

**Proposals for Economic and Social Science Studies
Related to the Deepwater Horizon Oil Spill**

**Economics and Social Analysis Division
Office of Science and Technology
NOAA Fisheries**

Project 1:
Assessment of changes in the economic performance and economic impacts of Gulf of Mexico commercial fisheries

This project will gather data and conduct analyses to support estimates of the effects of the Deepwater Horizon oil spill on commercial fisheries and related commercial sectors in the Gulf of Mexico. The project will collect baseline and post-spill data on commercial fishery and shoreside processor costs and earnings, employment data, seafood market data, and other data as needed.

These data will be gathered from two sources. For commercial fisheries, data on landings can be gathered from trip tickets collected through state agencies. The data from this source will create a time series on harvests levels that spans the period preceding the oil spill as well as the oil spill's immediate effects (produced through state and federal fishery closures) and its long-term effects (possibly created by post-spill changes in the biological productivity of the Gulf's fisheries). For commercial fisheries and for other sectors related to commercial fisheries, data on costs and earnings can be gathered through surveys.

The data gathered through this project will support an analysis of the economic performance of commercial fishing and related sectors in the Gulf of Mexico and an analysis of changes in that performance attributable to the oil spill. The data on costs and earnings can also be used to develop a regional input-output model for commercial fisheries and related business in the Gulf of Mexico, which can then be used to assess the economic impacts (that is, changes in employment, sales, and income) of these sectors and the changes in these impacts from the oil spill.

This project will produce:

- 1) A database of commercial fishing costs, earnings, employment, and other data needed to estimate short-run and potential long-run changes in the economic value of commercial fishing in the Gulf of Mexico.
- 2) An analysis of the short-run and potential long-run changes in the economic performance of commercial fishing and related sectors in the Gulf of Mexico.
- 3) An analysis of the short-run and long-run changes in the economic impacts (that is, employment, sales, and income) of commercial fishing and related sectors in the Gulf of Mexico.

Project 2:
Assessment of changes in the economic value and economic impacts of Gulf of Mexico recreational fisheries

This project will gather data and conduct analyses to support estimates of the effects of the Deepwater Horizon oil spill on recreational fisheries in the Gulf of Mexico, including the For Hire fleet. The project will collect baseline and post-spill data on recreational fishermen behavior and expenditures; costs, earnings, and employment for For Hire fleet and other shoreside recreational fishing businesses; and other data as needed.

For recreational fisherman behavior, data can be gathered from ongoing recreational angling effort and participation surveys such as MRFSS, supplemented where necessary with information from additional surveys targeting Gulf of Mexico anglers. These data can be used to develop models of recreational angling behavior and the value of access to fishing sites. These models can then be used to estimate the changes in economic value from current and future changes in recreational fishing opportunities. The models can also be used to assess the effects of changes in the biological productivity of the Gulf of Mexico fishery stocks, which may translate into future harvest limits and changes in the quality of fishing trips (e.g., catch per unit effort). Data will also be gathered on recreational angler expenditures, as part of the upcoming Marine Angler Expenditure Survey for the Gulf of Mexico. In addition to recreational fishing data, we will also collect cost and earnings data and other information from For Hire fleet and other shoreside recreational fishing businesses. These data can be gathered from ongoing surveys and additional surveys as needed.

The data gathered through this project will support an analysis of the economic value of recreational fishing and the economic performance of business sectors that are related to recreational fishing in the Gulf of Mexico, and an analysis of changes in their value and performance attributable to the oil spill. The data on expenditures and on costs and earnings can be used to develop a regional input-output model for recreational fishing and related business in the Gulf of Mexico, which can then be used to assess the economic impacts (that is, changes in employment, sales, and income) of these activities and business sectors and the changes in these impacts from the oil spill.

This project will produce:

- 1) A database of recreational fishing values and For Hire fleet and other business costs, earnings, employment, and other data needed to estimate the economic value of recreational fishing and in the economic performance of business sectors that are related to recreational fishing in the Gulf of Mexico.
- 2) An analysis of the short-run and potential long-run changes in the economic value of recreational fishing and the economic performance of business sectors that are related to recreational fishing in the Gulf of Mexico.
- 3) An analysis of the short-run and long-run changes in the economic impacts (that is, employment, sales, and income) of recreational fishing and related sectors in the Gulf of Mexico.

Project 3:

Assessment of the effects of the Deepwater Horizon oil spill on consumer perceptions and market demand for seafood from the Gulf of Mexico

Project Overview

Increasingly consumers of seafood are provided with product information that was previously unavailable or unreported. For example, environmental or eco-certification labels now cover about 12% of wild fisheries, and there is a growing volume of research examining the market impact of these schemes. Very little attention, however, has been given to the impact of environmental degradation or environmental catastrophes on consumer perceptions and market demand as it relates to seafood products. This project will address the impact of the DeepWater Horizon oil spill on consumer perceptions of seafood from the Gulf of Mexico and determine if oil spill-induced changes in perceptions will ultimately lead to market impacts.

Project Scope

This project will focus on quantifying consumer's *perceived* impacts to seafood products as a result of the DeepWater Horizon oil spill. Qualitative research will be used as a scoping mechanism to determine how consumers think about and perceive the impacts, if any, from the oil spill to the seafood products they consume from the Gulf of Mexico. Subsequently a survey will be developed to systematically assess any changes in consumer perceptions and their intended purchase behavior due to the oil spill. The survey will be implemented on a national scale utilizing a design and implementation plan that allows for oversampling in key regions of the Gulf of Mexico.

Project Plan

The project will have three main phases:

- Phase I will identify the relationships that consumers perceive to be occurring or have already occurred between the DeepWater Horizon oil spill and seafood products from the Gulf of Mexico.
- Phase II will include the development and implementation of a survey designed to collect quantitative data on seafood consumer perceptions related to the oil spill and their intended purchase behavior. Pending availability of resources, the survey may also collect data on actual purchase behavior.
- Phase III will include data analysis, model estimation and a project report.

Project Output

This project will produce:

- A report from qualitative research identifying the types of perceptions and the public has about the oil spill and its effect on seafood from the Gulf of Mexico.
- A survey instrument
- A dataset that includes behavioral, attitudinal, and demographic variables for a representative national sample of the general public
- Quantitative models examining the relationship between consumer perceptions of seafood, intended consumer behavior, and the DeepWater Horizon oil spill.
- A written report of all models, model output, and other data collected in the survey.

Project 4:

Assessment of the economic effects of the Deepwater Horizon oil spill on the non-use value of marine resources in the Gulf of Mexico

Project Scope

To the extent that the Deepwater Horizon oil spill affects the biology and ecology of marine resources in the Gulf of Mexico, the non-use economic values of those resources may be affected. This project will focus on estimating the changes to non-use economic values of marine resources in the Gulf of Mexico due to the spill. The scope of the project will focus only on non-use, or existence values, that have been affected by the spill, and will not include use values such as fishing, boating, tourism, etc... Qualitative research will be used to determine the specific suite of marine resources to include in the study, though it is expected that the suite will include some combination of marine sea turtles, mammals, fish, coral, and seagrasses. Subsequently an economic survey will be developed to enable the estimation of the economic effects of the oil spill on non-use values of selected marine resources. The survey will be implemented on a national scale utilizing a design and implementation plan that allows for oversampling in key regions of the Gulf of Mexico.

Project Plan

The project will have four main phases:

- Phase I will identify the specific resources in the Gulf of Mexico to include in the study. This phase will rely primarily on qualitative research techniques such as focus groups and cognitive interviews, conducted with members of the general public.
- Phase II will involve collaboration with scientists to determine the extent of the injuries to those marine resources selected in Phase I that are due specifically to the DeepWater Horizon oil spill.
- Phase III will include the development and implementation of a survey designed to collect data on the economic value of the injuries identified in Phase II, i.e. estimating the economic effect of the oil spill on non-use values. It is anticipated that a stated preference choice experiment survey will be the selected method of data collection.
- Phase IV will include data analysis and economic model estimation and a project report. The analysis will produce estimates of both short and long-run economic losses associated with non-use values for marine resources in the Gulf of Mexico

Project Output

This project will produce:

- A report from qualitative research identifying the types of non-use values that exist for marine resources in the Gulf of Mexico
- An economic survey instrument
- An extensive dataset that includes economic, attitudinal, and demographic variables for a representative national sample of the general public
- Economic models capable of estimating the economic effects to non-use values from the DeepWater Horizon oil spill
- A written report of all economic models, model output, and other data collected in the survey.

**Project 5:
Social and Economic Impact Analysis (SEIA) of Deep Horizon Oil Spill Incident in the
Gulf of Mexico (GOM)**

NOAA/NMFS/ST5 in coordination with HQ/SF, the SEFSC, and the SERO will conduct a Social and Economic Impact Analysis (SEIA). This will build on our experience in 2005-2006 conducting a Social Impact Analysis of Hurricane Katrina. It will use data collected for the baseline GOM community profiles, the subsequent restudy of the subset of those communities impacted by Hurricane Katrina in 2005 coupled with collection of new data in oil-spill affected coastal communities, and relevant agency and non-agency economic and social data. It is anticipated that local communities not included in previous community profiling work will be impacted by this incident, requiring acquisition of additional historical profiling data not currently held by NMFS. The SEIA will be divided into three phases.

Phase 1-Establish social and economic baseline databases. This will commence immediately. Since the incident occurred April 20, 2010, establishing social and economic baselines must draw on data and reports on coastal communities' economies from agency and non-agency sources produced prior to the incident date. These data will be supplemented with new data collection including social and cultural data collected through an initial rapid-appraisal assessment to include, but not be limited to, aerial photographs, inventory of commercial and recreational fishing infrastructure along shoreline and within a quarter-mile of the beach, and on tidal waters behind the barrier islands; interviews with key community leaders; and compilation of related economic data.

Phase 2 - Preliminary damage assessment, including a second rapid-appraisal assessment focused on responses by fishing industry sectors to the oil spill and impacts on the fishing industries and coastal communities, to begin six to eight weeks after the spill comes ashore. Follow-up interviews with key community leaders interviewed during Phase 1. Update of related social and economic data from agency and non-agency sources. All areas affected directly by the spill along the coast will be canvassed.

Phase 3 - Final damage assessments: Begin planning detailed studies of social and economic impacts to be undertaken in late 2011 and follow-up assessments in 2013 and 2015. These would employ a full-range of surveys (need OMB clearance), in-depth community studies, user surveys, and agency and non-agency economic data. The follow-up assessments would track adaptation and recovery in the fishing industries and the communities that support them.

Project Output

This project will produce

- A qualitative data report presenting a preliminary social and economic impact assessment
- A plan for two detailed follow up social and economic impacts to be conducted in 2011, 2013, and 2015, including design of a survey instrument, submission for OMB PRA clearance, and site visits to a sample of affected fishing communities.

- Extensive qualitative and quantitative social and economic datasets

Budgets for Proposed Projects

Project 1: Assessment of changes in the economic performance and economic impacts of Gulf of Mexico commercial fisheries		
OBJECT CLASS	Specifics on Budget Estimate	Amounts
Labor		\$0
Contract	An outside contractor will be hired to gather the data and conduct the analyses.	\$390,000
Travel	Travel will be needed to meet with contractors and other tasks in the Gulf.	\$10,000
Supplies		\$0
Equipment		\$0
Rental		\$0
Other		\$0
		\$400,000

Project 2: Assessment of changes in the economic value and economic impacts of Gulf of Mexico recreational fisheries		
OBJECT CLASS	Specifics on Budget Estimate	Amounts
Labor		\$0
Contract	An outside contractor will be hired to gather the data and conduct the analyses.	\$290,000
Travel	Travel will be needed to meet with contractors and other tasks in the Gulf.	\$10,000
Supplies		\$0
Equipment		\$0
Rental		\$0
Other		\$0
		\$300,000

Project 3: Assessment of the effects of the Deepwater Horizon oil spill on consumer perceptions and market demand for seafood from the Gulf of Mexico		
OBJECT CLASS	Specifics on Budget Estimate	Amounts
Labor		
Contract	An outside contractor will be hired to gather the data and conduct the analyses.	\$400,000
Travel	Travel will be needed to meet with contractors and other tasks in the Gulf.	\$10,000
Supplies		
Equipment		\$0
Rental		\$0
Other		\$0
		\$410,000

Project 4: Assessment of the economic effects of the Deepwater Horizon oil spill the on the non-use value of marine resources in the Gulf of Mexico		
OBJECT CLASS	Specifics on Budget Estimate	Amounts
Labor		\$0
Contract	An outside contractor will be hired to gather the data and conduct the analyses.	\$750,000
Travel	Travel will be needed to meet with contractors and other tasks in the Gulf.	\$50,000
Supplies		\$0
Equipment		\$0
Rental		\$0
Other		\$0
		\$800,000

Project 5: Social and Economic Impact Analysis (SEIA) of Deep Horizon Oil Spill Incident in the Gulf of Mexico (GOM)		
OBJECT CLASS	Specifics on Budget Estimate	Amounts
Contract	Conduct Phase 1 & 2 SIEAs data collections; build relevant databases; analyze data; write preliminary and final reports of assessment; begin planning for Phase 3 Final Assessments in 2011 & 2015.	\$800,000
Travel	NMFS HQ/ST5, SF, SEFSC, & SERO staff fieldsite travel to affected areas, and for workshop to plan Phase 3 Final SIEAs. 20 trips @ \$2K per trip, divided among the FMCs with at least one person per FMC participating	\$40,000
Supplies		\$0
Equipment		\$0
Rental		\$0
Other		\$0
		\$840,000

Ongoing and Future Economic Data Collection Programs in the Gulf of Mexico (GSMFC)

- *Inshore Shrimp Fleet Economic Survey (2009 & 2012)*
 - Collecting economic data throughout the Gulf to determine the economic performance and the economic impact of the inshore shrimp fleet to the local and regional economy.
- *Fishing Related Businesses Economic Survey (2010-2011)*
 - Collecting economic data throughout the Gulf to assess the economic performance and contributions of fishing-related shoreside firms to local and regional economies, and to evaluate the potential economic impacts on these firms from fishery management actions.
- *Marine Angler Recreational Fishery Economic Survey (2011)*
 - Assessing the size of the marine recreational fishing industry throughout the Gulf in terms of saltwater anglers' expenditures' from fishing trips and further understanding how these expenditures translate into jobs and sales for local and regional economies.
- *Marine Recreational Use Economic Survey (2011)*
 - Collecting data to better understand regional level estimates of participation, effort, and expenditures related to ocean recreation activities, with the primary focus on non-consumptive ocean uses. These ocean recreation activities include scenic/landscape viewing, wildlife watching, kayaking, scuba diving, and boating.

Prior NMFS economic data collection programs for Southeast and Gulf of Mexico commercial fisheries

Data Collection	Ecosystem	Fishery Management Plan	Areal Extent (Qualitative)	Data Holdings	Data Collected
Southeast Logbook Program: Economic Addition	Gulf of Mexico; South Atlantic	Snapper Grouper; Dolphin Wahoo; Reef Fish; Coastal Pelagics;	Texas; Louisiana; Mississippi; Alabama; Florida; Georgia; South Carolina; North Carolina	2002-Ongoing	Operating Expenses; Vessel ID
Southeast Logbook Program: Annual Economic Survey	Gulf of Mexico; South Atlantic	Snapper Grouper; Dolphin Wahoo; Reef Fish; Coastal Pelagics;	Texas; Louisiana; Mississippi; Alabama; Florida; Georgia; South Carolina; North Carolina	2002-Ongoing	Annual and Fixed Costs; Revenue; Vessel ID
Gulf Shrimp Vessel and Gear Characterization Form	Gulf of Mexico;	Shrimp	Texas; Louisiana; Mississippi; Alabama; Florida	2007 - ongoing	Vessel ID; Vessel Characteristics;
Gulf of Mexico (Offshore) Shrimp Economic Survey	Gulf of Mexico	Shrimp	Texas; Louisiana; Mississippi; Alabama; Florida	2006-ongoing	Operating Expenses; Annual and Fixed Costs; Revenue; Vessel Characteristics; Vessel ID; Owner Characteristics; Owner ID

Prior NMFS economic data collection programs for Southeast and Gulf of Mexico commercial fisheries

Data Collection	Ecosystem	Fishery Management Plan	Areal Extent (Qualitative)	Data Holdings	Data Collected
Gulf of Mexico Inshore Shrimp Economic Survey	Gulf of Mexico	State waters	Texas; Louisiana; Mississippi; Alabama; Florida	2008	Operating Expenses; Annual and Fixed Costs; Revenue; Vessel Characteristics; Vessel ID; Owner Characteristics; Owner ID
West Florida Stone Crab & Miami-Dade Lobster Fishermen Economic Survey	Gulf of Mexico; South Atlantic	Stone Crab	West Florida; Miami-Dade County	2006	Operating Expenses; Annual and Fixed Costs; Revenue; Vessel Characteristics; Vessel ID; Owner Characteristics; Owner ID
Highly Migratory Species Logbook Program: Economic Add-on	Gulf of Mexico; South Atlantic; North Atlantic	Consolidated Highly Migratory Species	Texas; Louisiana; Mississippi; Alabama; Florida; Georgia; South Carolina; North Carolina; Virginia; Maryland; Delaware; New Jersey; New York; Connecticut; Rhode Island; Massachusetts; New Hampshire; Maine	1996-Ongoing	Operating Expenses; Revenue; Employment; Vessel ID

Prior NMFS economic data collection programs for Southeast and Gulf of Mexico commercial fisheries

Data Collection	Ecosystem	Fishery Management Plan	Areal Extent (Qualitative)	Data Holdings	Data Collected
Highly Migratory Species Annual Economic Survey	Gulf of Mexico; South Atlantic; North Atlantic	Consolidated Highly Migratory Species	Texas; Louisiana; Mississippi; Alabama; Florida; Georgia; South Carolina; North Carolina; Virginia; Maryland; Delaware; New Jersey; New York; Connecticut; Rhode Island; Massachusetts; New Hampshire; Maine	2002-Ongoing	Annual and Fixed Costs; Vessel ID

Prior Recreation Economic Surveys for the Southeast and Gulf of Mexico

Data Collection	Ecosystem	Areal Extent (Qualitative)	Data Holdings	Observational Requirement
Nationwide				
National Saltwater Angler Expenditure Survey	All	All Coastal States	2006; 2011 partially funded (planning & drafting of survey instruments has been initiated)	Trip Expenses; Annual and Other durable Expenditures; Trip Characteristics; Individual Characteristics; some stated preference questions in HI
Southeast				
Southeast Saltwater Angler Expenditure Survey	South Atlantic	Florida; Georgia; South Carolina; North Carolina; Louisiana, Mississippi, Alabama	1999	Trip Expenses; Annual and Other durable Expenditures; Trip Characteristics; Individual Characteristics;
Southeast Saltwater Angler Revealed Preference Valuation Survey	South Atlantic	Florida; Georgia; South Carolina; North Carolina; Louisiana, Mississippi, Alabama	1997; 1999; 2003	Trip Characteristics; Individual Characteristics;
Southeast Saltwater Angler Stated Preference Survey of Management Options	South Atlantic	Florida; Georgia; South Carolina; North Carolina; Louisiana, Mississippi, Alabama	2003	Trip Characteristics, Trip Expenditures, Individual Characteristics, Stated Preference Data
Southeast Saltwater Angler Stated Preference Survey of Management Options	South Atlantic	Florida; Georgia; South Carolina; North Carolina	2009	Individual Characteristics, Stated Preference Data

Non-market valuation survey results for protected species in Southeast and Gulf of Mexico

Species	Data Type	Data use and restrictions	Data collection program and year
Nationwide			
Smalltooth sawfish	Stated preference data to estimate economic (non-market) value of recovery	Use in economic analyses; data are in 2009\$; data collected at national level and may not be able to estimate separate values for specific regions, depending on data adequacy; typically stated preference data are not collected on an annual or systematic basis unless there is evidence to suggest temporal instability of preferences	National Level Threatened and Endangered Species Valuation Study - 2009 (completed)
Loggerhead sea turtle	same as above	same as above	same as above
Leatherback sea turtle	same as above	same as above	same as above
Hawksbill sea turtle	same as above	Use in economic analyses; data are in 2010\$; data collected at national level and may not be able to estimate separate values for specific regions, depending on data adequacy; typically stated preference data are not collected on an annual or systematic basis unless there is evidence to suggest temporal instability of preferences	National Level Threatened and Endangered Species Valuation Study - 2010 (underway)
Johnson's sea grass	same as above	same as above	same as above
Elkhorn coral	same as above	same as above	same as above

Social Impact Assessment Projects in the Southeast and Gulf of Mexico

Title	Recipient	Program Office	Project PIs/PDs	Award Period
Assessment of the Impacts of the Oculina Bank Marine Protected Area and In-Depth Ethnographic Profile of the Fort Pierce, Florida Fishing Community	Gulf and South Atlantic Fisheries Foundation, Inc.	Southeast Region Program Office	Francis Helies, Judy Jamison	08/01/2009 - 07/31/2011
Development of Social Indicators for Fishing Communities of the Southeast: Measures of dependence, vulnerability, resilience and gentrification	Gulf and South Atlantic Fisheries Foundation, Inc.	Southeast Region Program Office	Francis Helies, Judy Jamison	06/01/2008 - 08/29/2010
Social Impacts of the Allocation/Reallocation of Marine Fisheries Resources on Communities in the Gulf of Mexico and South Atlantic: Development of an Empirical Predictive Model	Gulf and South Atlantic Fisheries Foundation, Inc	Southeast Region Program Office	Francis Helies, Judy Jamison	07/01/2008 - 06/30/2011
Comparative Ethnography in the Development of Impact Assessment Methodologies: Profiling Two South Carolina Fishing Communities	Gulf and South Atlantic Fisheries Foundation, Inc	Southeast Region Program Office	Francis Helies, Judy Jamison	07/01/2008 - 06/30/2010