

## **SUMMARY OF 2014 NO-COST EXTENSION CONTRACTS**

### **Use of Barotrauma Mitigation Measures in the Gulf of Mexico grouper fishery – University of Florida**

Fish descending devices are effective and practical tools used to reduce release mortality. A recent survey by the University of Florida and Sea Grant documented that such devices are rarely available in bait or tackle shops. This project assessed barriers to adoption of fish descending devices and will be used by Sea Grant to develop outreach strategies to increase their use. About 50-70% of reef fishermen surveyed were aware of venting tools, while 30-50% were aware of both venting tools and descending gear. Some 70-85% of respondents had used venting tools but only 10-25% had used both venting tools and descending gear. Fishermen from all sectors agreed that both venting tools and descending gear help fish return to depth and improve their survival, but feel that descending gear takes more time, is more difficult to use, and is more expensive than venting tools. They also agreed that regulations to require the possession of venting and descending tools would increase the number of people using such tools and many of those surveyed expected management to require the use of such tools in the future.

### **Marine Resource Education Program**

The Gulf of Maine Research Institute, with the help of fishermen, has developed a Marine Resource Education Program for fisheries stakeholders. The program consists of two modules: a Science Workshop, and a Management Workshop. Gulf of Mexico stakeholders have participated in the program for the past two years. The program has proven to be an effective training tool, providing fishermen and other stakeholders with fundamental fisheries management education, enabling them to participate productively in the Fishery Management Process - a benefit to both stakeholders and Council members. We contracted with the Gulf of Maine Research Institute to fund their three-day Management Workshop in 2015.

### **A Web-based Tool for U.S. Gulf of Mexico State and Federal Fisheries Management Regulations**

State and federal fisheries management regulations for the commercial and recreational sectors, have existed for decades. However, these regulations were not consolidated into a user-friendly and accessible tool. To fill this need, the Gulf States Marine Fisheries Commission, with support from an independent contractor (GCR Inc.) developed a searchable web-based database for state and federal fisheries management regulations. The web-based database includes regulations for major species and species groups managed in the Gulf of Mexico. The database allows queries by year, jurisdiction (federal, state), sector (commercial, recreational), and when applicable, recreational sub-sector (private recreational, for-hire, charter, headboats). Each species included in the database is identified by its common name and scientific name. The species covered in the database include Black Grouper, Cobia, Gag Grouper, Gray Triggerfish, Greater Amberjack, Hogfish, King Mackerel, Red Drum, Red Grouper, Red Snapper, Scamp, Spanish Mackerel,

Spiny (Caribbean) Lobster, Vermilion Snapper, and Yellowtail Snapper. Species groups include Grouper aggregate, Snapper aggregate, and Reef Fish aggregate. The list of attributes available for query includes quotas, season openings and closures, daily bag limits, minimum and maximum size limits, permit requirements, and trip limit. The database will be available to individuals and organizations interested in fishery management including the Council, fishery managers, researchers, fishermen, environmental organizations, and the general public. Data are currently being added to cover regulations implemented since 2005. The database is expected to go live before the end of the year.

### **Social Network Analysis of Red Snapper and Grouper-Tilefish IFQ Programs**

Using social network analysis (SNA), this project produced a series of visualizations of share and allocation transactions made by participants in the Gulf of Mexico IFQ programs. First, for both the Red Snapper and Grouper-Tilefish IFQ programs, matrices were created for all share and allocation transactions, annually, from each program's inception through 2015. Various attribute data were incorporated, including shareholders with and without commercial permits, the amount of shares and pounds of allocation transferred, and whether a participant held a Class 1 or Class 2 red snapper endorsement prior to the beginning of the Red Snapper IFQ program. Related accounts were also identified and aggregated in order to focus on how shares and allocation were transferred among participants who do not co-own vessels or shareholdings. The results of this project will be used to better describe the social environment and to inform analyses in the Grouper-Tilefish IFQ program 5-year review and Reef Fish Amendments 36A and 36B.

### **Measuring Fleet Efficiency Gains from IFQ Programs using Social Network Analysis**

This study uses social network analysis to examine IFQ trading in commercial Gulf of Mexico Reef Fish IFQ fisheries to determine the mechanics of how participants trade quota and how the quota and dockside markets (fishers selling to registered dealers) influence each other. Then, examine changes in fleet efficiency pre and post IFQ by integrating network analysis metrics into the determination of whether and to what extent market segmentation limits IFQ trading, and ultimately the potential technical efficiency gains from trade. The network analysis focused on network density and modularity. The network density is the number of transactions in a network expressed as a proportion of the total number of transactions possible given the number of participants in the network. The modularity measures the level of segmentation in the network. The production efficiency of commercial fishing vessels in the Gulf of Mexico reef fish fishery was evaluated based on an output-oriented stochastic distance function. This study will assist the Council in its assessments of revisions to IFQ programs, trading provisions, and additional changes to fishery regulations to improve the performance of the IFQ programs in the Gulf of Mexico. This project will contribute to the socio-economic analyses of potential effects expected to result from changes to IFQ programs considered in Reef Fish Amendment 36 (Modifications to Commercial Individual Fishing Quota Programs).