

**SUPPORTING STATEMENT  
SOCIAL CAPTIAL SURVEY OF NORTHEAST GROUND FISH FISHERY SECTOR  
PARTICIPANTS  
OMB CONTROL NO. 0648-XXXX**

**INTRODUCTION**

This request is for a new information collection.

**A. JUSTIFICATION**

**1. Explain the circumstances that make the collection of information necessary.**

Catch share systems are being encouraged and considered in a variety of United States (U.S.) fisheries. Scientists, policy makers, and stakeholders (including fishermen and non-governmental environmental organizations) have different views about potential social and economic impacts and outcomes of these output-oriented systems. Thus, establishing baselines for trend analysis and identifying and evaluating impacts over time is essential to assess and improve such systems and determine whether intended outcomes are realized. The largest-ever catch share program (in terms of number of permits) was implemented in the groundfish fishery in the Northeast Region on May 1, 2010. This system includes decentralizing the management of groundfish quota to groups of fishermen called sectors. This management system is distinctly different from past approaches in a variety of ways. In particular, it relies heavily on the ability of groups, rather than individual permit holders, to work together (and in collaboration with councils and other fisheries managers) to manage the resource.

The success of the Groundfish Sector program is likely to rest in part on the strength of the relationships between permit holders, including their degree of trust and collaboration. We also hypothesize that successful sectors will build norms and networks that enable collective action over time. The value of these relationships is commonly referred to in social and economic literature as social capital.

A Gulf of Maine Research Institute (GMRI) survey of groundfish permit holders in New England in 2009/2010 captured baseline information related to social capital between permit holders and sectors in this fishery. This survey submitted here will implement a subset of questions included in the the GMRI survey focusing on only those groundfish permit holders that are sector members in order to measure how the level of collaboration and cooperation has changed since the implementation of the Sector Catch Share program.

Historically, changes in fisheries management regulations have been shown to impact individuals within the fishery. In promulgating and issuing regulations, NMFS) must determine the relative impacts of different management measures (re. Colburn et al. 2006). Catch shares are currently being highly encouraged as a core strategy to improve the status of fish stocks and habitat, and also the social and economic status of communities and individual fishermen. Several new catch share programs have just been implemented or are about to be implemented in the NMFS Northeast Region.

An understanding of social and economic impacts in fisheries – achieved through the collection of data on fishing communities, and on individuals who fish – is a requirement under multiple federal laws, including the [National Environmental Policy Act of 1969 \(NEPA\) as amended](#) (42 U.S.C. 4371 et seq.), the [Magnuson-Stevens Fishery Conservation and Management Act of 1976 as amended through 2006 \(MSA\)](#), [Executive Order 12898 of February 11, 1994 on Environmental Justice](#) (E.O. 12898) and the [Regulatory Flexibility Act of 1980 as amended by the Small Business Regulatory Enforcement Fairness Act of 1996](#), and subsequently (RFA). The collection of these data, therefore, not only complies with legal requirements for existing management actions, but will inform future management actions requiring equivalent information.

### **National Environmental Policy Act of 1969 (NEPA)**

NEPA requires federal agencies to consider the interactions of natural and human environments, and the impacts on both systems of any changes due to governmental activities or policies. This consideration is to be done through the use of ‘...a systematic, interdisciplinary approach that will insure the integrated use of the natural and social sciences...in planning and decision-making which may have an impact on man’s environment;’ (NEPA Section 102 (2) (A)). Under NEPA, an Environmental Impact Statement (EIS) or Environmental Assessment (EA) is required to assess the impacts on the human environment of any federal activity. NEPA specifies that “the term ‘human environment’ shall be interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment” (Council on Environmental Quality NEPA Implementing Regulations 40 CFR 1508.14).

### **Executive Order 12898 of 1994 (EO)**

E.O. 12898 requires federal agencies to consider the impacts of any action on disadvantaged, at risk and minority populations. To evaluate these impacts, information about the vulnerability of certain stakeholders must be better understood. Indicators of vulnerability can include but are not limited to income, race/ethnicity, household structure, education levels and age. Although some general information related to this issue is available through census and other quantitative data, these sources do not disaggregate those individuals or groups that are affected by changes in marine resource management or the quality of the resource itself. Therefore, other types of data collection tools must be utilized to gather information related to this executive order.

### **Regulatory Flexibility Act of 1980 (RFA)**

The RFA requires federal agencies to prepare an initial and final regulatory flexibility analysis which ‘...shall describe the impact of the proposed rule on small entities...’. The initial regulatory flexibility analysis ‘...shall also contain a description of any significant alternatives to the proposed rule which accomplish the stated objectives of applicable statutes and which minimize any significant economic impact of the proposed rule on small entities. [Section 603 (b)(5)(c)]. In addition, each final regulatory flexibility analysis shall contain ‘...a description of the steps the agency has taken to minimize the significant economic impact on small entities...’ [Section 604 (a)(5)]. Fishing vessels in the Northeast are predominantly categorized as small entities. Individual crewmembers are also considered to be small businesses in their status as sole proprietors.

### **Magnuson-Stevens Fishery Conservation and Management Act (MSA)**

Under the MSA there are a variety of requirements related to social, cultural and economic issues for fishermen and their communities. National Standard 8 (section 301(8)), for instance, requires

that: "Conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities. Section 303(b)(6) on limited entry requires examination of "(A) present participation in the fishery, (B) historical fishing practices in, and dependence on, the fishery, (C) the economics of the fishery, (D) the capability of fishing vessels used in the fishery to engage in other fisheries, (E) the cultural and social framework relevant to the fishery and any affected fishing communities, and (F) any other relevant considerations." Section 303(a)(9) on preparation of Fishery Impact Statements notes they "shall assess, specify, and describe the likely effects, if any, of the conservation and management measures on: (A) participants in the fisheries and fishing communities affected by the plan or amendment; and (B) participants in the fisheries conducted in adjacent areas under the authority of another Council, after consultation with such Council and representatives of those participants."

## **CONTEXT FOR PROPOSED RESEARCH**

Amendment 16 to the Northeast Multispecies Fishery Management Plan dramatically changed the structure and dynamics of the New England groundfish (GF) industry. Catch quotas comprising over 95% of total commercial groundfish quotas were granted to seventeen groups of fishermen that formed self-selecting harvest cooperatives referred to as "sectors". Sectors are managed by a designated 'sector manager' a non-permit-holder who acts as a boundary agent between sectors and the federal governments' fisheries management institution (National Marine Fisheries Service). Sector managers also coordinate the development of sector operations plans, and manage quota trades among other critical duties.

Each year each sector is granted a share, denominated in pounds, of the total annual catch limit (ACL) of up to sixteen different groundfish stocks. These species and stock specific catch limits are referred to as annual catch entitlement (ACE)<sup>1</sup>. Sectors must constrain their catches (including discards) of all regulated groundfish species to their ACE allocations, but they are exempted from effort controls and trip limits that had been the primary means of constraining catch. Sectors have substantial flexibility in how they manage their allocations to meet their own goals including but not limited to financial viability. However, in the 2010-2011 fishing year, most sectors chose to divide their ACE into individual allocations based on the catch history each permit brought to the sector which, in sum, determines the allocation to the sector. Sector members could then fish their allocations or trade them with other sector members (Holland and Wiersma 2010). Trades of ACE between sectors are also allowed but must be approved by sector managers and regulators.

These new arrangements represent a significant departure from past management systems. The prior system did not require collaboration amongst fishermen or joint accountability nor did it

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<sup>1</sup> The New England Fisheries Management Council (NEFMC) voted via Amendment 16 to allocate the 16 stock ground fish fishery using a formula based on the total catch history between the years of 1996-2006. Using these baseline years, each fishing permit was assigned a Potential Sector Contribution (PSC), which is a percent share of the total fishing history between these baseline years. As long as the fishing permit is enrolled in a sector, this PSC may be converted to sector ACE, which is then re-distributed back to the sector member as a quasi-catch entitlement.

strictly limit total catch of any particular species, relying instead on indirect measures designed to achieve target fishing mortalities. All sector members now must abide by a legally binding operations plan, and sector members are jointly and severally liable for maintaining catches below their allocations and abiding by other fishing regulations such as area closures and reporting requirements. Although sector contracts all specify penalties for members that break sector rules, sectors have limited ability to monitor and enforce compliance by their members and thus are somewhat reliant on moral suasion and reciprocal trust amongst members. Economic performance of sectors and their members may also be improved by cooperation and information sharing within and amongst sectors. Sharing information about where fish are and trading ACE, internally amongst sector members and between sectors, can boost efficiency by increasing catch per unit effort and reallocating ACE to the most efficient vessels. Sharing information about how to avoid catching certain species with low total quotas may be particularly important to minimize the degree to which quotas of these species constrain catch of others for which ACE allocations are not limiting.

New England lobstermen are well known for their long-standing co-management institutions (Acheson, 2003). Conversely, the ability of groundfishermen, known for their fierce independence, to create similar co-management structures to manage the groundfish fishery was questionable (Wilson et al, 2007). Improved collaboration and coordination among fishermen in the region was occurring prior to the implementation of sectors (Pinto da Silva & Kitts, 2006). However, the challenges involved in organizing and building the necessary institutions to support the sector program were generally new and represented a tremendous learning curve for participants. An added challenge to permit holders was the need to create these organizations and institutions in less than a year due to the start of the new regulations and the new fishing year. If they wanted to participate in a sector they had to mobilize quickly.

When sectors formed, the common denominator for each group of permit holders was unclear. What, if anything, were they bonded by? Was it their geographic location? Gear type? Sense of shared goal or purpose? Would existing bonds be an essential foundation for these new business relationships? Most sectors formed without a history of prior collaboration.

Given the critical role of collaborative behavior in the creation and operation of sectors, we hypothesize that the economic success of sectors and long term sustainability of group membership is likely to be determined in part by the strength of the relationships between permit holders within sectors, among sectors, and among sectors and government agencies and non-governmental organizations. This includes the depth and breadth of relationships and the degree of trust, collaboration and information sharing. The value of these relationships, networks and public participation is commonly referred to in social and economic literature as social capital (Putnam 2000).

In the recent literature, two primary forms of social capital have come to be called “bonding” and “bridging” social capital (Gittel and Vidal, 1998). Bonding social capital denotes “strong” ties between people in similar situations, such as immediate family, close friends and neighbors. Putnam (2000) defines “bonding” social capital as exclusive, or inward-looking, which has a tendency to reinforce exclusive identities and homogenous groups. Bonding social capital constitutes a kind of “sociological superglue” (Putnam 2000). It facilitates cooperation based on relationships within a homogeneous group (Woolcock and Sweetser 2002).



Bridging social capital, in contrast, encompasses more distant “weak” ties of like persons, such as loose friendships and workmates (Granovetter 1973). Bridging social capital refers to connections to people who are not like you in some demographic sense (Woolcock and Sweetser 2002). It tends to bring together people across diverse social divisions (Field 2003). Putnam (2000) defines “bridging” social capital as inclusive. Bridging social capital may be more outward-looking. If “bonding” social capital is super-glue that holds same communities together, “bridging” social capital may be thought of as a type of “sociological lubricant” (Putnam 2000) that brings different communities together. Bridging social capital enhances access to and exchange of information, enforcement of contracts, and focusing on a shared vision and collective goals (Nahapiet and Goshal 1998) and can provide a critical mechanism for the diffusion of knowledge and innovation (Grafton et al. 2004).

Another dimension of social capital is one that extends past the relationships and trust of people in like situations or roles to include relationships with individual and institutions outside one’s peer group, often in positions of influence or power. These relationships, referred to as “linking social capital” may be thought of as vertical ties. Woolcock (2001) defines linking social capital as reaching out to unlike people in dissimilar situations, such as those who are entirely outside of the community, thus enabling members to leverage a far wider range of resources than are available in the community. Linking social capital also includes vertical connections to formal institutions. According to Woolcock and Sweetser, (2002), “linking social capital pertains to connections with people in power, whether they are in politically or financially influential positions.”

In the context of sectors, bonding social capital might take the form of permit holders who are also brothers or cousins or neighbors of the same ethnic background forming a sector. Bridging social capital could be a sector formed with a broad range of vessel sizes and geographic range but committed to the same purpose. Linking would be the strength of the relationship between sector groups and regulatory bodies (See Figure 1).

Increasingly, it has been argued that the level of social capital endowed to different communities matters in the management of collective resources as they provide structure and foster trust and norms of reciprocity for cooperation and coordinated actions (Uphoff 2000; Pretty 2003). The existence of community social capital, which is often defined as trust, norms and networks facilitating cooperation and collective action (Putnam 1993), plays a vital role in determining success or failure of collective action. Knack and Keefer (1993) find that trust and civic cooperation are associated with stronger economic performance at a societal level. As Grafton (2005) explains, greater social capital can improve fishery management and governance leading to better compliance and lower management costs, higher economic returns and improved sustainability. Social capital is particularly relevant in co-management systems which rely on co-operative behavior among fishers, and between fishers and regulators and government agencies (Jentoft et al. 1998). Social capital enhances ability to resolve conflicts, information sharing and devolution of responsibilities from regulators to fishermen leading to improved resource management (Adams et al. 2003, Pretty 2003).

Prior to the implementation of the new sector system the Gulf of Maine Research Institute conducted a telephone survey of northeast commercial multispecies GF permit holders to derive baseline measures of social capital. All members of each groundfish sector were contacted as

well as a sample of permit holders that did not join a sector and remained in a common pool fishery.

**2. Explain how, by whom, how frequently, and for what purpose the information will be used. If the information collected will be disseminated to the public or used to support information that will be disseminated to the public, then explain how the collection complies with all applicable Information Quality Guidelines.**

Information sought will be of practical use, as NMFS social scientists will utilize the information for descriptive and analytical purposes. In addition, knowledge gained via the results of this survey could help to refine the current sector program or better design future such programs in the region or beyond. Findings will be made available to the New England and Mid-Atlantic Fishery Management Councils and the public.

The survey form is organized to ease the collection of the data by clearly identifying the types of data being collected, through the use of topical transitions between areas of inquiry. The survey starts by collecting basic information related to the relationship between the permit holder and the fishing community that they most closely identify with. It then moves towards exploring the relationship between the permit holder and fishing organizations. Finally the relationships among permit holders are explored as well as specific questions related to how they manage their businesses and their participation in the fisheries management process.

This information is related to specifics of how the fishing industry operates and can then be utilized to better understand impacts on individuals if regulatory actions change how, when or where fishing may occur.

NOAA's National Marine Fisheries Service will retain control over the information and safeguard it from improper access, modification, and destruction, consistent with NOAA standards for confidentiality, privacy, and electronic information. The information collection is designed in accordance with NOAA Information Quality Guidelines. Prior to dissemination, the information will be subjected to quality control measures and a pre-dissemination review pursuant to [Section 515 of Public Law 106-554](#).

**3. Describe whether, and to what extent, the collection of information involves the use of automated, electronic, mechanical, or other technological techniques or other forms of information technology.**

The initial survey was conducted by phone by the Gulf of Maine Research Institute. This method proved to have a good response rate (62% for sector member respondents) and to maintain consistency and comparability of the results, we also intend to implement this survey by telephone.

**4. Describe efforts to identify duplication.**

NOAA Fisheries social scientists and contractors work closely with regional academics, community-based organizations, industry groups and other parties interested in this type of information. We are aware of the current research activities of key government and academic research institutions that gather fisheries information in the Northeast, including the New

England Fishery Management Council, the Mid-Atlantic Fishery Management Council, the Atlantic States Marine Fisheries Commission, the University of Rhode Island, the Massachusetts Institute of Technology (MIT) Sea Grant Program, the University of New Hampshire, the University of Maine, the Gulf of Maine Research Institute, the University of Massachusetts, the Rutgers University, and the Virginia Institute of Marine Science. Additionally, we are building on a baseline data collection effort by the Gulf of Maine Research Institute in order to measure changes in this fishery.

Further, we have conducted a thorough literature review of related studies in the Northeast and elsewhere to assure there is no duplication with current activities.

**5. If the collection of information involves small businesses or other small entities, describe the methods used to minimize burden.**

This request includes the collection of data on individuals and those who may be linked to or represent small businesses. Prior to contacting these respondents, researchers will gather any publicly available answers to the questions. Only those questions that cannot be reliably answered through this manner, and may change with perspective of the respondent, will be asked. In addition, participation in data collection will be voluntary.

**6. Describe the consequences to the Federal program or policy activities if the collection is not conducted or is conducted less frequently.**

Not collecting this information will mean the loss of vital information needed to evaluate the impacts of introducing catch share programs in the Northeast. In the absence of current information, NOAA Fisheries and Regional Councils will be unable to adequately understand and predict the potential impacts of policy decisions on permit holders. They will also not have the information they need to best design future such initiatives or to adapt the current program to maximize results. Loss of a reapplication of this baseline survey will make it impossible to fully evaluate the impacts as required under NEPA and the MSA (see response to Question 1).

Therefore not collecting this information may lead to incomplete representation of the science and information. This could impact the decision making process and negatively impact the individuals and communities subject to the decisions.

**7. Explain any special circumstances that require the collection to be conducted in a manner inconsistent with OMB guidelines.**

Not Applicable.



**8. Provide information on the PRA Federal Register Notice that solicited public comments on the information collection prior to this submission. Summarize the public comments received in response to that notice and describe the actions taken by the agency in response to those comments. Describe the efforts to consult with persons outside the agency to obtain their views on the availability of data, frequency of collection, the clarity of instructions and recordkeeping, disclosure, or reporting format (if any), and on the data elements to be recorded, disclosed, or reported.**

A Federal Register Notice was published on September 17, 2012 (77 FR 57074), soliciting public comment on this information collection. No comments were received.

The survey designed and implemented by the Gulf of Maine Research Institute benefited from the input of an economist (Dr. Josh Weirsma) who is also a sector manager who works closely with groundfish sector participants and is also aware of the academic research underlying the concept of social capital. This survey was also tested prior to implementation by Market Decisions.

**9. Explain any decisions to provide payments or gifts to respondents, other than remuneration of contractors or grantees.**

No payments or gifts will be provided to respondents.

**10. Describe any assurance of confidentiality provided to respondents and the basis for assurance in statute, regulation, or agency policy.**

As stated on the form, information collected is confidential under Section 402(b) of the Magnuson-Stevens Act and under [NOAA Administrative Order \(AO\) 216-100, Confidentiality of Fisheries Statistics](#), which sets forth procedures to protect confidentiality of fishery statistics.

**11. Provide additional justification for any questions of a sensitive nature, such as sexual behavior and attitudes, religious beliefs, and other matters that are commonly considered private.**

No sensitive questions will be asked.

**12. Provide an estimate in hours of the burden of the collection of information.**

The study involves telephone surveys with approximately 244 individuals and an estimated approximate response rate of 62%. The time to complete the survey per respondent is estimated at 20 minutes, for a total survey burden of 50 hours.

In addition to this implementation in Spring 2013, we would like to implement this survey again prior to 2018.

| Description | Targeted No. of | No. of Responses | Time to complete the | Estimated Burden | Labor Cost in \$25 in |
|-------------|-----------------|------------------|----------------------|------------------|-----------------------|
|-------------|-----------------|------------------|----------------------|------------------|-----------------------|

|                     | Respondents | based on a 62% response rate | survey     | Hours | Public per Burden Hour |
|---------------------|-------------|------------------------------|------------|-------|------------------------|
| <b>Total burden</b> | 244         | 151                          | 20 minutes | 50    | \$1,250                |

**13. Provide an estimate of the total annual cost burden to the respondents or record-keepers resulting from the collection (excluding the value of the burden hours in Question 12 above).**

No additional cost to the public other than labor cost is expected.

**14. Provide estimates of annualized cost to the Federal government.**

Total estimated annual cost to the federal government is \$48,300. The survey will be conducted by the contractor. Survey design, data collection and processing, and report development will be conducted by NOAA federal employees. Staff time would be 200 hours at \$60 per hour or \$12,000 total.

**FY2012 Budget**

| Description                   |                 |
|-------------------------------|-----------------|
| Survey Company                | \$35,000        |
| Printing                      | \$100           |
| Supplies                      | \$1,200         |
| Staff 200 hrs @ \$60 per hour | \$12,000        |
| <b>Total</b>                  | <b>\$48,300</b> |

**15. Explain the reasons for any program changes or adjustments.**

This is a new collection.

**16. For collections whose results will be published, outline the plans for tabulation and publication.**

Survey numerical and textual information will be a product of this study. Textual information will be numerically coded and analyzed. Survey data will be analyzed using standard social science quantitative data analysis methods. Where possible and relevant, final reports and other relevant portions of the research process will be posted on <http://www.nefsc.noaa.gov>. Where relevant, studies in their entirety will be published as internal reports and in part will be submitted for publication in peer-reviewed journals to encourage additional analysis and review of data collected through this process, as well as to disseminate findings.

**Timeline**  
**Month**

|  |
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|  |
|--|

|                           | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---------------------------|---|---|---|---|---|---|---|---|---|----|----|----|
| <b>ACTIVITY</b>           |   |   |   |   |   |   |   |   |   |    |    |    |
| <b>Implement Survey</b>   | X | X | X |   |   |   |   |   |   |    |    |    |
| <b>Data Analyses</b>      |   |   |   |   | X | X | X | X |   |    |    |    |
| <b>Report Preparation</b> |   |   |   |   |   |   |   |   | X | X  | X  |    |
| <b>Final Report</b>       |   |   |   |   |   |   |   |   |   |    |    | X  |

**17. If seeking approval to not display the expiration date for OMB approval of the information collection, explain the reasons why display would be inappropriate.**

Not Applicable.

**18. Explain each exception to the certification statement.**

Not Applicable.