

## THE GULF OF MEXICO SUSTAINABLE SHRIMP INITIATIVE



Sustainable Fisheries Partnership

### **The Problem**

The U.S. domestic warm-water shrimp fishery, operating in the Gulf of Mexico, has traditionally been the nation's most valuable. With major ports servicing the industry from Brownsville, Texas to Key West, Florida, the shrimp fishery was "king" with a season that generally runs from mid-June to January. Over the period 2001-2005 the average catch of shrimp from the Gulf of Mexico was approximately 110 thousand metric tons. The ex-vessel (at the boat) value of the Gulf of Mexico shrimp harvest in 2006 was \$354.4 million (USD). While the catch was up 15 percent over 2005, the value was approximately equal.

Over the past decade, the Gulf of Mexico shrimp industry has seen dramatic declines in the value of the harvest due to competition from shrimp imported into the U.S. market and a radical rise in operating cost associated principally with the cost of fuel in this fuel intensive trawl fishery. Compounding the issue further is the loss of infrastructure in the central Gulf as a result of Hurricanes Katrina, Rita and Wilma in the 2005 hurricane season.

While both a traditional economic engine in the coastal communities of the Gulf of Mexico and a major supplier of shrimp to many markets, the shrimp fishery has also had to deal with environmental implications of its harvesting methodology. In the 1980s the issues was incidental capture of sea turtles with principal attention to the Kemps ridley. After a period of aggressive militancy, innovators within the industry, in partnership with government fishing gear technicians and university fisheries extension specialists, developed various workable and effective turtle excluder devices (TEDs) that were certified and employed throughout the fleet. Coupled with protection of the known nesting grounds, a dramatic increase in Kemps ridley sea turtles over the past 10-15 years has been realized. Currently the issues facing the industry include the incidental capture of a wide variety of sea life including small red snapper, a popular reef fish in the Gulf of Mexico that is targeted both by commercial and recreational fishermen and habitat impacts caused from the use of bottom trawls. Efforts to design and utilize a bycatch reduction device (BRD) that is effective in removing ocean life, including these small snapper, from shrimp trawls has proved elusive; however, efforts continue in a similar pattern to that used in the attempts with TED design. Finally, the high consumption of fuel within the shrimp fishery is not sustainable either by costs or contribution to green house gases.

The Gulf shrimp fishery was first recognized as overcapitalized in the 1980s by NOAA Fisheries. This condition, according to recent economic analysis done by a Gulf of Mexico Fishery Management Council working group, still exists in terms of economic performance of the fishery. Overcapacity exacerbates environmental problems present in the shrimp fishery.

### **The Sustainable Solution**

Technical and regulatory solutions are available to move the Gulf of Mexico shrimp fishery toward sustainability.

As of October 2007 all shrimp vessels operating in the U.S. federal waters of the Gulf of Mexico must be permitted by the (US) NOAA Fisheries Service so a better profile of the fleet

can be realized. While final permit figures are not yet available due to late applications, etc. this system will provide the number of vessels fishing in federal waters of the Gulf of Mexico and a characterization of the vessel and gear to better assess participation in the fishery and gear types used to prosecute the fishery. Furthermore, many of the vessels are equipped with electronic logbooks so a more accurate picture of fishing effort and location will be available to managers. Additional usage by the fleet, either on a fleet-wide basis or a number resulting in a statistically significant sample size, can further improve the accuracy and usage of this valuable information.

New shrimp fishing gear is now being tested that has been demonstrated to reduce fuel consumption up to 30%. This is accomplished through the combination of high tech fiber (Sapphire webbing) utilized in the construction of the trawls and cambered doors as replacements for the standard heavily weighted wooden otter trawl doors used traditionally in the fleet. While continued efforts, primarily through result demonstrations set up cooperatively between university-based extension/outreach staff of the Sea Grant Program and industry innovators are underway, support and encouragement for greater participation in demonstrating the trawls as well as debugging them under various conditions on the fishing grounds is critical. Based on initial testing and adaptation to the fishery, the cambered metal doors don't become water logged creating additional weight, require less bottom tending to achieve trawl efficiency therefore less bottom impact and are smaller in size than comparable traditional doors associated with similar size trawls.

Technological solutions to reduce bycatch, including red snapper, are also underway. This new initiative follows regulatory requirements for a BRD that has not been meeting the reduction requirements in the reef fish fishery management plan (FMP). Incentive based programs will be useful to promote aggressive cooperation from the industry to assist both NOAA Fisheries Service gear technicians and university based extension/outreach staff in designing and testing equipment capable of meeting the substantial reduction requirement needed to rebuild the Gulf of Mexico red snapper stocks and reduce bycatch generally. The target is to reduce bycatch of juvenile red snapper, the most vulnerable life stage, in shrimp trawl by **74%** below the **2001-2003 average mortality level**. BRDs are an important component of the reduction solution but the devices most prevalent in the fishery are not currently meeting management targets.

The following table lists current bycatch reduction devices, effectiveness rates at excluding finfish and associated shrimp loss.

<b>BRD Type</b>	<b>% Finfish Reduction</b>	<b>% Shrimp Loss</b>
Fisheye (industry standard)	16.5%	2.0%
Expanded Mesh	17%	
Composite Panel	25.1%	5.4%
Extended Funnel	26.6%	2.2%
Modified Jones-Davis	33.1%	3.2%
Fisheye<9' from tie off rings	37%	10.4%

Use of vessel monitoring systems in the fishery will also be essential to ensure the area closures contemplated in the red snapper rebuilding plan are adequately enforced. These systems will also ensure existing area closures in the Gulf of Mexico that contain sensitive habitats are protected.

Discretionary income in the Gulf of Mexico shrimp fishery is greatly reduced from traditional levels. The fishing season has been limited more through economics than biology. Experienced crew retention has been a critical outcome of both the reduced economics and shorten season. The full impacts of the dynamics within the Gulf of Mexico shrimp fishery may yet to be realized and the resulting “steady state” on which the future of the industry will be based is still problematic.

### **The Role of the Sustainable Fisheries Partnership**

The Sustainable Fisheries Partnership ([www.sustainablefish.org](http://www.sustainablefish.org)) (SFP) is a nonprofit project under the auspices of the Trust for Conservation Innovation, a non-governmental organization exempt from US federal taxation under Internal Revenue Code section 501(c)(3).

The Sustainable Fisheries Partnership works with seafood buyers and producers to promote the long-term security of their own supply, by improving fisheries management and marine conservation. We build the private sector’s capacity to make a difference in two ways:

- By developing business practices and alliances that support sustainable sourcing of seafood;
- By advocating stronger government fisheries and marine conservation policies.

Our strength in the disciplines of economics, marine science, communications, and well-balanced advocacy help buyers and suppliers exert their influence where it matters most: in their supply chains, and among the key decision makers who govern fisheries.

The Partnership improves access to information that buyers rely on to guide responsible seafood sourcing. We recommend specific improvements in management. And we provide critical assistance to seafood companies as they press governments for fisheries improvements—such as effective harvest regulations, monitoring and enforcement, and measures to cut off trade in illegally caught seafood.

The Sustainable Fisheries Partnership helps seafood producers and buyers to promote the long-term security of their own supply by improving fisheries conservation. We help companies and other stakeholders advocate for appropriate regulation of fisheries, choose their sources wisely, and meet their own sustainability commitments.

In the U.S. portion of the Gulf of Mexico, Texas Sea Grant Program, a university-based research and outreach program funded primarily by the National Oceanic and Atmospheric Administration (NOAA), has expressed interest in these efforts and a small number of vessels are already using the new fuel conservation gear. In addition, discussions with government agencies are underway to seek opportunities to develop and test new industry developed bycatch reduction devices (BRDs) with the intent to have devices certified for use in reducing incidental take of juvenile red snapper.

Our developing partnership with Texas Sea Grant, other Sea Grant programs in the Gulf of Mexico and, through those groups, the shrimp fishery aims to reduce bycatch, habitat impacts and fuel consumption. Efforts will focus on:

- Encouraging the development of new bycatch reduction devices (BRDs) that will meet the goals of the red snapper rebuilding plans and reduce overall finfish bycatch.
- Encouraging result demonstrations and technology transfer to bring fuel conservation and more habitat friendly (low impact) gear into the Gulf of Mexico shrimp fishery.
- Identifying finance schemes to front the cost of converting to the new fuel conserving fishing gear and BRDs.
- Providing training for boat captains in deployment and use of the new gear.
- Development of a verification/traceability system to provide confirmation to the marketplace that shrimp presented to the market was caught in a more sustainable manner is, in fact, coming from the newly equipped vessels.
- Liaise with Ocean Conservancy and SFP on work to verify the effectiveness of the new gear in reducing environmental impacts.

In the U.S. market, the Sustainable Fishery Partnership will support the Sea Grant efforts through several market-driven programs:

- Linking conscientious seafood buyers to a group of fishermen who are early adopters of fuel conserving gear and bycatch-reduction devices. SFP is currently working on a similar initiative in the Gulf of California shrimp fishery. The shrimp is being sold by Cleanfish, a San Francisco-based seafood marketing firm, under the Fisherman's Daughter brand.
- Enlisting major U.S. purchasers of shrimp from the Gulf of Mexico in a dialogue with fishermen and processors to identify and pursue feasible improvements in the entire fishery.

SFP intends to bring together buyers, producers, NGOs and other stakeholders to form Fisheries Improvement Partnerships (FIP) in support of the Gulf of Mexico shrimp fishery project. We will invite U.S. retailers, wholesalers and buyers to participate in the process. This participation primarily involves communicating back down the supply chain company requirements for improvements in the Gulf of Mexico shrimp fishery.

For U.S. retailers, wholesalers and buyers this is a “win-win” proposition. Improvement in the sustainability of the Gulf of Mexico shrimp fishery will not only insure the long-term health of the fishery and decreased environmental impacts, but also potentially produce a larger and higher quality product.

While participation in the FIP is voluntary, a commitment to continuous improvement of the Gulf of Mexico shrimp fishery is essential. For fishermen, adoption of the new fishing gear and techniques will be necessary and other elements of the supply chain will be asked to support the cost of funding training and gear use verification. However, the level of support, and arrangements for how the FIP will make decisions, set requirements etc., remain to be negotiated with FIP members.

Ultimately this will be a private-sector initiative. The Sustainable Fisheries Partnership will act as the secretariat of the FIP, provide information and strategic counsel and also facilitate partnership-building among supply chain stakeholders.

### **The Role of Ocean Conservancy**

Ocean Conservancy will play a lead role in engaging/recruiting like-minded Gulf area industry and conservation partners that agree with the suggested course of action and improvements that can be made in the Gulf of Mexico shrimp fishery to move the fishery towards sustainability. This role will include:

Provide policy expertise and develop policy positions that buyers can support with incentives to secure stronger conservation policies in state and federal management processes;

Assist in identification of emerging environmentally friendly technologies that can be utilized in the fishery;

Identify buyers and producers of Gulf of Mexico wild shrimp for inclusion into the FIP;

Engage these buyers and producers in efforts to improve the environmental performance of the Gulf of Mexico shrimp industry through:

- Short term purchasing policies; and/or
- Participation, where appropriate, in state and federal management processes to secure sustainable fisheries policies;

Participate in dialogues with retailers, buyers, producers and state and federal management officials to support the work of the FIP and secure identified conservation policies.