. They would like to have convenient, in-state access to meat processing facilities that are federally certified and could process, store, package, and label meat.

A number of small scale farmers engage in direct sales through roadside stands or at farmers' markets. Roadside farmers noted that they were not interested in moving to farmers' markets because of the added expense and feel that they are effectively able to sell their products at times convenient to them and that many had been successful over a period of years and their customers knew them. Those selling in farmers' markets appreciated having a location where there is a readymade market, however, at many of the markets they wished that the market managers would do more to advertise the market.

All of the farmers noted the impact of the drought on their ability to grow produce this season. They noted that the size and volume of produce was smaller than in a typical year. They worry about whether they will see more or longer droughts in the future and how that will impact their ability to farm. Farmers also expressed frustration over not knowing what to do after Hurricane Katrina. They would like to have better access to resources for recovering after a disaster.

Area farmers also face challenges that are common among farmers across the U.S.: an aging agricultural workforce, high cost of entry for new farmers, the rising cost of inputs, immigrant labor, and the conversion of agriculture land to more lucrative uses such as forestry or urban development. The lack of youth interested in farming and the cuts in Future Farmers of America (FFA) programs also worry stakeholders. Farmers cited changes in immigrant labor rules as a serious challenge. For labor intensive crops, farmers rely on immigrant labor and they feel that placing the burden on the farmer for hiring an illegal immigrant who provided false documentation is unfair. As the region continues to urbanize, stakeholders expect these challenges to increase. In addition, large-scale farmers are not likely to switch from subsidized commodity crop production and to vegetable

production due to the increased labor requirements of vegetable farming, difficulty in supplying directly to regional grocery warehouses, and lack of economic incentive. Others indentified regulatory requirementsd as part of their work. For example, at pick-your-own farms the owner is required to keep a log of all visitors to the farm for the Department of Homeland Security.

Other institutions have undertaken programs to supply their own food needs. At one time, the Harrison County Sheriff's farm fed approximately 1,000 people between inmates and employees. The farm currently produces a surplus of produce, but reported difficulties in finding organizations to pick up the donations.

A number of community garden projects are underway in the coastal counties to support the local production of produce. For example, Harvest Gulf Coast operates in Hancock County in partnership with Long Beach Food Bank. Harvest Gulf Coast received a Pepsi Refresh Grant of $25,000 to build raised beds; these beds are rented out to members who are encouraged to donate their produce to area food banks. The project is still growing but identified a sluggish adoption rate and uncertain water source as major obstacles to the success of their project. The Coastal Women for Change community garden seeks to provide fresh produce to low-income families in Biloxi, while the nationally recognized school garden at Taconi Elementary School in Ocean Springs teaches children about nutrition, healthy choices and food scrap composting. Although these projects are new, the project managers are optimistic that they can have a positive impact on food security in their communities.

Processing

After food is harvested from the land or water, it is often processed prior to entering the marketplace. This component of the food system involves value-adding operations such as seafood processing, to make food ready for consumption.

Seafood Processing

Stakeholders identified two major concerns: waste management and labor issues. There is little incentive to divert waste due to the relatively low landfill disposal fees and regulations associated with other more desirable disposal options such as composting. The lack of composting facilities in the three-county area permitted to accept food processing by-products would require sending the shrimp hulls to the nearest composting facility in Louisiana. The additional transportation expense may not be cost effective for diversion. Prior to Katrina, some shrimp processors diverted hulls to a fertilizer company or to farmers, but now the waste is partially dried and sent to the landfill. Processors expressed interest in diverting the hulls for beneficial use. According to Mississippi State University Coastal Extension, in addition to composting, this waste can be used in anaerobic digesters, turned into fertilizer, as an ingredient in animal feed, and even in the manufacturing of surgery sutures.

Regulations also impede the workforce available for the processors and canneries. The processors rely primarily on immigrant labor, which requires significant paperwork to obtain legal laborers and there are language and cultural challenges in the workplace.

Agricultural Processing

Like seafood, agriculture processing includes packaging and processing products into ready to consume items like preserves and jellies. In some cases, farmers handle processing on site. As an example, blueberry farmer John Aulft packages his produce on his farm and diverts 4 to 5 percent of edible waste into jellies, jams and goat feed. Aulft is working to distribute his produce locally to maximize the short shelf life of blueberries.

While Aulft does not sell his products at farmers' markets, the market managers identified significant interest in value-added products such as jellies at these markets. Many area farmers' markets offer value-added products for sale, however, stakeholders identified barriers to farmers' market sale of items such as jellies. Mississippi Department of Health and the Mississippi Department of Agriculture and Commerce regulations require low risk food items be prepared in a commercial kitchen and many small-scale producers lack a commercial kitchen and home growers do not understand home processing requirements. The City of Biloxi is creating a small business incubator that will

Educators in the Food System

Educators inform individuals about the local food system and healthy eating. Some efforts are undertaken to teach and inspire young people into agriculture careers while others, such as Gulf Health Educators, teach individuals to purchase and prepare healthy meals. Stakeholders in the latter organization believe the lack of stores and markets in downtown Pass Christian and other communities is a major barrier for local food access. Stakeholders also listed walkable communities as an important and overlooked component of public health and access to healthy food.

Teachers at Taconi Elementary School in Ocean Springs have been nationally recognized for their school garden. The garden has been well received by special needs and gifted children alike and has been an invaluable teaching tool. Students learn about how food is grown and are encouraged to make healthy choices and to sample the variety of produce grown within the small but abundant gardens.

The Mississippi Gulf Coast Community College has aquaculture and culinary facilities. The aquaculture facility was recently closed due to inadequate demand from students. Yet the college recognizes the potential to use their facilities for food production and education. For example, students from area high schools have used the facilities to gain an education on production of food. Pass Christian High School has a Future Farmers of American program that is used as part of the school's horticulture and landscape management program. The students raise vegetables and sell them at the Long Beach farmers' market. As production scales up, the school recognizes the opportunity to donate food to a local food pantry. Stakeholders identified opportunities for educational programs in schools and in summer camps as a way to enhance appreciation and interest in the food system.

University Extension offices work to assist fishers, farmers and other supply-side stakeholders in becoming up to date on the rules and regulations of the food system, current technologies and best business practices. Mississippi State University (MSU) offers two significant programs to assist the seafood industry. The MSU Extension office works directly with fishers while the Experimental Seafood Processing Lab assists the U.S. Department of Agriculture and the U.S. Food and Drug Administration with ensuring seafood safety.

Other educational stakeholders include Master Gardeners. The Master Gardeners in the coastal counties are active in supporting the coastal communities. They are interested in expanding their activities to support community gardens, school gardens and other activities that would support raising food for the region's residents.

Local Markets on the Coast

In March 2011 six of the local markets along the coast were visited to talk to customers and vendors about the availability of fresh food. There are three primary types of markets on the coast. *Farmers' markets* sell food produced by farmers in the region, *produce markets* sell produce that may be from a local farm or purchased from a wholesaler or other party for resale, and *festival markets* sell a mix of items including food and non-food items. The Ocean Springs and Long Beach Fresh Markets are examples of a farmers' market and the Biloxi Farmers' Market is an example of a produce market. The Pass Christian, Waveland, and D'Iberville markets are examples of festival markets. The markets contained a variety of products from produce, meat, dairy, baked goods, jams, and honey.

A Social Experience

Customers come to the farmers' markets not just for fresh food, but also as a social activity. Many of the customers develop a relationship with the vendors. Customers report that they are looking for locally grown fresh produce, meat and dairy products. Many of the customers and vendors expressed an interest in having their market expanded. The festival markets, such as the Pass Christian market attracted people to buy food, but also for the social experience. The customers at produce markets stop in quickly to pick up their produce and head on their way.

Market Shoppers

Each market has its own customer base. For example, the D'Iberville market attracts seniors, while the Biloxi market attracts residents from East Biloxi. The Long Beach, Pass Christian and Ocean Springs markets attract people from the local community and from surrounding communities. The Ocean Springs market also attracted tourists visiting the community. Most of the people attending the markets attend on a weekly basis. Most of the customers shop in other businesses in the area during these trips.

Market Vendors

Vendors find participating in the markets to be a rewarding experience. Many vendors think the farmers' markets could be improved with running water, restroom facilities, power, and a permanent covered structure.

Source: *Jennifer Evans-Cowley*

have two commercial kitchens to help support the development of food businesses. Government officials believe that it is important to support the development of food businesses.

Stakeholders also indicated that they would like to see more support of local food processors. For example, the Lazy Magnolia Brewing Company distributes their product in six states. There is potential demand for their product if they could expand their processing capacity. However, the company has had difficulty in accessing funds to expand their business. They believe that economic development policies that support the expansion of small businesses would help to support the local economy. Other small scale processors have at home commercial kitchens, but they need help with business planning and marketing their products to help grow their business.

Distribution

Organizations involved in distribution move products between producers and processors to consumer markets. Distributors in the foodshed include ports, wholesalers and food banks.

Port of Pascagoula

The Port of Pascagoula handles shipping of coffee beans and cocoa imports and poultry exports. According to Allen Moeller with the Port, the benefit of a port is its proximity to producers rather than consumers. Russia was previously the number one consumer of Mississippi poultry, but a recent quota on poultry

Source: *Benjamin Kerrick*

Perspectives from Food Scraps Stakeholders

A food scraps management stakeholder meeting was held to bring together stakeholders representing waste hauling, schools, restaurants, area military bases, and extension services.

It was noted that while landfill stress is a motivating benefit in some other parts of the country, it is not an effective factor in this region because there is ample landfill space for the foreseeable future. A common theme that came up with many stakeholders is the psychological or attitude barriers relating to waste. The need for education about food waste and incorporating it into the public dialogue around food and sustainability were identified as potential steps for addressing this barrier.

Prohibitive or discouraging regulatory frameworks were also cited as a major barrier. The Mississippi Department of Environmental Quality is currently exploring ways to update regulations relating to composting of food waste. Likewise, a proposed Long Beach ordinance would allow composting of yard waste but specifically prohibits food scrap composting. Involving government stakeholders in further dialogue, as suggested during the stakeholder meeting, could help mitigate regulatory barriers.

The region lacks facilities for handling food waste, a likely result of the problematic regulatory framework. Novo Terra, the only food waste hauler operating in the region, must haul collected waste to a composting facility in Louisiana. Until the stakeholder meeting, Keesler Air Force Base was separating – but landfilling –food scraps, unaware of infrastructure for handling the scraps. Adjustments to existing regulations could allow or encourage new waste handling facilities in the region, create jobs and products, and provide new waste management options, all of which were potential benefits identified by our stakeholders.

Finally, many stakeholders identified the creation of financial incentives as a necessary step in changing the way the region handles its food waste. Kick starting innovation with tax incentives, grant programs, or other investment could support new projects and push the region's waste management in a new direction. As one stakeholder put it, waste management must be economically feasible or it will not happen.

The meeting concluded with a discussion of which state or local agencies should be involved and what immediate steps should be taken. Agencies discussed included chambers of commerce, school systems, faith-based groups, planning departments, and various regulatory and permitting bodies, such as the Mississippi Department of Environmental Quality , U.S. Department of Agriculture, U.S. Environmental Protection Agency, and the Department of Health. Immediate steps included the sharing of contact information to continue dialogue and promoting communication in the area. Creating communication networks and fostering information sharing can lead to new partnerships, such as that between Novo Terra and Keesler, to help in "closing the loop" of waste. Stakeholders are committed and engaged in their sectors, and open to new ways of working, but do not often have the time or resources to seek out or create new collaborations without a framework for doing so.

Throughout the stakeholder process, large managed institutions were recognized as valuable starting points for diverting food waste. Hierarchical management and efficiencies of scale mean that new waste practices can be successfully implemented with relative ease, compared to, for example, households or independent restaurants. Keesler Air Force Base, in pursuit of the federal government's goal to divert 40 percent of all waste, has made significant strides toward that goal in just a few months of concerted effort. Continuing to engage and highlight interested institutions will be crucial in changing waste management practices in the region.

imports has created a challenge for exports. Another challenge is the upcoming completion of the Panama Canal which would make the Port of Pascagoula an unlikely location for cargo ships to dock. The port currently has excess capacity in its freezer which would be available to local producers or wholesalers and the port is currently exploring handling regional shipments and storage of vegetables and fruits.

Seafood Wholesalers

Seafood wholesalers distribute the processed product to restaurants, casinos, and retail outlets. Similar to processing intermediaries, labor was cited as a major issue. The required paperwork and language differences serve as a challenge in business operations.

Produce Wholesalers

As mentioned previously, most medium and large-scale farms in the region make their profit by selling to wholesalers such as Adams Produce. Organizations like Adams buy produce directly from farmers and resell to retailers, restaurants and institutional purchasers. Adams actively partners with area foodbanks to divert unsold product; this mutually beneficial arrangement provides Adams with a tax break and food banks with fresh fruits and vegetables.

One challenge is the inability to obtain produce in the foodshed. Only 12 percent of Adams produce is sourced within Alabama, Louisiana and Mississippi. The company prohibits purchasing from smaller local farms that cannot meet company standards. However, the company indicated that they could increase local produce purchases if consumers demanded it.

Food banks

Food banks strengthen the food security of underserved residents in the coastal counties. Food banks are often the point of contact for food donations and provide products to food pantries and shelters. Despite produce donations from Adams and Dole, the region's food banks have difficulty providing pantries with fresh, whole foods. Food banks identified an educational challenge in making sure that producers, processors, and retailers understand how they can donate un-salable edible food. Stakeholders identified one potential opportunity to build relationships with community gardens such as Harvest Gulf Coast and separate edible food waste. Another barrier identified preventing retailers or government agencies such as Keesler from food donation is the issue of ownership; edible food is owned by the federal government and cannot be given away.

Currently in Mississippi, the Women, Infants and Children (WIC) program operates on a county distribution warehouse system where customers must go to the warehouse to pick up their food allocation. Stakeholders identified this model as a significant barrier to food access. Other states allow for WIC benefits to be used similarly to the Supplemental Nutrition Assistance Program (SNAP) benefits, where retailers can signup to accept benefits and then consumers can purchase their food in a store in their community.

Markets

Consumer access to food takes place through market outlets such as grocery and convenience stores, farmers' markets, roadside vendors, food pantries, and restaurants. Some institutional consumer access is through bulk purchasing, for example for schools, hospitals, prisons and military bases.

Retailers

Retailers source their food from many different locations globally. Some retailers purposefully try to source their food locally. For example, Rouse's purchases food within the region and labels it in their stores. Challenges to local sourcing include corporate buying policies. For example, retailers such as Winn Dixie and Walmart receive food as a result of corporate buying decisions.

Local sourcing of fish is also a challenge. Currently, Walmart is the largest retailer of seafood worldwide, and by the end of 2011, Walmart stores will only carry seafood certified by a third party. Stakeholders have identified this change as a barrier to entry in retail seafood markets, affecting in implications for consumer access, and added costs and regulations for every member of the supply chain because Gulf Coast seafood is not currently certified.

Source: *Mississippi Center for Justice*

The Women, Infants and Children center is an example of an important food access point for coastal residents.

Labeling local seafood in markets can be seen as one way to overcome this barrier. Aqua Green, a large tilapia operation in Perkinston, Mississippi, is experimenting with live fish tanks to market in various local retail outlets to encourage consumers to try purchasing and preparing live fish.

For some retailers, even stocking fresh food is a challenge. Convenience store owners in rural locations reported that they try to provide fresh food for their customers. One store owner reported that she purchases one or two fresh varieties of produce from Walmart to resell at her store. While she has to charge a higher price than Walmart, she is able to provide fresh produce to her customers that they would otherwise not have access to. Another store owner in Jackson County sells produce from her home garden.

Restaurants

Restaurants strike a balance between sourcing seasonally available products and providing consistent meals year round to sustain the business. Although some area restaurants and casinos have expressed interest in purchasing seasonal, local produce, farmers within the foodshed either have difficulty meeting the requested volume or complying with the safety and liability requirements required by the restaurants or casino. There is interest from smaller scale businesses such as bakeries to bring together locally grown products to create value-added products such as blueberry scones made from grains and blueberries grown in the region.

There is consensus among stakeholders to build a culinary tourism industry to draw attention to coastal seafood and to help support local restaurant business. Opportunities with industry groups such as the Mississippi Restaurant and Hospitality Association may present possible marketing and tourism draws highlighting local restaurants and local seafood. Restaurants also identified the opportunity to supplement their business by becoming tourist destinations. Efforts from the Mississippi Hospitality and Restaurant Association and the seafood-based Gulf Coast Alliance are working to brand Gulf Seafood and promote the region as a culinary hotspot to domestic and international travelers.

Farmers' Markets

Market managers identified their important role in providing access to local foods. Market managers identified the inability to use SNAP and WIC benefits at farmers' markets as a challenge. Market managers are working with vendors to gain access to Electronic Benefits Transfer (EBT) machines to allow for customers to use SNAP benefits. However, vendors reported that the process to be able to accept EBTs or other vouchers can take up to one year. Several market vendors expressed frustration at this arrangement and thought it would be better for the market rather than individual vendors to gain the ability to accept SNAP, WIC or other benefit programs such as the vouchers recently dispersed to senior citizens. Vendors at smaller farmers' markets also felt that the signage indicating the market should be clearer and the advertising more aggressive.

Another challenge is health and safety regulations that limit the types of products that can be sold at the markets. They also identified the challenge of finding a diversity of vendors to participate in the markets year round, particularly in the winter

time. Some market managers identified the lack of differentiation among markets as a challenge. For example, some farmers' markets only sell local foods, while others permit resalers and operate as produce markets. They report that this is confusing for the consumer who may not understand that they may not be purchasing locally grown food. Market managers also identified potential opportunities to expand the number of farmers' markets on the coast.

Farmers' market vendors recognized the market opportunity to sell specialized products such as goat meat, honey, and non-homogenized milk that cannot be as easily found in stores. Vendors reported that they value the relationship with their customers, but recognize that there is limited income potential from direct sales at these markets. Vendors mentioned fuel prices as a factor in their decision to come to the market, as a number of the vendors drive up to 60 miles to come to their market. Vendors noted that markets could be improved by providing running water, restroom facilities, shade and highly visible locations with parking to best attract customers. And at some markets, the vendors would like to see more management of the market and others would like to see the markets open more days of the week.

Food Pantries

Food pantries such as Loaves and Fishes and the Back Bay Mission provide an important market for low-income households. Food pantries reported that there is growing demand for food from consumers and that they have challenges in meeting the demand. Food pantries cited cuts in USDA food allocations, difficulty in obtaining fresh food, decreasing donations due to the economy, and regulatory barriers to providing food. For example, they cited Mississippi identification laws that make it very difficult to serve the homeless and others who have lost their IDs. Mississippi law requires that a person has a birth certificate to get an ID card and an ID card to get a birth certificate. Without an ID showing that the customer is a Mississippi resident they cannot gain access to USDA food. The stakeholders felt that this law is a barrier to individuals' ability to gain access to resources that would help them increase self-reliance

Consumers

Many consumers reported a desire to know where their food comes from and communicated that they would prefer to buy foods produced locally. Consumers cited the example of Rouse's grocery store where local foods are clearly marked as a desirable practice. Consumers at farmers' markets commonly valued that they are able to develop a relationship with the vendors, and that they would like to see a broader variety of products at these markets including more dairy, meat, seafood, and produce. They noted that they feel that they getting better prices and quality at the farmers' markets.

Some consumers reported challenges in accessing food stores. Stakeholders identified that some residents have to travel to another county to get to a grocery store or food pantry. Among those who rely on public transportation for their grocery shopping, they raised concerns about the lack of shelters at bus stops to protect them from rain or the hot sun and difficulties in keeping their refrigerated and frozen food fresh. Consumers also reported a lack of sidewalks and cross walks to make getting to the grocery stores easier. Consumers living far from a grocery store reported challenges of time and distance to get access to food, as well as rising food and gas prices. Stakeholders voiced support of the development of a non-motorized transportation network to address these concerns. The network could connect neighborhoods to grocery stores, community gardens and farmers' markets. Stakeholders believe that by providing infrastructure for pedestrian and bicycling activities, barriers to food access would be reduced while physical activity encouraged.

Among consumers participating in benefits programs such as SNAP or WIC, they cited challenges in using these benefits effectively. For example, a WIC participant noted that she had to get permission to take an extra long lunch hour to go to the WIC distribution center each month. WIC participants would like to be able to redeem their benefits at grocery stores. Seniors expressed frustration over trying to redeem vouchers at farmers' markets. At one farmers' market only one vendor was accepting the benefits and they had a limited selection. The seniors felt that if vouchers are going to be offered then it should be easy for them to be able

Perspectives on the Local Food System from Residents who are Homeless

A focus group was held with ten residents who are homeless at the Back Bay Mission. These residents receive SNAP or WIC benefits to assist them with their food needs.

The participants in the focus group appreciate the benefits they receive, but find it difficult to use the benefits effectively to meet their food needs. The biggest concern they have is that the benefits only allow for the purchase of unprepared food. However, being homeless they don't have anywhere to store or cook food items. The participants find that a lot of food goes to waste. For example, one participant buys bread and bologna but they go bad before he can finish the packages. Another challenge is the animals that steal any food that is left at the end of the day. The participants reported the challenges of having raccoons steal their food out of their bags at night. The result is that the participants are buying what they can eat in a day.

Their experience in using their benefits is at times frustrating. Not all stores take benefits, and some that will take them don't advertise it on the window. This requires the participants to have to ask. The participants would like to have the ability to redeem WIC benefits at grocery stores. They would like to see more farmers markets accept SNAP and WIC benefits.

They would like to have the ability to purchase charcoal with their benefits. This would allow the participants to cook their food at a local park. They would also like to be able to purchase more prepared foods because they do not go bad as quickly. Another idea from the group was for there to be a community kitchen and storage area that would allow them to safely store their food and then cook their own meals. They saw this as a service that the Back Bay Mission or other charitable organization could provide. This would allow the participants to eat healthier meals and make their food last longer.

If the participants run out of money before the end of the month, they rely on soup kitchens to fill the gap. The participants appreciate that the soup kitchens serve breakfast and lunch; however, this is not always helpful. They said that they try to get day labor and they have to be out early to have a chance at work. This means they will miss breakfast and lunch and then there is no dinner service. They would like to see soup kitchens serve dinner.

Participants reported challenges in getting transportation to food stores. The stores that the participants can walk to often do not accept benefits and the lowest cost stores, such as Walmart are far away and difficult to get to. They would like to see expanded transit service to grocery stores.

Source: *Jennifer Evans-Cowley*

to redeem them. A WIC official reported that the state will be moving to a retail model for WIC benefits no later than 2020.

Institutional Consumers

Institutions such as schools, correctional facilities and military bases purchase food for a large number of people. Mississippi grown commodities are available to schools as part of the State's farm to school program. The farm to school produce represents 10 percent of the fresh fruits and vegetables consumed in Jackson County schools. While schools and other institutions reported they would like to provide more local produce, meat and seafood it is cost prohibitive because of the limitations on expenditures per meal per person.

Waste Disposal

Waste is generated at all points of the food system. The

successful diversion of edible and non-edible food scraps from landfills has large impacts on the regional foodshed. A number of producers and processors are already diverting their food waste. For example, Aqua Green sends their waste to a nearby hay field, Lazy Magnolia sends their spent grains to a bakery, and Walmart is diverting their non-salable food to food banks and their produce food waste to composting sites.

Several producers expressed an interest in adding composting facilities on their farms and thought this could be a significant opportunity for business expansion.

Stakeholders identified existing regulations as a barrier to diverting food waste. For example, for several larger institutions, the uneaten food and food scraps are federal property and cannot be taken offsite. This has made it difficult for schools and other facilities to divert edible, unused food or start composting facilities. Retailers identified waste reduction as an item of concern. Some retailers would like to be able to give away expired but edible food, but they worry about potential liability. Larger scale retailers would like to see waste reduction efforts, such as composting of produce, but cite corporate policies as a barrier.

Stakeholders believe that amending current regulations would encourage new waste handling facilities in the region, create jobs and products, and provide new waste management options. Stakeholders recognized that some incentives may be necessary to support job creation in this industry.

Stakeholders identified attitudes about waste as a barrier to food waste diversion. Stakeholders believe that increasing education and discussion around food waste could overcome this barrier. They believed that increasing communication throughout the waste system would create new opportunities for reducing waste.

Next Steps

The effort to build a sustainable regional food system depends on the individuals involved at each step of the process. The stakeholder analysis provides a context for the regional foodshed from production to plate to waste disposal, but the analysis is simply a glimpse into a complex system. Outreach efforts are an ongoing effort; however, by continuing dialogue about the food system and fostering relationships among stakeholders, the region will move towards a more sustainable regional food system.

Source: *Pei-Yu Chiang*

Brinson Farms, a chicken farm in Prentiss Mississippi, manages a compost site which accepts food scraps from area Walmarts.

Appendix: List of Participating Stakeholders

List of Stakeholders

The following is a list of people and organizations that participated in the stakeholder analysis. Numerous participants fit into more than one category. Each participant was classified in only one category based on the key role in which they shared their perspective. In certain cases those interviewed asked not to be named or were individuals independently operating and a specific affiliation was not needed, for example individual fishers.

Consumers

- Consumers at the Farmers' Markets in Bay St. Louis, Biloxi, D'Iberville, Guflport, Jackson County, Long Beach, Ocean Springs, Pass Christian, and Waveland
- Consumers attending the No Trash Bash in Bay St. Louis
- Consumers at restaurants
- Consumers responding to an online survey about seafood purchasing
- Food bloggers
- Shoppers at food stores
- Shoppers at Ocean Springs Herb and Garden Festival
- School children at Quarles Elementary School in Long Beach
- Tourists visiting Ship Island

Distributors

- Adams Produce
- A La Carte Specialty Food
- Aziotics
- Bay Area Food Bank
- Port of Pascagoula
- Schafer Fisheries
- Twelve Baskets

Educators / Non-Profits

- Center for Appropriate Technologies
- Compass Media
- Delta Directions
- Gulf Coast Health Educators
- Harrison County Master Gardeners
- Jackson County Master Gardeners
- Mercy Housing and Human Development
- McCoys Swamp Tours
- Mississippi-Alabama Sea Grant Consortium
- Mississippi Gulf Coast Convention and Visitors Bureau
- Mississippi State University Coastal Research and Extension Center
- Mississippi State University Experimental Seafood Processing Lab
- Mississippi State University Cooperative Extension Service
- Pascagoula River Audobon Center
- Raise Your Pints Mississippi
- Southern Foodways Alliance at the University of Mississippi
- Taconi Elementary School
- United Way

Government Agencies

- City of Bay St. Louis
- City of Biloxi
- City of D'Iberville
- City of Pascagoula
- City of Pass Christian
- Coast Transit Authority
- Florida Department of Agriculture

- Gulf States Marine Fisheries Council
- Gulf Islands National Seashore
- Harrison County
- Innovation Center
- Jackson County
- Mississippi Department of Health
- Mississippi Department of Environmental Quality
- Mississippi Department of Marine Resources
- Mississippi Department of Revenue
- National Oceanic and Atmospheric Administration
- Southern Mississippi Planning and Development District
- U.S. Department of Agriculture
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service, Sandhill Crane National Wildlife Refuge

Institutional Consumers

- Harrison County School District
- Jackson County School District
- Keesler Air Force Base
- Mississippi Gulf Coast Community College
- Naval Construction Battalion Center
- Pascagoula School District
- Pass Christian School District
- Seabee Naval Base

Processors

- Crystal Seas
- Family Meat Processing
- Gollott Seafood

Source: *Jennifer Silcott*

Natural areas such as the Sand Hill Crane National Wildlife Refuge provide a nursery for seafood.

Source: *Jim Melka*

Oyster shells are a by-product of processing and can be recycled.

- John Aulft Farm and Fruit Packing
- Lazy Magnolia Brewing Company
- Mississippi Tomato Syrup
- Pass Christian Harbor Seafood Dealer
- Unnamed meat processor

Producers

- Aqua Green
- Blue Tara
- Brinson Poultry Farm
- Buzz's Jerky
- Carol's Cupboard Jellies
- Coastal Women for Change
- Country Girls Creamery
- Charter boat operator
- Crescent City Community Supported Fishery
- Daabs Blueberry Farm
- G&M Goat Farms
- Harrison County Farm
- Insta-Gator Ranch
- Ms. Biggy Fishing Tour
- Mississippi Gulf Coast Fishermen Organization
- Nuccios Muffalettas
- Old River Blueberry Farm
- Pappardelle's Pasta
- Poppe's Kitchen
- Resaler at Bay St. Louis Farmers' Market
- Resaler at the Pass Market
- Sam's Organic Acres
- Slade's Fish Hatchery

Source: *Greg Overberg*

The Pass Market contains a variety of products including craft items, produce, baked goods, jams, and honey.

Source: *Amanda Meddles*

Pick-your-own blueberry farms are common in the foodshed.

- St. Patricks Episcopal Church
- Steede Farms
- Theresa's Italian Cookies
- Unnamed fishers in Biloxi and Pass Christian
- Unnamed farmers in Jackson County
- Unnamed farmers in Picayune
- Vindresser Farms
- Unnamed producers at the Menge Flea Market
- Unnamed producers at the Jackson County Farmers' Market
- Unnamed producers at the Pass Market
- Unnamed producers at the Waveland Farmers' Market
- Unnamed producers at the Long Beach Farmers' Market
- Unnamed producers at the Gulfport Farmers' Market
- Unnamed producers at the Biloxi Farmers' Market
- Unnamed producers at the Ocean Springs Farmers' Market

Retail

- Back Bay Mission
- Biloxi Farmers' Market
- Capone's
- CJ's Food and Market
- Crescent City Market
- Convenience, Grocery, and Superstores (24 different locations)
- Le Bakery
- Lil Rays
- Loaves and Fishes
- Pass Market
- Long Beach Farmers' Market

Source: *Greg Overberg*

Market vendors provide access to produce for neighborhood residents.

Source: *Greg Overberg*

Neco's grocery store provides access to fresh food for residents in unincorporated Harrison County.

- Mississippi Hospitality and Restaurant Association
- Ocean Springs Fresh Market
- Ocean Springs Herb and Garden Festival
- Quality Poultry and Seafood
- Resale vendors at Biloxi and Waveland farmers' markets
- Roadside produce vendors
- Roadside prepared food vendors
- Roadside seafood vendor
- Rouse's Grocery
- Serious Breads
- The Yazoo Market
- Waveland Farmers' Market
- West End Superette

Source: *Angel Arroyo-Rodriguez*

Keesler Air Force Base is diverting its food scraps.

Waste

- Environmental Business Services
- Green Key
- Hancock County Solid Waste Enforcement
- Harrison County Beautification Commission
- Jackson County Solid Waste Department
- Mississippi Department of Environmental Quality
- Mississippi Hospitality and Restaurant Association
- Novo Terra Recycling
- Waste Pro

Source: *Ben Kerrick*

Keesler Air Force Base diverts food related recylables, such as drink bottles.