

SC Shrimp Fishery Assistance
Second Six Months Progress Report
(Award NA03NMF4520254)
Submitted July 15, 2004

The following describes activities (by objective) associated with the SC Shrimp Fishery Assistance (Award NA03NMF4520254; Clemson University # 208-2093707) for the interval from January 01, 2004-June 30, 2004. Additional information can be found at the SC Shrimp Fishery Assistance website [<http://www.clemson.edu/scshrimp/index.htm>].

1.1.b. Distribution of regional disaster assistance funds.

Berkeley-Charleston-Dorchester Council of Governments coordinated distribution of regional disaster assistance funds to the SC industry. Criteria for disaster were revised in meetings of the Shrimp Industry Taskforce and then in meetings with members of the shrimp industry; meetings were facilitated by Chip Boling. The industry agreed to make disaster assistance available to shrimp boats, dock owners and shrimp-related businesses and to draft criteria for each category. Criteria were published for public comment and revised in accordance with those comments (First Shrimp Fisheries Assistance Progress Report); additional revisions for disaster award criteria for dock owners and related businesses were made in response to comments. Submission of applications and distribution of disaster assistance funds to shrimp boat owners was completed. Distributions to applicants who landed shrimp in South Carolina during the calendar year 2002 were made based on the "South Carolina Shrimp Industry Economic Assistance Application Form" (Attachment 1). In February assistance checks ranging from \$3,291 to \$11,439 were distributed to 165 qualified applicants. Assistance to South Carolina dock owners (Attachment 2) included 25 qualified applicants that received checks ranging from \$6,848 to \$38,325. Total regional disaster assistance funds distributed to shrimp boat owners and dock owners equals \$1,000,000.00 and \$320,000.00, respectively. Assistance to shrimp-related businesses is pending due to shrimp industry-directed changes in criteria; \$60,000 has been set aside as directed by the Taskforce for this purpose. The application deadline for this assistance is July 18th. Expectations are that 8 to 10 checks will be distributed. (Note: Personal notes relating impacts of SC-specific disaster assistance funds on shrimpers are included in Attachment 3)

2.2. Management & marketing assistance for increased profitability (formerly "2.2. Development of a comprehensive long-term risk management plan").

In the NMFS proposal Drs. Barkley, Hammig, Henry, and Smith of Applied Economics & Statistics (AES) proposed an educational program of workshops on marketing, financial management, alternative enterprises and tax management; when the program was presented to the SC Shrimp Industry Taskforce, it was not accepted. The following alternative activities were discussed with representative Shrimp Industry Taskforce members and were received favorably.

(1) New Objectives: (a) AES faculty will provide the economic feasibility studies or reviews of proposals requesting financial support from shrimp infrastructure funds. These studies/reviews will be objective tools for the Shrimp Industry Taskforce to use in evaluating shrimp industry infrastructure funding applications. Factors to be considered include economic feasibility and likelihood of increased profitability for shrimp trawlers and dock owners. (b) AES faculty will analyze alternative quality improvement and marketing programs to determine which

programs provide the greatest economic benefit to South Carolina shrimpers. Analysis will focus on program costs and economic impacts. Faculty will also help the SC Sea Grant Fisheries Extension agent assist shrimpers and dock owners with economic aspects of selecting quality improvement and marketing programs to improve their "bottom line." (c) AES faculty will provide analysis of marketing systems, such as co-operatives, that bring part of the retail price increase down to shrimpers and will assist group(s) interested in starting cooperatives with writing grant proposals to get federal assistance monies.

(2) Progress: (a) AES faculty are investigating possible collaborations to provide added value for the SC shrimp industry. The main focus is on ways to process (head), package, freeze and/or store, and maintain identity of SC shrimp to maintain a stable supply throughout much of the year. Such an effort will require facilities, equipment, labor, management, and cooperation of local shrimpers. AES is assessing the feasibility of such a program, developing a list of local freezer storage facilities, looking at storage and transportation costs, and gathering information from equipment manufacturers and looking at similar studies for farm-raised shrimp in Mississippi to evaluate costs of processing. They will be contacting out-of-state processors to test the feasibility of transporting SC product out, processing/storing, maintaining SC identity for later return and sale. This information will permit them to examine the form of business (possibly a cooperative) that could implement the program. Although currently in the information-gathering stage, they are progressing rapidly and expect to complete this work by the end of the summer. (b) AES faculty are collaborating with an independent shrimp business to revise a value-added grant proposal for submission to the Rural Business-Cooperative Service, USDA. The proposal's major objective is to add value to the processing and packaging of shrimp caught in the wild through marketing frozen shrimp twelve months of the year. More than ninety percent of the South Carolina market is currently being supplied by frozen imports of farm raised shrimp.

2.3. Industry inventory.

At the firm or establishment level, this analysis by Applied Economics & Statistics faculty (Drs. Henry and Barkley) documents the costs that a trawler incurs to catch a pound of shrimp and determines the market price for shrimp needed to remain in business in both the short run (some costs are fixed) and long run (all costs are variable). It also evaluates the options open to the trawler owner to avoid shutdown as input prices and shrimp prices vary over time. At the industry level which includes trawlers, docks, jobbers, processors, wholesale distributors and retailers, this report will document the likely effects on domestic shrimp prices to SC trawlers from imports, government interventions and regional competition. AES faculty will estimate likely changes in marketing margins and the distribution of the margin revenues and costs from trawler to retail or restaurant to assess the effects of branding on the economic viability of the SC shrimp trawler.

A. To date the following tasks have been accomplished:

1. Site visits to all the 24 commercial docks in SC have been completed. Information on dock activities, business profiles and marketing channels from SC trawlers to docks to local retail/food services and to processors have been documented in working notes for a draft report.
2. Mail surveys were sent to all licensed trawler owners to assess their level of shrimping activity in 2002 and 2003 as well as their plans for 2004. Approximately 250 forms have

been returned. Data entry is complete with detailed analysis to follow. Summary results are provided in the report "Preliminary findings of the 2003 South Carolina Shrimp Trawling Industry Survey". Findings indicate that:

- a. About 55% of the trawlers are less than 50 feet. These boats shrimp ~70 days a year providing ~33% of the family income from shrimping.
 - b. Boats greater than 50 feet in length shrimp about 150 days a year providing an average of ~70% to 75% of family income; 38% of these boats provide 80% or more of family income.
 - c. 65% of boats are over 20 years old.
 - d. To improve their finances, shrimpers' top three priorities are higher shrimp prices, reduced shrimp baiting, and more marketing/education programs
3. Personal interviews with shrimpers or their bookkeepers have been completed to test the costs and returns survey. These have been based primarily at Rut Leland's dock and in Shem Creek. ~30 completed surveys were obtained during personal interviews with shrimpers in February and March 2004. Surveys cover both 2002 and 2003 and provide a solid database for understanding fixed and variable costs of operating a shrimp trawler and the profitability of those operations.
 4. The spreadsheet format allows for easy updating to 2004 data and "what-if" analysis as costs and prices vary. These data will be used to assess the expected profitability of individual trawler operations as market conditions change for shrimp and inputs (fuel, ice, crew labor and various materials and supplies).
 5. As shrimp prices received by shrimp trawler owners change in response to potential new tariffs or market forces, impacts on the profitability of individual trawlers and the viability of the SC fleet can be estimated with confidence.

B. Recommendations: Based on the inventory progress thus far, the following potential infrastructure needs for the next five years were presented to the Shrimp Industry Task Force.

At the industry level, broadly defined to include trawlers, docks, jobbers, processors, wholesale distributors and retailers, our site visits to 24 commercial docks in SC, mail survey responses from some 250 shrimp trawler owners/captains, interviews with individuals in the industry and review of industry trends suggests the following key infrastructure issues:

(1) Docks: Some of the current docks are likely to shut down without short term conversion to alternative uses; some will become more oriented to direct marketing to tourists/local retail activities; some will be converted to "highest and best uses" as commercial or residential development.

Implications for Industry Infrastructure: Fewer docks remain as home ports for commercial shrimpers. This will increase the demand for slots in the remaining docks suggesting higher tie-up fees and increased time spent transporting catch to a dock. This increase in costs for shrimp trawler owners/captains will put added pressure on profits.

Potential Use of Funds from the South Carolina Shrimp Fishery Assistance project.

Establish a seed capital fund (through another agency/entity) that dock owners/shrimp trawler owners can use as matching funds for Small Business Administration or other funds to maintain *flexibility* in responding to changing demands for dock space as the current stock of dock space evolves. These would be full service docks providing fuel, ice, packing and freezer capacity.

(2) Freezer capacity: Several dock operators and trawler owners have plans to expand the capacity to freeze and store shrimp so that they can respond to retail and the food service industry needs in a timely fashion. While this means added storage costs (including time costs) to the docks, it makes sense for several reasons. One, the clear objective of marketing efforts is to establish a market niche for wild caught US shrimp that will command a price premium over imports. Two, many retailers and restaurants expect that the costs of storage will be borne by the processor/wholesaler with quick access to the frozen product as needed. To compete with frozen imports, SC docks that intend to market wild-caught US shrimp will have to provide similar access.

Implications: Few docks provide freezer capacity needed to store frozen shrimp for the year round market envisioned in the marketing plans for a premium product.

Potential Fund Use: Establish a capital fund (through another agency/entity) that dock owners/shrimp trawler owners can use as matching funds or supplemental funds required for state or federal programs or as an incentive for private investments as the niche market for wild caught premium shrimp develops over the next five years.

(3) Shrimp Processing/Marketing Cooperatives: Establishment of a viable coop to process and market SC shrimp will require an effective business plan and ongoing excellence in management and marketing. Shrimp trawler owners/captains will have to rely on full time professionals and patience if the coop is to succeed in bringing increased profits to the shrimpers.

Implications: There is no active coop in the shrimp industry in SC though planning is underway in at least one area. Coops in Georgia and in SC in the past have not fared well. Lessons can be learned from these failing coop efforts as well as in those that have done well.

Potential Fund Use. Provide loans or grants to dock owners/shrimp trawler owners to examine the feasibility of a SC coop(s) and/or to implement plans for a coop by providing working capital loans and/or small grants.

Each of these possible infrastructure initiatives could have proposals that are awarded on a competitive basis. Each would be an attempt to stabilize the long term profitability of SC trawlers as market conditions change. The key is to provide flexibility for the individual shrimper and dock owner to respond to market forces. In contrast, short term subsidies tend to reinforce current activities as the market changes. If producers do not adapt to these changes, then it is unlikely that they can maintain profitability in the long run.

2.4.a. Marketing Research

Drs. David Barkley and Caron St. John (Clemson Spiro Entrepreneurial Center) continue to conduct marketing research on examples of product differentiation and niche marketing efforts for food products. Dr. Barkley and colleague have completed short case studies on six successful niche marketing programs - Mississippi catfish, Angus beef, Florida citrus, Vidalia onions, and Wisconsin cheese. Information collected for these programs included history, market niche, marketing organization, budget and funding, marketing programs, and perceived impacts of marketing programs on industry. Certified Angus Beef is by far the most successful niche marketing program and is based on high quality standards. Of particular interest is the impact of the niche marketing program on the profits of the product producers (e.g., shrimp boat owners) as opposed to processors, wholesalers, and retailers. Dr. St. John and colleague have

completed a draft of a comprehensive literature review of shrimp marketing and included lessons (generic marketing, differentiation, branding, etc.) from the catfish, salmon, beef and fresh vegetable industries.

2.4.b. Travel & Tourism Marketing Research

Dr. Bill Norman and Ms. Laura Jodice continue to conduct research that examines the potential of marketing locally harvested shrimp to coastal visitors in partnership with the state's travel and tourism industry. (1) Restaurant and regional case studies are being conducted through primary funding from the Gulf & South Atlantic Fisheries Foundation; those results are relevant to the aims of SC Shrimp Industry Assistance funded work. At least 5 restaurant case-pairs (5 serving local shrimp, 5 not serving local shrimp) are to be identified and interviewed for each major coastal tourism region: Myrtle Beach-Grand Strand area, Charleston area, and (c) Low Country-Hilton Head-Beaufort area. Restaurants were identified and fifteen interviews have been completed. A

A regional case study of Astoria, Oregon is being completed by Ms. Jodice. Astoria was once one of the largest seafood processing ports on the west coast and is in the final stages of a 10-year transformation into a popular waterfront, culinary, seafood, and heritage tourism destination. This case study will be summarized and materials will be shared with project partners and the shrimp industry taskforce.

(2) SC Shrimp Industry Assistance funding to Dr. Norman and Ms. Jodice supports a Shrimp & Tourism survey designed to identify the main food tourist behaviors, identify preferences for shrimp-related tourist experiences, purchases, and consumption during coastal travel and understand market segments of shrimp tourist behavior. Survey development is complete. Field crews will begin intercepting coastal tourists on the South Carolina coast on July 13 to gather addresses for the mail survey. The survey will be mailed approximately two weeks later to allow for return home and trip recollection. Intercept locations have been selected in the 3 major tourism regions (Myrtle Beach-Grand Strand area, Charleston area, and Low Country-Hilton Head-Beaufort area). Surveying will occur July through October.

2.4.c. SC Seafood Alliance Advertising Campaign

The SC Seafood Alliance (SCSFA) submitted a plan of work to advertise shrimp, to increase the visibility of the SC shrimp and seafood industries and to support the SCSFA. The Shrimp Fishery Assistance subaward to SCSFA provided funds for development of a website (www.scseafood.org) by Higher Ground Web Technologies (HGWT).

The executive board met twice with Mr. Karl Turner of Resource Group Development, LLC and once with Mr. Steve Massey of The Massey Group (Fairhope, Alabama). Mr. Turner is the former Director of Louisiana Seafood Marketing Board and The Massey Group is a fully self-sufficient advertising agency that has an extensive national client base. These experts help guide thinking of the SCSFA executive committee.

The SCSFA has designed and contracted for printing of 5000 bumper stickers. Delivery will be in second quarter with free mailing of two bumper stickers to industry license holders. Additional stickers are available through the South Carolina Seafood Alliance. Further distribution of stickers will be at selected restaurants, SC Aquarium, etc, and is expected to generate some income to the SCSFA. SCSFA entered into discussions with an individual experienced in South Carolina seafood festival operations who can assist the SCSFA in developing, implementing, and producing seafood festivals.

The SCSFA Executive Director continued correspondence and communication with the South Carolina Aquarium on their programs. The Executive Director represented the SCSFA in discussion and a meeting with Monterey Bay Aquarium relative to the Seafood Watch program. The SCSFA has enlisted the assistance of Dr. John Dean, Professor Emeritus, at University of South Carolina, who has been extremely helpful in focusing SCSFA actions with its mission. The Alliance Executive Board with the assistance of Dr. John Dean met twice with Charleston Maritime Center personnel to investigate potential uses of the Center as a site for festivals, and educational exhibits and activities. The members of the SCSFA Board of Directors can be viewed at Shrimp Fisheries Assistance website (<http://www.clemson.edu/scshrimp/index.htm>).

2.4.d.i. Marketing - South Carolina Shrimpers Association

The South Carolina Shrimpers Association (SCSA) is an industry organization formed to promote the shrimping industry in South Carolina; provide the public with educational information on the professional shrimpers, their livelihood and their boats; monitor legislative activities affecting the industry; keep abreast of State and Federal regulations and rules concerning the industry; and promote fresh, local, wild-caught shrimp. (See Board Members at <http://www.clemson.edu/scshrimp/index.htm>). SCSA was awarded \$60,000 (effective 1/01/04 to 12-31-04) to support initial participation in two festivals (Beaufort Shrimp Festival, Daniel Island Festival). In future years SCSA will support its festival participation from the prior year's proceeds. The SCSA is purchasing items and meeting with organizers in preparation for the festivals; both festivals occur in fall 2004.

2.4.d.ii. Marketing – Wild American Shrimp, Inc. (affiliate of the Southern Shrimp Alliance)

The Southern Shrimp Alliance (SSA) was formed by the shrimp industry from the Gulf and South Atlantic coastal states (NC, SC, GA, FL, AL, LA, MS, TX) to (1) undertake trade actions in support of the domestic “wild-caught” shrimp industry and (2) develop relevant quality and marketing programs. Wild American Shrimp, Inc. (WASI) was organized as an affiliate of the SSA to address the quality and marketing issues (see Board Members at <http://www.clemson.edu/scshrimp/index.htm>). WASI already has received funding for marketing from Georgia and expects to receive funding from other sources. WASI was awarded \$184,000 from the SC Shrimp Fishery Assistance funds (effective 6/01/04 to 5/31/04) to support creation of a regional marketing board, establish a quality assurance certification program and a “branding” program, and conduct other business necessary to coordinate these activities throughout the 8-state region.

2.5.a. CU Extension Facilitator

As indicated in the proposal, 0.25 of the time of Donald B. "Chip" Boling, Jr., Clemson Extension agent (Community Leadership & Economic Development), continues to be allocated to the project. Boling continues to play a key role in grant activities in communicating with the industry, in fielding industry and agency inquiries and requests, in organizing and facilitating multiple Taskforce and industry meetings, and in assisting with emergency fund distribution.

2.5.b. Sea Grant Extension Specialist

SC Sea Grant Consortium Fisheries Extension Specialist Amber Von Harten began her duties January 20, 2004 and is located in the Beaufort County Extension office (843-470-3655;

AmberVH@clermson.edu). The objectives for Ms. Von Harten's position are to (1) re-develop and sustain a fundamental capability to identify and address issues of importance to shrimp/fish resources in state and federal waters off of South Carolina and throughout the southeastern region and (2) to identify, develop, and deliver scientifically based information on critical fisheries-related issues.

She has worked toward those objectives by participating in appropriate teleconferences and meetings, forming and convening a Fishery Advisory Committee (FAC) for the SC Sea Grant Extension Program. She has participated in SC Shrimp Fisheries Task Force to address issues of concern within the shrimp industry and to give guidance to industry members regarding the use of federal economic assistance and research money. She volunteered to facilitate organizing a retreat to bring the SCSFA, SCSA, and the SSA together to share (and coordinate) information regarding each organization's marketing plans. Along with Chip Boling, she serves as a link between Clemson University researchers, other agencies and the shrimp industry. To build her capacity to assist the industry, she has attended the SCDNR Law Enforcement TED training in Charleston, SC to gain information on new regulations for the shrimp industry, developed presentation and presented training materials for the Trade Adjustment Assistance (TAA) training program for Wild Harvested Shrimp Fisherman, developed a working relationship with the South Carolina Association for Non-Profit Organizations (SCANPO) to address the organizational needs of the South Carolina Shrimper's Association (SCSA). She also has provided regular e-mail updates on regulatory information to the shrimp industry and has begun initial dock visits to include the Hilton Head, Beaufort, and Charleston areas to establish contacts within the shrimp industry and collect information on industry concerns.

2.7.a. **Quality Assurance Research**

The Food Science & Human Nutrition faculty (Drs. Chen, Dawson, Jiang and McGregor) who comprise the Quality Assurance Research Team are actively conducting research that will help increase the price point potential of South Atlantic Shrimp. Shrimp, like other seafood products, is highly perishable and rapidly loses quality and safety with improper handling and storage. Developing a niche market for South Carolina-caught and regional-caught shrimp requires a product that meets a defined consumer need (i.e. quality, freshness, flavor, locally produced, value, etc.). Meeting this consumer need can result in higher-valued products that demand a higher price paid to the shrimp fisherman. Initial research has focused on measuring the quality differences in domestic and imported shrimp by microbiological and chemical measures. Domestic and imported frozen shrimp samples were obtained from local markets and through direct contact with a local wholesaler. The team's research results indicate that...

1. Imported shrimp products carry higher levels of antibiotic resistant bacteria than wild-caught South Carolina shrimp.
2. Chemical profiles show little difference between imported and South Carolina wild-caught shrimp that have had the heads removed.
3. The shelf-life of fresh unfrozen shrimp may be significantly extended through a combination of modified atmosphere packaging and processing treatments.

Accomplishments: Ten shrimp samples were analyzed for total bacteria counts, antibiotic resistant bacteria (ceftriaxone, tetracycline, and chloramphenico), total coliforms, *E. coli*, *V. parahaemolyticus*, *Listeria* and *Salmonella*. Imported shrimp samples had higher total counts of bacteria that are resistant to the antibiotic tetracycline. The average total coliform counts for

imported shrimp were higher than South Carolina shrimp samples. Some imported samples showed positive results in preliminary testing for the presence of *E. coli*, *V. parahaemolyticus* and *Listeria*. Further testing is being done for conformation. *Salmonella* was present in one of the imported samples.

Four samples of headless shrimp were analyzed for the presence of the antibiotics ampicillin, chloramphenicol and gentamicin. There were no detectable differences between imported and South Carolina shrimp. This work will be repeated with heads-on shrimp. These chemicals are most likely concentrated in the tissues and organs contained in the head. Several studies are being prepared to investigate the potential for extending the shelf-life of fresh unfrozen shrimp through the use of modified atmosphere packaging and processing treatments. These studies depend on the availability of freshly caught shrimp and will begin with the first landings of 2004. Domestic caught shrimp has an established competitive advantage over imports if a “fresh never frozen” niche market can be established.

2.7.b. “Mark of Quality” Program

A proposal for quality certification program development, training and monitoring for the shrimp industry (attachment 4) was developed by the quality sub-committee of the Southern Shrimp Alliance. Proposal coordination and writing was led by Jon Bell (Louisiana State University), Steve Otwell (University of Florida) and Russ Miget (Texas A&M). SC Shrimp Fishery Assistance funds supported the team’s travel to Charleston, SC to meet with the Shrimp Industry Taskforce and present the proposal. The Taskforce unanimously supported the spirit of the proposal. However, no vote was taken on the proposal because possible other routes exist to fund it.

Attachment 1: South Carolina Shrimp Industry Economic Assistance Application Form

The purpose of the South Carolina Shrimp Industry Economic Assistance Appropriation is to support the commercial shrimp boat owners on terms and conditions which would permit completion and/or the successful operation of accomplishment of the project in the following eligible areas: Commercial Shrimp Boat Owners that landed shrimp in South Carolina during the calendar year 2002 adversely affected by low prices of imported shrimp.

The granting agency reserves the right to recall the funds if these requirements are not met.

I hereby certify that the information represented in this application is an accurate statement of the current position of the applicant and acknowledge that this has been made in conjunction with a request to obtain grant funds. I further understand that this application and the attached exhibits form part of the grant terms and conditions.

List of Required Exhibits*:

- A valid South Carolina Department of Natural Resources Commercial Trawler License for 2001-02 or 2002-03.
- A Copy of Federal Income Tax Documents showing income from shrimping, with minimum gross receipts of **at least \$10,000 in** South Carolina landings **two of the last three years (2000, 2001, 2002)**.
- Verification of the above income in the form of **South Carolina** dock receipts, dealer sheets or trip tickets.
- Evidence of shrimp landed in South Carolina **during the year 2002** using dock receipts, dealer sheets or trip ticket.

In conjunction with this application, I authorize the BCDCOG to verify any information contained in the grant application. Therefore, the BCDCOG is authorized to request any and all information on current and past accounts, both personal and corporate, for use in connection with this grant application.

ALL APPLICATION MATERIALS MUST BE POSTMARKED BY DECEMBER 31, 2003

Vessel Name

Owner Name and Title

Signature

Date Daytime Phone number

*Individuals that applied for funds in June 2003 do not need to submit duplicate information. Please mark the appropriate box as "previously submitted".

Please Mail Applications to: Shrimp Industry Economic Assistance, 5290 Rivers Avenue Suite 400, North Charleston SC 29406

Attachment 3. Personal Impacts of Shrimp Fisheries Disaster Assistance Funds

Related by (and with permission from) Steve Kerchner <trawler@hargray.com>

“As I mentioned on Thursday, April 8th, two older wood boats in this area have been fiberglassed. I've done some of this work myself, it takes A LOT of time, energy, and money. To me, it's a sign that these men feel optimistic about the industry. One owner has been shrimping his whole life, two of his sons work with him on the boat, he works very hard and makes a decent living. The first boat he owned burned, and we all donated money to try to salvage some of it and help him get a new boat, this was some years back. He had fiberglassed that boat, too. The other boat is owned by a man who also owns a small dock. He has an excellent captain running this boat, but the boat is very old and they'd had problems with it leaking. He retails a lot of shrimp out of his dock. This is one example of what I meant when I said that fishermen have done their own marketing research and are acting on it. Another fisherman at this same small dock does advertising on local radio to sel his shrimp at retail prices, and he does quite well with that approach. All of these men are local black guys who grew up on St. Helena Island and have made very respectable livings as fishermen.”

“Another fisherman has bought a small freezer trailer to pull behind his pick up truck. Last year his stepdaughter sold a fair bit of shrimp in her college town, he hopes to use this trailer to allow her and her boyfriend to stay out on the road longer without having to be bothered with re-icing the shrimp.”

“Another fisherman I know who operates from a dock his family has owned for 30 plus years has invested in a large refrigerated trailer, taken the wheels out from under it and equipped it with a rebuilt electric cooling rig. He's also bought a used forklift and a used shrimp washer to allow him to handle more shrimp with less labor in the fish house. The trailer will allow him to unload two or three boats and hold the shrimp for a buyer who will often pay a little more, but only come for a fair sized load. Again, this man learned something about marketing to allow him to get the highest prices for his boat and the other boats at his dock.”

“Fishermen don't talk to each other a lot about what we do with our money, I know these stories because they all involve obvious expenditures. As for myself, the grant money allowed me to catch up on bills, but most importantly, allowed me to replenish my set back money. By that, I mean funds set aside for the inevitable breakdowns such as engine rebuilds, transmissions rebuilds, propeller rebuilds or replacements, new nets, etc. My boat has been struck by lightning twice in the last four years, the first time I lost over \$5,000.00 in equipment destroyed and rebuilding costs, the second time it was around \$3,000.00. This sort of thing is part of the business, and when the price is decent it's bearable. With the prices we've had the last two years the set back money doesn't get set back because it's not there. Needless to say, one's retirement fund goals take a back seat as well.”

Attachment 4. The “*Mark of Quality*” – A Pilot Program Designed to Advance the Competitive Position of the U.S. Tropical Shrimp Industry

Prepared by MQ Shrimp Team:

Linda Andrews (MS/AL), Susan Barefoot (SC), Jon Bell (LA), Keith Gates (GA), Russ Miget and Mike Haby (TX), Barry Nash (NC), and Steve Otwell (FL)

Introduction

Today the domestic shrimp production, processing, and marketing complex is in the throes of some of its darkest economic days, and industry leaders, trade association executives, agency heads, and elected officials are all pondering what next steps should be taken to help the industry move forward. This proposal is one component of a multifaceted industry-wide recovery plan. As the title suggests, it examines what course of action is necessary to establish domestic, wild-harvested shrimp as a premium product in the American marketplace which – most importantly – would generate a higher price that ripples back through the entire supply chain.

Undoubtedly, creating such a program and proving its worth to targeted wholesale, retail, and consuming interests will take time, and require the steadfast commitment of interested, cooperating producers, processors, and marketers. Furthermore, such a directed effort to (a) create a premium shrimp product from the Gulf and South Atlantic fisheries, (b) carve a niche out of the billion pound American shrimp market, and (c) supply it with relatively high-priced product is an ambitious goal with mostly long-term benefits. However, it is important to consider two inescapable facts, U.S. shrimp production must compete against larger volume producers from multiple international sources that are not subject to similar product costs so it no longer makes economic sense to target wild, domestic shrimp toward the broader commodity market. Second, participants in other commodity markets have realized long-run success with a similar approach, so this idea is not without precedent. (The Vidalia onion program in Georgia is a shining example of how a unique, mild-flavored product coupled with industry-wide adherence to quality assurance requirements, legislation to protect the brand, and applied research to extend the marketing window has become successful at generating higher prices that are realized through the entire supply chain.)

Currently, all domestic shrimp harvest cannot be classified as a “premium” product. This classification has been earned by a handful of innovators who have implemented a strategic quality management system as a competitive weapon in the marketplace. The first step in this process was to determine which product and process attributes were most important to their existing and prospective customers. Armed with a clear signal from their customers, these innovators converted those expectations into a set of standards that could be used to judge the products they harvested, purchased, processed, and sold. However, translating a set of standards from target market expectations was not the final step. To meet the predefined standard on a consistent basis, producers and processors needed to know precisely what steps, protocols, etc. were necessary to meet the standard, so these innovators created a set of policies, procedures, and practices that cooperating producers and processors could implement. The final element for these innovators is enforcement and administration of their quality system. The intent of this proposal is to extend these innovative ideas to the larger industry so that a premium, higher-priced shrimp product can be created from the 200 million pound annual production base.

Program Goal

The goal of this proposed work is to support marketing efforts which seek to distinguish U.S. wild-harvested, raw, tropical (*Penaeid sp.*) shrimp from pond-raised imports. This support will include (a) the development of quality standards, (b) the establishment of a “*Mark of Quality*” (i.e., a logo, seal, etc. much like the Underwriters Laboratories® seal found on electrical appliances) that documents compliance with the predetermined standards and (c) the design and implementation of training programs for both producers and processors that will enable them to meet predefined quality standards.

To meet the fundamental objective of creating a premium product from the domestic production base that will generate a higher price, the “*Mark of Quality*” team understands that this program must be accepted and supported by the industry. Therefore, the “*Mark of Quality*” team intends to work through the Wild American Shrimp Marketing Corporation (WASMC) in all phases of the project including (a) development of achievable, verifiable, understandable quality standards, (b) design of dockside testing protocols and, (c) selection of pilot program participants.

The “*Mark of Quality*” team will initiate the pilot quality certification program but will leave the responsibility for implementing the program industry wide to the WASMC. A number of tasks are necessary to ramp-up the “*Mark of Quality*” pilot program to a broader-scale effort that includes all producers and processors who desire to participate. One task better suited to an industry organization is the responsibility for developing and trademarking the “*Mark of Quality*” logo or seal. In addition, the WASMC would also serve as liaison between firms that operate under the “*Mark of Quality*” program and those companies who wish to incorporate the “*Mark of Quality story*” in their overall promotion strategy.

The “*Mark of Quality*” *pilot* program is intended to be a voluntary, industry controlled, buyer driven rewards (vs. penalty) program based on self inspection with oversight and traceability built into program processes. Product traceability from vessel through processor to the buyer is foreseen as a requirement for the success of the program. The WASMC would be responsible for developing a tracking program to identify non-compliant shrimp entering the market under the “*Mark of Quality*” seal. As the “*Mark of Quality*” program evolves from the pilot stage a decision will have to be made as to whether ensuring the integrity of shrimp which carries the “*Mark of Quality*” seal is better accomplished with third-party inspection or a comprehensive tracking system with oversight to prevent non-compliant product from being marketed under the “*Mark of Quality*” seal.

Another classic program administration role for the WASMC would be to develop a protocol to resolve disputes concerning use of the logo. Finally, the marketing corporation could develop a recognition (i.e., a rewards) program for those producers and processors who operate under the auspices of the “*Mark of Quality*.”

Justification

Farm-raised imports account for roughly two-thirds of total beginning supplies of shrimp in the American marketplace. Most shrimp imports originate from developing countries that are exporting locally-grown and processed products as a way to improve their national infrastructures and provide employment opportunities. Some of the costs like wage rates for processing plant workers in these shrimp-exporting countries are a small fraction of U.S. wages for comparable jobs.

Attempting to compete “head-to-head” along general commodity lines regardless of market form (i.e., shell-on, headless, and various value-added products like raw, peeled shrimp) is not a sustainable approach for the domestic industry because production and processing costs are higher in the U.S. Therefore, it appears that the only product-oriented approach for regaining a competitive position in the American marketplace is to set the domestic harvest apart from the imported, cultured fraction and service those niche markets that understand and prefer the unique attributes found in wild, domestic shrimp. The domestic shrimp industry has concluded that a marketing campaign focusing on the unique attributes of wild-harvested shrimp – such as a subtle, yet distinctive flavor that wild shrimp maintain over their pond-raised counterparts – must be initiated if the industry is to regain its competitive position in the American marketplace and economically survive.

In addition to the unique flavor attributes of wild-harvested shrimp, there is another quality dimension that must be part of the “*Mark of Quality*” program. Conformance to specifications or standards is the attribute set first used to define overall shrimp quality. Two primary “conformance-to-specifications” elements are considered in evaluating the quality of shell-on, headless shrimp: pack-style and product condition. Pack-style attributes include (a) accurate net weights and counts, (b) count uniformity, (c) presence/absence of damaged tails or pieces which, in most food service applications, are considered unuseable elements, (d) the fraction of black-spotted shrimp, (e) soft-shelled product, etc. Product condition parameters include those elements that have bearing on edibility and enjoyment such as (a) dehydration, (b) texture, and (c) mild, “fresh-caught” odor, etc. “Conformance-to-specifications” criteria are particularly important as a screening mechanism throughout the supply chain. In other words, products that do not conform to predetermined pack- style and product condition specifications are immediately eliminated from consideration, regardless of other attributes such as a distinctive flavor.

Wild-harvested shrimp that receives the “*Mark of Quality*” results from a team effort between producers and processors. To maintain its distinctive flavor, wild-harvested shrimp must be handled carefully aboard shrimp trawlers. To ensure that these distinctively-flavored shrimp are consistently packed with the same criteria used by high-grade suppliers, both pack-style and product condition must be verified by scrupulous inspection during processing. *Achievable, verifiable* quality standards must be developed and implemented so that domestic, wild-harvested shrimp can be distinguished from a virtual sea of imports. These standards, in turn, would become the foundation for a total program culminating in a percentage of the wild harvest being distinguished with a “*Mark of Quality*” – a unique logo that could be added to the boxes of compliant product that demonstrates their premium nature thereby assuring buyers and consumers of a consistent high-quality, safe, and wholesome product, worthy of a premium price.

Approach and Deliverables

1. Develop the “*Mark of Quality*” Program for U.S. Tropical Shrimp by compiling a “***Mark of Quality***” **Shrimp Manual** with plain text, liberal illustrations and useful methods that can serve as the foundation for the entire program. This manual will include:
 - a. A list of ***product quality specifications*** which include not only visual (physical) defects, but also sensory (taste and smell) attributes. To the maximum extent possible quality attributes will be selected which are easily and rapidly quantifiable “at the dock” or early in processing. For example, excessive salt (an indication of improper on-board brine freezing) can be quantified using test strips. Bisulfite can be determined using a simple

colorimetric kit. On the other hand aroma and taste of cooked tail meat necessarily will be more subjective. Minimizing physical damage defects and ensuring proper size counts are simply a matter of tightening existing inspection. Before being presented to the industry, proposed quality specifications will first be discussed with processing plant personnel to determine their cost as well as time effectiveness in delivering the desired “*Mark of Quality*” product.

- b. Useful ***training materials for boat crews*** which describe how to harvest and handle shrimp on-board so that the landed product is conforms to quality specifications. Crews must realize that the quality of shrimp will never be better than when it hits the deck, and it’s how *they* handle the catch that determines whether it will meet the “*Mark of Quality*” specifications at the dock. Recommended trip lengths, tow times, culling/heading procedures, freezing or icing, product handling during on-board storage, and offloading of both fresh and frozen shrimp will be among the topics covered. As with the quality specifications, recommended procedures first will be discussed with captains and crews to determine the likelihood that such procedures will actually be adopted before they become part of the training program. Subsequent recommended on-board handling procedures will be reinforced with printed materials and videos distributed to the vessel crews. It is anticipated that initial training will be conducted via traditional meetings at one or more of the major shrimp ports in each of the participating states. During these initial training sessions crews will get hands-on demonstrations of how to properly mix brine, how to use a refractometer to determine when to recharge brine systems, and how much it costs them when frozen shrimp are tossed around and otherwise mishandled causing physical damage. We hope to enroll between 10 and 20 vessels at each port with a cooperating processor in year one of the pilot program.
- c. Useful ***training materials for processors and buyers*** will describe how to determine whether shrimp coming off a pilot program boat meet the “*Mark of Quality*” specifications. Example quality parameters would include close scrutiny for physical defects, sulfite residue, salt concentration, and sensory assessment of cooked meat. These materials will also **feature simple, routine methods** by which one can screen and score product quality. Likewise, **standard product assessment forms** would be developed to better direct and record processor and buyer judgments. These forms would offer a measure of program performance over time and/or across regions or firms.

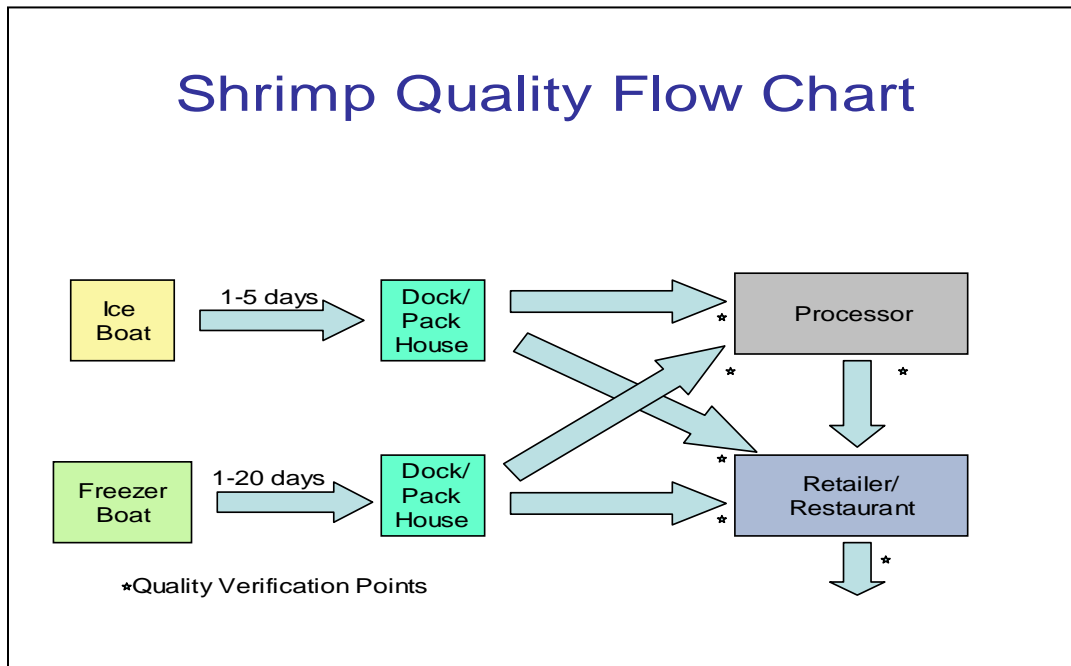
2. Pilot Program Implementation

An initial pilot program will be implemented to install and verify the attributes and impact of the “*Mark of Quality*” program on product excellence. The pilot will involve selected participants who operate vessels, docks, processing facilities, and provide distribution/transport services. This program will be aligned with “**obligate**” buyers. An obligate buyer is a firm or institution that is aware of the intent of the program and participates in development and maintenance of the program. Implementation steps include:

- a. **identify port and processing locations** with participating vessels, docks, and processors that agree to enter the pilot program under the terms and conditions of the “*Mark of Quality*” program.
- b. **install the program** through participant training at all levels including orientation to the manual, measures of product quality, and marketing expertise. The training phase must incorporate the entire supply chain from fishermen through processors and buyers. Part

of the training will include distribution and practice with practical, user-friendly test kits and methods by which product quality can be quantified.

- c. **monitor program progress** for attributes that work or require modification while assessing commercial performance across sectors, firms and/or regions. Monitoring will be conducted by assigned “internal auditors” selected from the existing commercial staff and supported by respective expertise from the QM Shrimp Team. The program will be **progressively modified** to assure incorporation of the most effective and useful attributes both in terms of product quality and value.



3. Assess and Maintain Program Performance

The proven attributes from the pilot program will be compiled for reference by marketing programs and industry to help advance their participation in future commerce. This information will also form the basis for a continuing education program for all future domestic shrimp commerce.

Project Management

All proposed tasks would be conducted by the MQ Shrimp Team in cooperation with the respective marketing programs and commercial sectors in their region. The Team would hope to enroll at least one major processor in each of the respective states in the pilot program. Because of their current workloads, the PIs on the MQ Shrimp Team can not devote their full attention to this project. Thus, to assure more immediate and consistent attention and support for the project, an Extension Associate would be hired in each state (TX, LA, MS/AL, FL, GA, SC, NC) to assist the Principal Investigators (PIs) in carrying out this project. **The Extension Associates would be specifically “dedicated” to this project for the entire three-year duration.** The PIs would supervise and assist Extension Associates with their work.

Time Line

We recognize that the actual starting date is dependent upon when the funds become available. Commencing early in 2004 would be optimal for initiating this work, and would enable us to (a) take advantage of the next available season as a point of departure for this multi-state project and (b) catch crews in port during the Winter and early Spring for training.

Months 1-3, Year 1.

1. MQ Shrimp Team develops the program manual with *quality specifications* using existing literature supplemented by laboratory experimentation/verification. Consult with processing personnel to assure that the proposed quality parameters are economically and physically “doable” and are what buyers “say” they want.
2. Hire and train Extension Associates. PIs and Associates are the *Teams* in each state.
3. *Teams* complete development of *training materials* for processors and crews.
4. PI’s and the industry committee will work to secure commitments from obligate buyers for limited quantities of “*Mark of Quality*” shrimp at \$0.50-\$1.00 per pound price premium.

Months 3-5, Year 1.

1. State MQ Shrimp Teams identify pilot program processors and cooperating vessels and begin training programs for crews (port locations) and processing plant personnel (university locations).

Months 5-9, Year 1.

2. Teams make frequent visits to pilot project cooperators, both processing plants and vessel crews, to answer questions, provide repeat training, and generally check on the progress of the project.
3. Develop a program for buyer feedback regarding “*Mark of Quality*” compliant product.
4. Review recommended crew-handling and plant processing procedures and revise as appropriate based on pilot project cooperators’ inputs.
5. Initiate transfer of quality audit arbitration responsibility to the Wild American Shrimp Marketing Corporation.

Months 9-12, Year 1.

1. Teams continue support audits of processing plants to assure quality specifications are being met by plant personnel.
2. PIs and industry committee will evaluate the progress of the project and determine when a sufficient supply of “*Mark of Quality*” product is available to begin a marketing campaign.

Years 2 and 3.

1. Continue year one activities to include more processors and vessels and provide continuity to the program.
2. The Wild American Shrimp Marketing Corporation will expand the “*Mark of Quality*” program industry-wide to all producers and processors who wish to participate. WASMC will determine whether third party inspection or product tracking is needed to assure compliance with predefined quality standards. If a fee-based third party system is deemed necessary, a logical next step in moving from a pilot, multi-state effort to a larger, fee-based system would be for the industry to hire the Extension Associates who have been involved with the design and operation of pilot quality assurance efforts.

Budget

This budget is built around the expectation that the seven Principal Investigators representing eight states (TX, LA, MS/AL, FL, GA, SC and NC) will participate in this regional program. The program budget has been developed for each year and extended to show the total expenditures necessary for the six states covered by the five PIs throughout the three-year duration. Roughly 75 percent of the requested funds will be used to support professionally-trained Extension Associates for the three-year duration of this project. Adding additional states beyond those enumerated would mean a proportional increase in the budget specified in the table below.

Budget Item	Per Year Expenses for Each State			Total Expense per State	Participating Groups/States	Total
	Year one	Year two	Year three			
Personnel (Extension Associates)						
Extension Associate (figure includes salary and benefits)	50,000	50,000	50,000	150,000	7	\$1,050,000
Supplies and Materials to Be Provided to Industry						
Training materials (books, videos), dockside test equipment/kits for processing workshop participants, brine freezing containers, refractometers and electronic thermometers for crews	9,000	3,000	2,000	14,000	7	\$98,000
Laboratory Supplies and Incidental Equipment						
Laboratory supplies to verify proposed handling/inspection procedures, hand-held electronic notepads to facilitate processing plant inspections, notebook PCs for Extension Associates	1,100	800	500	2,400	7	\$16,800
Travel						
Project development mtgs. bringing all PIs and Extension Associates together, travel and lodging for processing workshop participants, charges for training and audits of cooperating facilities by PIs and Associates	8,000	7,000	5,000	20,000	7	\$140,000
Total, Direct Program Costs	68,100	60,800	57,500	186,400	7	\$1,304,800
University Overhead (10%)						
This is the minimum overhead the PIs can negotiate with their respective universities. Overhead normally runs between 40-55%.	6,810	6,080	5,750	18,640	7	\$130,480
TOTAL PROGRAM BUDGET	74,910	66,880	63,250	205,040	7	\$1,435,280