



NOAA Technical Memorandum NMFS-NE-164

**An Overview
of the Social and Economic Survey
Administered during Round II
of the Northeast Multispecies Fishery
Disaster Assistance Program**

**U. S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Northeast Region
Northeast Fisheries Science Center
Woods Hole, Massachusetts**

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An Overview of the Social and Economic Survey Administered during Round II of the Northeast Multispecies Fishery Disaster Assistance Program

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^aRobins, C.R. (chair); Bailey, R.M.; Bond, C.E.; Brooker, J.R.; Lachner, E.A.; Lea, R.N.; Scott, W.B. 1991. Common and scientific names of fishes from the United States and Canada. 5th ed. *Amer. Fish. Soc. Spec. Publ.* 20; 183 p.

^bTurgeon, D.D. (chair); Quinn, J.F., Jr.; Bogan, A.E.; Coan, E.V.; Hochberg, F.G.; Lyons, W.G.; Mikkelsen, P.M.; Neves, R.J.; Roper, C.F.E.; Rosenberg, G.; Roth, B.; Scheltema, A.; Thompson, F.G.; Vecchione, M.; Williams, J.D. 1998. Common and scientific names of aquatic invertebrates from the United States and Canada: mollusks. 2nd ed. *Amer. Fish. Soc. Spec. Publ.* 26; 526 p.

^cWilliams, A.B. (chair); Abele, L.G.; Felder, D.L.; Hobbs, H.H., Jr.; Manning, R.B.; McLaughlin, P.A.; Pérez Farfante, I. 1989. Common and scientific names of aquatic invertebrates from the United States and Canada: decapod crustaceans. *Amer. Fish. Soc. Spec. Publ.* 17; 77 p.

^dRice, D.W. 1998. Marine mammals of the world: systematics and distribution. *Soc. Mar. Mammal. Spec. Publ.* 4; 231 p.

^eCooper, J.A.; Chapleau, F. 1998. Monophyly and interrelationships of the family Pleuronectidae (Pleuronectiformes), with a revised classification. *Fish. Bull. (U.S.)* 96:686-726.

^fMcEachran, J.D.; Dunn, K.A. 1998. Phylogenetic analysis of skates, a morphologically conservative clade of elasmobranchs (Chondrichthyes: Rajidae). *Copeia* 1998(2):271-290.

^gISO [International Organization for Standardization]. 1981. ISO standards handbook 3: statistical methods. 2nd ed. Geneva, Switzerland: ISO; 449 p.

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Acronyms

DAS	=	days at sea
GRT	=	gross registered tons
NMFS	=	National Marine Fisheries Service
NOAA	=	National Oceanic and Atmospheric Administration
TAC	=	total allowable catch
VHP	=	vessel horsepower

ABSTRACT

This paper characterizes and summarizes responses to selected questions from the Social and Economic Survey administered in spring and summer 2000 to recipients of the second round (Round II) of financial assistance in the Northeast (Gulf of Maine) Multispecies Fishery Disaster Assistance Program. The paper indicates how these fishermen conduct their livelihood, the beliefs they have about fishing, and the social communities in which they live, and points to further research needs generated by the initial survey results. Both permit holders (vessel owners) and crew members participated in the survey which covered six broad themes: households and communities, expenditure impacts, business practices, management and enforcement, capacity and the future, and fishing family assistance. Survey results, while summarized across all respondents, illustrate both the degree of similarity and diversity within the fleet. While some survey results corroborate accepted arguments in the social sciences of fishing, others point to possible qualifications, especially notions of the “local,” and of community. For many respondents, visions of the future seemed to center on notions of community and community relations as alternative spaces for institutional foundations, with promising implications for future management.

INTRODUCTION

Congress appropriated five million dollars to the National Oceanic and Atmospheric Administration (NOAA) in late 1998 to provide emergency disaster assistance to persons or entities in the Northeast multispecies fishery who incurred losses from a commercial fishery failure due to declining groundfish stocks. (The Northeast multispecies fishery covers 15 species occurring between Maine and North Carolina: Acadian redfish, American plaice, Atlantic cod, Atlantic halibut, haddock, ocean pout, offshore hake, pollock, red hake, silver hake, white hake, windowpane, winter flounder, witch flounder, and yellowtail flounder.) The initial round of disaster assistance, initiated in October 1999, was directed towards groundfish fishermen most affected by seasonal area closures enacted in 1999 in the Gulf of Maine. Although about 200 individual permit holders (vessel owners) in the fishery received an average of about \$12,500 each, the first round of disaster assistance did not exhaust all of the appropriated funds. Therefore, NOAA Fisheries initiated a second round (Round II) of disaster assistance in March 2000. In Round II, eligibility requirements were broadened such that many more people, including both vessel owners and their crew members, became qualified to receive one-time payments of up to \$7,500 per owner and up to \$1,500 per crew member. In return for receiving compensation, participants agreed to make their vessel available for cooperative research projects and/or to respond to a survey that would provide social and economic information for fisheries management.

The Social and Economic Survey that resulted from this initiative covered six broad areas of interest to policy-makers, researchers, and stakeholders: households and communities, expenditure impacts, business practices, management and enforcement, capacity and the future, and fishing family assistance (Appendices I and II). The survey questions solicited specific information, as well as feedback for improving future surveys. Owners received surveys in March 2000, and had until the middle of the following month to complete their survey; crew received surveys in May 2000, and were given until the end of the following month to complete their survey. Completed surveys from 286 owners (holding ownership of 297 vessels) and 181 crew members (representing 135 permitted vessels) were received and processed. The response rate was 78.1% for owners eligible in both rounds, and 75.1% for crew.

This paper looks at trends across all survey respondents in order to provide a general indication of the material available in the survey results. It does not, however, examine the connections within the *set* of responses for any given survey respondent; further study will be needed to examine the configuration of response patterns for individual fishermen in order to better approach the interplay between meaning and practice. The eventual goal to further such study is a database maintained by the Northeast Fisheries Science Center that will be made accessible to

outside researchers, while preserving the anonymity of survey respondents.

RESULTS

INTRODUCTORY SKETCH

The respondents can be characterized as fishermen who predominantly fish using small- to medium-scale boats (over 80% belong to tonnage classes 1 and 2 which include boats under 50 gross registered tons), have multispecies permits in the fleet days-at-sea (DAS) permit category, and fish using bottom trawls or, to a lesser extent, gill nets (Tables 1a, 2a, and 3). Compared to all other vessels with a valid multispecies permit (hereafter the "overall groundfish fleet"), the survey respondents fish with somewhat older and less powerful vessels (in terms of vessel horsepower and gross registered tonnage); yet, the distribution of size classes in the survey population is less skewed than the overall permitted groundfish fleet (Table 1b). That is to say, both the very small and very large vessels are not represented in the survey population. This difference can be attributed, in part, to the large number of multispecies vessels in the overall groundfish fleet that are permitted in the open-access categories H-K, and that fish primarily with hand gears (Tables 2b and 3).

Most surveyed crew members and owners live in ports along the Gulf of Maine coast (Figures 1 and 2), while the distribution of homeports for all vessels in the overall groundfish fleet implies a much wider distribution of residences, though it should be noted that the vessel homeport represents the mooring location of a vessel and cannot be taken as synonymous with residence for all fishermen (Figure 3). Moreover, because the survey was administered to people eligible for disaster relief from specific area closures, the results cannot necessarily be generalized to all fishermen in the Northeast.

Yet, while the profile of the average survey respondent may not match all of the characteristics of the average owner or crew member in the overall groundfish fleet, survey respondents seem to resemble more closely – in terms of the actual landings of groundfish – the region's active core of medium-sized, limited-access, groundfish fishermen. The 1999 landings of large-mesh groundfish were largely brought in by bottom trawl and gillnet vessels that fished in the individual and fleet DAS permit categories, and that were homeported in New England (Table 4), which is in large measure similar to characteristics of the survey respondents. Nonetheless, whatever the uniqueness or representativeness of the group which qualified for disaster assistance (Table 5), the survey responses provide a glimpse into how the members of that group conduct their livelihood, into the beliefs they have about fishing, and into the social communities in which they live.

HOUSEHOLDS AND COMMUNITIES

Respondents were typically long-time fishermen, with owners averaging 28 yr on the water and crew averaging 18 yr (Table 6), with an analogous difference in average ages (47 and 38 yr old, respectively). While fewer than half of either group claimed a father or grandfather in the industry (Table 6), about 21% of owners and 13% of crew were associated with families having four or more generations in the fishing industry (see Table 15). Owner households were more than twice as likely as crew households to belong to fishing industry organizations (51 and 19%, respectively); nonetheless, the majority of owners and crew felt that those organizations represented fishermen's interests (Table 6). While about half of all respondents had previously worked in nonfishing jobs – with crew somewhat more likely to have done so – both crew and owner households earned, on average, 83-84% of their current income from the fishing industry (Table 6). Many of these households are *fishing households*, in which other family members (primarily spouses, but also children and parents) are involved in various aspects of the business (Table 7).

The majority of fishermen surveyed considered the town in which they live to be a fishing community, though less than half considered their communities *dependent* on fishing (Table 6); this partial disconnect between community and dependence voices multiple notions of what constitutes a fishing community, and speaks to the need to consider “on-the-ground” notions of economic *and* social dependence when assessing communities. The fishermen who considered their communities “fishing communities” most commonly referred to the high number of boats, fishermen, or fishing businesses and infrastructure present (cited by 57% of owners and 41% of crew). Another important factor noted was a long history of ties in the community to the fishing profession (27% of both owners and crew). These percentages should be interpreted with some caution, as many of the same respondents who considered their town a fishing community also said their views had changed over time, voicing concern that their communities were being—or already had been—forced out of fishing. For the respondents who did not regard their port as a fishing community, the most common reasons were: a lack of fishing boats or fishing facilities, including supportive organizations (56% of owners and 58% of crew); living inland and fishing elsewhere (18% of owners and 19% of crew); and regional changes out of fishing due to tourism, development, or regulations (19% of owners and 11% of crew).

Yet, respondents provided more nuanced and sometimes ambiguous explanations about community in further commentary, a better sense of which can be gained from examining responses at a smaller scale (see also Hall-Arber *et. al* (2001) for in-depth regional and port descriptions). While the sense of not being dependent on fishing closely coincided with the sense of being a nonfishing community, this relationship showed regional differences. (With the

exception of Gloucester, Massachusetts, most communities did not have enough respondents for meaningful comparisons to be made, so discussion will be confined to the state level.) Of the 82 owner respondents from Maine, 34 said they did not live in a fishing community, 47 said they did, and 1 responded other. For those who lived in self-declared nonfishing communities, the overwhelming majority (94.1%) also did not consider them dependent on fishing; for those who did live in self-declared fishing communities, just over two-thirds (68.1%) also considered them dependent on fishing. Of the 33 owner respondents from New Hampshire, 21 said they did not live in a fishing community, and 12 said they did. For those who lived in self-declared nonfishing communities, the overwhelming majority (90.5%) also did not consider them dependent on fishing; for those who did live in self-declared fishing communities, only one-fourth (25.0%) also considered them dependent on fishing. Of the 106 owner respondents from Massachusetts, not including Gloucester, 45 said they did not live in a fishing community, 59 said they did, and 2 responded other. For those who lived in self-declared nonfishing communities, the overwhelming majority (95.6%) also did not consider them dependent on fishing; for those who did live in self-declared fishing communities, less than half (44.1%) also considered them dependent on fishing. Owner respondents from Gloucester, Massachusetts, numbered 63, of which 62 considered Gloucester a fishing community and only 1 did not (for whom Gloucester was also not dependent on fishing). For those who called Gloucester a fishing community, nearly all (91.9%) also considered it dependent on fishing.

What lies behind many of these responses is a shifting sense of what constitutes the fishing community itself, especially with respect to the respondents' views about community members who do *not* fish. For example, many of the Maine respondents who considered their ports to be fishing communities but not to be dependent on fishing, reasoned that what made *their* community a fishing community was a large number of fishermen working out of, or living in, the area – particularly if there was a history of such fisheries participation. However, what these Maine respondents regarded as the community *as a whole* was one which was primarily engaged in other activities; here, the notion of a fishing community was more as an enclave within a larger jurisdiction. Those who considered their fishing communities to be dependent on fishing, tended to view other occupations – such as those in the tourism industry or with seafood restaurants – as themselves dependent on fishing. It should be noted that these variations often occurred among respondents claiming the same community. Yet, the survey respondents from Gloucester, in particular, showed a remarkably consistent sense of being a fishing community, focusing on both a history of fishing and a strongly articulated sense of an entire community dependent on and supportive of fishing, in contrast to respondents from other towns who wrote of how the greater community now works against them.

Of course, it is easy to read too much into short survey answers, and understanding the differences and the representations of community lends itself better to ethnographic interviewing. *But the point is not so much that one set of answers is right and the other wrong, but that one's notions of, and mutual commitments to, a community are colored precisely by the variety of relations that constitute and affect community.* As one respondent explained, his community was dependent on fishing because “There are hundreds of families that live on cape year[-]round who make their living from the sea.” He reasoned, nonetheless, that he didn’t live in a fishing community because “The cape is [being] overrun by development. There is a fishing community here, but it[’]s becoming harder to find.”

EXPENDITURE IMPACTS OF FISHING INDUSTRY IN NEW ENGLAND

The Social and Economic Survey solicited data on the flow of fishing costs and expenditures through 13 broad regions: Downeast Maine, Upper Mid-Coast Maine, Lower Mid-Coast Maine, Southern Maine, New Hampshire Coast, Gloucester/North Shore, Boston/South Shore, Cape and Islands, New Bedford Area, Rhode Island, Connecticut Coast, Non-Coastal New England, and Outside New England (Appendices I and II).

Based on all survey respondents, most captains (95.3%) and crew (82.3%) lived in their vessel’s home region, and most vessels also purchased the majority of their fishing and vessel needs in their home region (Table 8). Of these purchases, bait (for those applicable), moorage fees, fuel, and food were more likely acquired in the home region; likewise, crew spent the majority of their income in their home regions as well. Insurance and new gear, on the other hand, were less likely to be acquired in a vessel’s home region. Most respondents did not believe that recent closures or other regulations had significantly changed in which of the 13 regions they made purchases or spent their income; however, some fishermen noted that the level of their purchases had decreased, while others wrote that they were doing business in larger metropolitan areas because of, for example, port changes due to area closures, or because smaller, local businesses had closed.

FISHING BUSINESS PRACTICES

According to the vessel owners surveyed, the most significant changes in fishing business practices due to the past 5 yr of regulations were: “decreased time spent on the water,” “postponed new gear,” “changed fishing location,” “took on less crew,” and “cut back on gear and vessel maintenance” (Table 9). These changes can have many different implications, from financial solvency to community impacts to vessel safety, to mention a few. The following subsections explore these implications further, drawing from

selected questions in this section of the survey (Appendices I and II, Section 3).

Changes in Number and Composition of Crew

The average number of crew members working on the vessels represented in the survey decreased from 2.1 in 1994 to 1.8 in 2000 (see Table 16). The stability and composition of the crew may have also changed, for while almost all (93.4%) of the crew survey respondents said that they were considered a regular crew member of one boat, almost one-third (29.8%) also said that the crew changes during the year. The most common explanations for crew changes were that the boat was not making money (30%) or that there were personal problems between the owner and the crew or within the crew (19%) – neither of which are necessarily unique to the current regulatory climate. Another common explanation for lack of stability was a reduction in available crew “sites” (a term commonly used by fishermen to mean a billet or employment on a vessel) explicitly attributed to area and DAS regulations (21%). Further, while 24% of crew survey respondents saw no change in the type of individuals being drawn to fishing occupations, 38% indicated that crew members overall were getting older (or that few young people were going into the profession), 13% noted that new and different ethnic groups and nationalities were entering those occupations, 12% said that reliable and knowledgeable help was becoming harder to find, and 9% said that the crew was in fact getting younger.

Despite these differences, what many of these responses seemed to share was a concern that fishing was increasingly seen as an unreliable source of income, and that a strong outside economy was both drawing away its core and changing a traditional family and life cycle of crew to owner. To what extent these changes vary regionally, affect already existing differences among ports in the crew-to-owner cycle (see Smith and Peterson 1977), or themselves engender significantly different social relations, bears greater attention in future studies.

Time at Sea

Another possible indication of changing social relations – within the boat, family, and community – can be inferred from practices such as time away at sea. Over half (58.1%) of crew respondents stated that the amount of time they spent away from home had changed compared to 5 yr ago: 44.8% said that time away at sea had increased (primarily due to moving farther offshore, or taking longer trips to find fish), 39.0% said that time away at sea had decreased (primarily due to increasingly stringent regulatory changes such as DAS cuts), and 3.8% said it had both increased and decreased in that they were at sea less often, but when they were gone the trips had become considerably longer. (The remaining 12.4% of respondents gave no answer.)

Vessel Safety

Slightly over half (54.2%) of owners responded that their vessel had needed help either while fishing at sea or in returning to port at least once during the past 5 yr, of which those required help on average 2.9 times (range of 1-32) during the 1995-99 period. The average number of times for vessels needing help in any given year was relatively constant (between 1.4 and 1.6 times a year), although the number of vessels that needed help did vary annually (Table 10). Of those owners who had not required any assistance at sea during this 5-yr period, they still had delayed trips due to mechanical or electrical problems during the last 12 mo of the period, on average 2.5 times (range of 0-52). By contrast, those who had required assistance at sea had a slightly higher number of delayed trips during the last 12 mo, on average 2.9 times (range of 0-20). However, respondents claimed that most (84% for owners and 86% for crew) of the fishermen they knew had all the required safety equipment in good operating order on their vessels.

Recent studies have indicated that the probability of vessel accidents decreased in the decade prior to the time period of the survey (Jin *et. al* [in review]); yet, whether assistance at sea varies inversely or directly with the documented accident rate, and how assistance needs may interact with and be influenced by risk-taking, deferred maintenance, and regulatory inducements, require future study.

Income Effects

Owners were also asked what factors have affected their ability to make a living, and both owners and crew members were asked how changing regulations have affected their household finances. The factors cited most commonly by owners as having a “very negative effect” on their livelihood included “increased marine fishery regulation” (83.6%), “increased costs of harvesting fish” (45.1%), and “loss of habitat” (42.7%). Other factors cited by owners less commonly as having a “very negative effect” were “coastal development” (18.9%), “increased number of recreational fishers” (20.3%), and “loss of markets for harvested fish” (24.5%). Only 5.2% of owners and 5.0% of crew listed no changes in their household finances; the most common changes, similar for both groups (Table 9), were reducing or eliminating savings, cutting back or eliminating vacations, and postponing the purchase of new vehicles. Owners (40.6%) also cut back on insurance in general (including vessel, home, auto, health, life, and/or unspecified insurances), while almost one-quarter (23.8%) specified they had no health insurance at all (see Table 15). The insurance situation was more acute for crew, with almost half (49.2%) indicating that they had reduced or eliminated insurance in general (including auto, health, life, and/or unspecified insurances), while over half (55.2%) of crew respondents specified that they had no health insurance whatsoever.

With respect to nonfishing income, 44.4% of owners reported some increase or a major increase (25.2 and 19.1%, respectively [note that totals may differ from sums of components due to rounding error of components]) in their dependence on nonfishing income during the past 5 yr, while a nearly equal percentage of owners (46.5%) reported no change. Many of the owner respondents incurred an increased debt load to cover reduced fishing income, with 59.5% of owners reporting some increase or a major increase (31.5 and 28.0%, respectively) in the use of loans and other credit during 1995-99; 29.0% of owner respondents, however, saw no change in debt load during this time period. In terms of changing labor practices—which both reflect and further impact these changes – 30.1% of owners experienced some decrease or a major decrease (12.9 and 17.2%, respectively) in the use of nonfamily hired labor or crew (47.2% saw no change); 41.9% reported some increase or a major increase (27.6 and 14.3%, respectively) in the use of family labor (49.0% saw no change); and 50.4% indicated some increase or a major increase (30.8 and 19.6%, respectively) in the need for family members in more roles (40.9% saw no change). To what extent these changes indicate permanent structural changes in labor relations warrants further study.

Responses to Closures

Owners were specifically asked how their fishing practices change when one of their traditional fishing grounds is closed. The most common answers were: “fish in the closest area to the closed area, if there is a reasonable chance of success for the same species” (67.8%), “go to the next area that has a reasonable chance for the species I’m allowed to fish” (59.8%), “try several areas around the closed area” (49.7%), and “depending on length/size of closure, might switch target species” (45.5%). Other responses less commonly cited by owners were “depending on length/size of the closure, might move to a different port altogether” (22.0%), and “fish in closed area with exempted gear” (21.3%). The fact that fishermen seem less likely to move to a different port is good news for those concerned about community disruption due to closures, though other factors in maintaining sustainable communities need to be examined.

Marketing Changes

Most fishermen (60.5%) indicated that they chose a dealer trip by trip, basing decisions according to the particular species they were selling (31.8%) or by shopping around for the best price (28.7%). Other fishermen had dealers prearranged before their trip (27.6%) or sold to an organization to which they belonged (15.1%). A number of owners (15.4%) indicated that they also sold their catch at

an auction. When specifically asked to compare auction to nonauction sales, auctions came out on top in 11 of 12 possible categories, for example, “speed of sale,” “treated well,” “quality is rewarded,” “speed of payment,” and “firm prices”; only “personal contact” received a higher rating under nonauction sales. About 5% of owners, however, commented that they had no options for their sales and marketing practices: that there was only one dealer or auction in town, or that local businesses were closing down and forcing them to go to larger towns. Thus, regional stability implied in the results of the Section 3 of the survey (“Expenditure Impacts of Fishing Industry in New England”) does not preclude the possibility of microlevel changes and impacts, and reiterates the need for local-level studies.

MANAGEMENT AND ENFORCEMENT

Mesh-size regulations were the management measures considered by both owners and crew to most effectively reduce fishing mortality, and least negatively impact income and family life (Table 11). Large, long-term closures were deemed hardest on families and finances, while trip limits and overall quotas (total allowable catches or TACs) were seen as least effective in reducing fishing mortality. The strength and consistency of these responses echo views expressed by others in the fishing industry, and may indicate that these views are generally shared by many fishermen.

Responses to questions about management processes (Table 12) reveal that more public outreach and involvement are needed. Most respondents (71.4% of owners and 87.3% of crew) had either never or seldom attended a Council or Committee meeting. A little more than half of the owners (59.1%) and crew (51.4%) felt that they understood the Council/Committee management system; 65.0% of owners and 56.9% of crew felt that they knew the important laws that guide the fisheries management process. At the same time, a little more than half of owners (53.9%) indicated they needed more information about regulations to conduct their businesses better, a need second only to more information about gear technology (cited by 62.6%). About three-quarters of both groups felt that they understood fish population dynamics, but only about one-third of owners and one-fourth of crew felt that they knew how economic information was used in the management process, and fewer of these fishermen said they understood how social and cultural information was used (55% of owners, however, felt they knew *why* such information was important). Moreover, 73.4% of owner respondents and 54.7% of crew respondents felt that their views do not get expressed in the formal Council/Committee management process, and a number of respondents who answered that their views were expressed, tempered that sentiment by explaining that they still were not listened to. These responses speak to a feeling, among some owners and crew, of disenfranchisement in the management process.

Most respondents (92.3% of owners and 90.1% of crew), nonetheless, indicated that fishermen generally want to comply with regulations. Almost all respondents (95.8% of owners and 97.8% of crew) believed that at least 50% of commercial fishermen usually or always complied with groundfish laws and regulations, and over half of respondents (55.2% of owners and 50.8% of crew) believed that 95-100% of fishermen did so. The majority of respondents also felt that there was adequate enforcement both at sea (84.6% of owners and 85.1% of crew) and on the dock (81.1% of owners and 86.7% of crew).

Compliance and enforcement are not limited to just federal and state regulations, however, for the responses to a question asking owners which “local, informal, traditional fishing rules or codes or agreements (not federal or state regulations) affect how you fish,” indicated a vital system of local practices. Most commonly cited were: “rules or traditions for avoiding gear damage to other gears” (61.2%), “rules that limit *where* I fish” (54.9%), “rules or traditions to minimize waste and discards and encourage conservation” (53.9%), “rules that designate areas for different gears” (52.8%), “rules that limit *when* I fish” (52.8%), and “rules for cooperation among same gear vessels” (45.5%). These findings are consistent with the literature on community-based management (see McGoodwin 1990 for an overview), which has documented the many possible and extant forms of regulation and resource management, and the disenchantment of many fishermen with institutional arrangements of “top-down” management.

CAPACITY AND THE FUTURE

Many stakeholders have become increasingly concerned about the future of fishermen and fishing communities. Fishermen’s associations, special partnerships, and vision statements have been created – in part – in the past 5 yr in response to changing management regulations. Economists, anthropologists, and other social scientists working in fisheries have also been concerned with how individuals and communities are reacting to and planning for these changes. The survey revealed that many of the respondents neither see the need for much change in fleet structure or fishing practices, nor are optimistic about effective changes in future management strategies. Most respondents believe that current levels of fishing capacity (number of vessels, total effort, etc.) are reasonable for current stock conditions, and do not believe there will be too much active fishing capacity for a rebuilt biomass to sustain. The majority had no plans to reduce their own effort when stocks rebuild; almost half had made investments, mostly in gear, to increase their current catch per day.

Most respondents also plan to continue fishing themselves (see next section on “Fishing Family Assistance”), and 63.5% of crew still want to own their own vessel, even though 55.8% have changed their expectations of doing so over the past 5 yr. Nonetheless, only one-quarter of re-

spondents would advise young people to go into fishing (Table 13). The majority of respondents (86.7% of owners and 79.0% of crew) believe that the current permit system reduces flexibility for fishermen, but only just over one-half think that system could be changed without increasing fishing pressure on stocks (Table 13). Similarly, only 26.5% of the crew respondents think that crew members should be licensed. About one-third thought there could be advantages to a system of localized control of fishing capacity such as the Maine lobster management zones (primarily because it would take into account area characteristics and allow fishermen a more direct responsibility), but 28.0% of owners, and even more crew (44.8%), thought such a system would ultimately not work.

Both owners and crew were presented with a list of possible goals for fisheries in the Northeast region, and showed very similar tendencies in the ranking of the different objectives (Table 14). The goals with which respondents most “strongly agreed” or “agreed” were: “maximum benefits to the community” (83.3% of owners and 74.1% of crew), “secure places for existing fishermen with opportunities not reduced by new entrants” (76.2% of owners and 75.2% of crew), “maximum possible number of fishing jobs the resource can support” (60.5% of owners and 64.1% of crew), “harvest capacity matched to resources” (72.7% of owners and 60.7% of crew), “new entrants limited to numbers exiting” (55.9% of owners and 49.2% of crew), and “maximum economic benefits to the nation” (61.5% of owners and 47.0% of crew). The only goal that was evenly split in interpretation – and evenly split for both owners and crew – was “maximum possible number of fishermen.” Finally, the only goal with which respondents most “strongly disagreed” or “disagreed” was “unlimited entry in any fishery” (68.5% of owners and 57.5% of crew). These responses speak to an accordance with notions of both ecological and social sustainability.

FISHING FAMILY ASSISTANCE

The Social and Economic Survey also solicited views on the fishing family assistance programs that have been available over the past 5 yr (Appendix I and II, section 6). About three-fourths of the respondents were aware of these programs, though almost as many had never used them (Table 15). Less than one-third (31.8%) of the owners expressed interest in using free computer and Internet access at the fishing family assistance centers, and even fewer owners (18.9%) were interested in attending career orientation workshops; the vast majority (93.7%) were committed to staying in fishing. Among crew however, there was more interest in both using the centers and in career workshops, despite a strong commitment to continue fishing.

While the surveyed fishermen as a whole do not wish to leave the industry, they are considering other, at least temporary, options to their normal fishing patterns. Almost

half of the owners surveyed (46.2%) were interested in a vessel buyback program, and 71.0% were interested in using their vessel in additional ways such as research, charter, day-hire, and training (Table 16). Over half (61.5%) of the owners indicated they would like more information on gear technology, and almost half were interested in additional information on grants and regulations. Finally, while a minority of crew and owner respondents cited a need for assistance in, for example, applying for loans or setting up a new business (Table 15), crew respondents were somewhat more likely than owners to say they did need such assistance. Overall, most respondents expressed satisfaction with the opportunities available at the fishing family assistance centers, although the responses may also indicate that a need exists for greater outreach to crew members.

SUMMARY AND DISCUSSION

Stakeholder surveys can begin to give fishery analysts and managers a better sense of the knowledge, practices, and beliefs of fishing participants, in order to move toward better-informed management and policy planning. This paper has presented results from the Social and Economic Survey that, while summarized across all respondents, have illustrated both the degree of similarity and diversity within the overall groundfish fleet. For example, while the effects from regulatory changes were consistently acknowledged by respondents, the particular kinds of effects, and their distribution, often varied: some respondents saw crew members getting younger, others saw them getting older; some respondents saw trips getting longer, others saw them getting shorter. This diversity may hinge on any number of considerations – from sociotechnological factors such as gear and vessel size, to regional and port differences – which this paper has only begun to explore. Indeed, while some survey results corroborate accepted arguments in the social sciences of fishing, other survey results seem to point to possible divergences. As one example, active participation in informal management practices that exist outside the federal and state regulatory framework is consistent with the literature on community-based management; yet, the general rejection as workable of attempts at local areas of control such as the Maine lobster zones suggests some qualification of what “local” means for mobile gear types. As another example, many social science studies of fishing have focused on the role of kinship, family, and history in constituting fishing practices and businesses; yet, here we see the average respondent often being the first generation to fish, but one whose community – if not immediate family – may be centrally involved in fishing activities.

While these observations invite further exploration and research, the survey results themselves point in a number of directions. These survey results project an image of a group of fishermen who feel disenfranchised from the fed-

eral management process; yet, these results also show promise for future management direction. For many respondents, visions of the future seemed to center on notions of community and community relations as alternative spaces for institutional foundations; that is to say, communities were seen by many as the most appropriate level at which to incorporate fishermen's knowledge and to negotiate decisions. Yet, such notions again raise questions about the relations among communities, localities, and fishing grounds, and about the differing modes of, and relations involved in, resource management (see also Pálsson 1991; McCay 2000). In answering questions about capacity and the future, neither owners nor crew saw any signs of excess capacity in the fleet as currently constituted; yet, the most clearly stated goals for the future were a strong position against unlimited entry and a strong agreement for securing maximum benefits to the community. At the same time, while flows of resources and personnel across a regional level bespoke a relative stability, other answers indicated instability and anxiety at the port level, particularly for smaller ones and those faced with forces other than fishing and fisheries management, such as tourism and waterfront development. Here again, we face the dissonance among definitions of fishing community, definitions of community, and notions of dependence on fishing, where "community" may encompass various meanings and varying degrees of exclusion and inclusion. What communities can become and can do, for these very reasons, may serve as a "key symbol" that coalesces the concerns and practices of future fisheries management. It is hoped, therefore, that these summaries of responses to selected questions not only assist in the refinement of other such surveys in the future, but also inspire greater cooperative research on, and attention to, the patterns of responses and the sociocultural configurations underlying stakeholder beliefs and practices.

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Table 1a. Characteristics of the 297 vessels owned by the 286 owner respondents in the Social and Economic Survey administered during Round II of the Northeast Multispecies Fishery Disaster Assistance Program. (Data based on 1999 permit data, representing the last valid permit at the end of fishing year 1999.)

Year Built	Percentage of vessels	Hull Material	Percentage of Vessels	Vessel Horsepower	Percentage of Vessels	Gross Registered Tons	Percentage of Vessels	Length (ft)	Percentage of Vessels
Pre-1950	6.7	Fiberglass	47.5	<200	10.4	<25	46.8	< 40	27.3
1950-69	14.1	Wood	33.7	200-249	14.1	25-49	34.7	40-44	25.6
1970-76	15.8	Steel	17.5	250-299	20.9	50-74	11.4	45-49	15.2
1977-83	32.7	Other	1.3	300-399	35.4	75-99	4.0	50-59	20.2
1984-89	22.9			≥400	19.2	≥ 100	3.0	≥60	11.8
1990+	7.7								
Average				324.4		33.2		46.6	

Table 1b. Comparative characteristics of all 3,714 vessels with a valid multispecies permit during fishing year 1999. (Data based on 1999 permit data, representing the last valid permit at the end of fishing year 1999.)

Year Built	Percentage of vessels	Hull Material	Percentage of Vessels	Vessel Horsepower	Percentage of Vessels	Gross Registered Tons	Percentage of Vessels	Length (ft)	Percentage of Vessels
Pre-1950	2.6	Fiberglass	58.4	<200	17.0	< 25	63.0	< 40	53.2
1950-69	11.7	Wood	20.9	200-249	14.9	25-49	13.8	40-44	13.7
1970-76	15.9	Steel	18.4	250-299	9.3	50-74	5.3	45-49	5.3
1977-83	28.4	Other	2.2	300-399	24.7	75-99	4.4	50-59	6.7
1984-89	24.7			≥400	34.0	≥ 100	13.2	≥60	21.2
1990+	16.6								
Average				391.9		38.2		44.0	

Table 2a. Multispecies permit characteristics of the 297 vessels owned by the 286 owner respondents in the Social and Economic Survey administered during Round II of the Northeast Multispecies Fishery Disaster Assistance Program. (Data based on 1999 permit data, representing the last valid multispecies permit at the end of fishing year 1999; DAS = days at sea.)

	Multispecies Permit Category	Number of Vessels	Percentage of Vessels	Average Allocated DAS
A	(Individual DAS)	31	10.4	122.6
B	(Fleet DAS)	255	85.9	88.0
D	(Hook gear)	6	2.0	88.0
G	(Large-mesh fleet DAS)	3	1.0	120.0
K	(Nonregulated)	2	0.7	N/A

Table 2b. Comparative permit characteristics of all 3,714 vessels with a valid multispecies permit during fishing year 1999. (Data based on 1999 permit data, representing the last valid multispecies permit at the end of fishing year 1999; DAS = days at sea.)

	Multispecies Permit Category	Number of Vessels	Percentage of Vessels	Average Allocated DAS
A	(Individual DAS)	137	3.7	126.8
B	(Fleet DAS)	1,269	34.2	88.0
C	(Small vessel exemption)	14	0.4	N/A
D	(Hook gear)	197	5.3	88.0
E	(Combination vessel)	42	1.1	45.2
G	(Large-mesh fleet DAS)	17	0.5	120.0
H	(Hand gear)	895	24.1	N/A
I	(Charter/party boat)	406	10.9	N/A
J	(Scallop possession limit)	158	4.3	N/A
K	(Nonregulated)	579	15.6	N/A

Table 3. Primary fishing gear used by the 297 vessels owned by the 286 owner respondents in the Social and Economic Survey administered during Round II of the Northeast Multispecies Fishery Disaster Assistance Program, compared to the primary fishing gear used by all 3,714 vessels with a valid multispecies permit during fishing year 1999. (Data based on 1999 permit data, representing the last valid multispecies permit at the end of fishing year 1999.)

Gear Type	<u>Vessels Owned by Survey Respondents</u>		<u>All Vessels with Permits</u>	
	Number of Vessels	Percentage of Vessels ^a	Number of Vessels	Percentage of Vessels ^a
Bottom trawl	185	62.3	1,043	28.1
Gill net	78	26.3	364	9.8
Longline or setline	19	6.4	311	8.4
Handline	6	2	692	18.6
Other trawl	3	1	18	0.5
Rod and reel	3	1	1,120	30.2
Purse seine	1	0.3	5	0.1
Boat seine	1	0.3	2	0.1
Boat dredge	1	0.3	100	2.7
Pots and traps	0	0	46	1.2
Midwater trawl	0	0	7	0.2
Unknown	0	0	6	0.2
Total	297	100	3,714	100

^aTotals may differ from sums of components due to rounding error of components.

Table 4. Distribution of large-mesh groundfish landings by gear type, by multispecies permit category, and by homeport state for all 3,714 vessels with a valid multispecies permit during calendar year 1999. (Data based on logbooks and permits. Only values of 2.5% or more are shown. Large-mesh groundfish include all of the species in the Northeast multispecies fishery complex except ocean pout, offshore hake, and silver hake.)

Gear Type	Landings (lb)	Percentage of total	Permit Category	Landings (lb)	Percentage of total	Homeport State	Landings (lb)	Percentage of total
Bottom trawl	47,407,740	73.7	B	30,444,151	47.3	MA	37,563,794	58.4
Sink gill net	10,993,992	17.1	A	29,666,838	46.1	ME	11,700,584	18.2
Bottom longline	3,171,839	4.9	E	1,589,261	2.5	RI	5,689,393	8.8
						NH	3,076,254	4.8
						NY	2,610,770	4.1

Table 5. Permits held by the 297 vessels owned by the 286 owner respondents in the Social and Economic Survey administered during Round II of the Northeast Multispecies Fishery Disaster Assistance Program, compared to permits held by all 3,714 vessels with a valid multispecies permit during fishing year 1999. (Data based on 1999 permit data, representing the last valid permit at the end of fishing year 1999.)

Permits	Vessels Owned by Survey Respondents		All Vessels with Permits	
	Number of Vessels	Percentage of Vessels	Number of Vessels	Percentage of Vessels
By Individual Fishery Management Plan				
Multispecies	290	97.6	3,714	100.0
Scallop--general (open access)	266	89.6	1,891	50.9
Dogfish	261	87.9	2,182	58.8
Monkfish	245	82.5	1,909	51.4
Lobster	243	81.8	1,915	51.6
Squid-Mackerel-Butterfish	205	69.0	2,491	67.1
Surf Clam	128	43.1	1,252	33.7
Ocean Quahog	122	41.1	1,166	31.4
Summer Flounder	84	28.3	1,413	38.0
Scup	64	21.5	1,264	34.0
Black Sea Bass	24	8.1	1,224	33.0
Scallop--limited access	0	0.0	256	7.9
By Combination (5% or more of vessels) of Fishery Management Plans				
Dogfish, Lobster, Monkfish, Multispecies, Scallop -- general, and Squid-Mackerel-Butterfish	34	11.4	71	1.9
Dogfish, Lobster, Monkfish, Multispecies, and Scallop -- general	19	6.4	44	1.2
Dogfish, Lobster, Monkfish, Multispecies, Ocean Quahog, Scallop -- general, Squid-Mackerel-Butterfish, and Surf Clam	15	5.1	94	2.5
Multispecies only	1	0.3	259	7.0

^aAll 297 vessels had a multispecies permit at some point during fishing year 1999. For the seven vessels that no longer retained their multispecies permit as their last valid permit during fishing year 1999: five canceled due to "transfer" or "vessel owner changed", one due to "permitted fisheries changed," and one due to "permit sanction."

Table 6. Summary of responses to selected questions and data requests on households and communities, asked in the Social and Economic Survey administered during Round II of the Northeast Multispecies Fishery Disaster Assistance Program

Question Asked / Data Requested	Survey	
	Owner Only	Crew Only
How long have you been in commercial fishing?	Avg.: 28.0 yr Range: 7-60	Avg. 17.8 yr Range: 0-53
Average age of respondent:	Avg.: 46.8 yr	Avg.: 38.3 yr
Was your father a commercial fisherman?	44.1% Yes	44.8% Yes
Was your grandfather a commercial fisherman?	40.9% Yes	38.7% Yes
If applicable, does your spouse come from a fishing family?	19.9% Yes 10.1% N/A	13.8% Yes 26.0% N/A
Have the fishermen in your household ever worked outside the fishing industry?	45.8% Yes	54.7% Yes
What percent of your household's total annual income comes from all aspects of the fishing industry?	Avg.: 83.9% Range: 0-100	Avg.: 82.7% Range: 0-100
Number of persons who live in your household:	Avg.: 3.2 Range: 1-8	Avg.: 2.7 Range: 1-6
Do any members of your household belong to any fishing-related organizations?	51.4% Yes	19.3% Yes
Do you feel these groups represent fishermen's interests?	62.2% Yes	58.0% Yes
How long have you lived in the town you live in now?	Avg.: 31.0 yr Range: 1-70	Avg.: 22.0 yr Range: 1-62
Do you consider this town a fishing community?	62.9% Yes	58.0% Yes
Do you consider this town a community that is dependent on the fishing industry?	43.4% Yes	43.6% Yes

Table 7. Summary of responses to selected data requests on family involvement, asked in the Social and Economic Survey administered during Round II of the Northeast Multispecies Fishery Disaster Assistance Program

Data Requested	Fishermen (owners only)		Spouse or Other (not including hired help)	
	Average Hours per Week (if hours > 0)	Percentage with Hours > 0	Average Hours per Week (if hours > 0)	Percentage with Hours > 0
Household finances	3.0	47.9	5.7	71.3
Operating the boat	68.5	81.8	24.0	4.2
Record keeping	4.4	69.9	6.1	48.6
Supervising crew	43.9	61.2	4.9	2.8
Sales	5.9	60.1	6.2	8.7
Repair and maintenance	14.2	85.3	10.0	7.0
Nonfishing employment	21.6	9.8	33.4	35.3

Table 8. Summary of responses to selected questions on regional impacts of expenditures, asked in the Social and Economic Survey administered during Round II of the Northeast Multispecies Fishery Disaster Assistance Program

Question Asked	Percent of Yes Answers
Trip needs purchased in vessel home region?:	
Fuel	92.2
Ice	87.7
Food	92.0
Bait	95.2
New gear	66.3
Repair needs purchased in vessel home region?:	
Hull	80.3
Engine	75.8
Gear	73.0
Electronics	76.5
Fixed needs purchased in vessel home region?:	
Insurance	55.4
Accounting	87.1
Legal	88.1
Moorage	92.9
Captains live in vessel home region?	95.3
Crew members live in vessel home region?	82.3
Crew income spent in home region?	^a 89.0-90.0
Owner survey: Area closures shifted where purchases made?	19.9
Owner survey: Other regulations shifted where purchases made?	15.0
Crew survey: Area closures or other regulations changed where income spent?	22.7

^aCrew whose own home region was the same as their vessel home region spent on average 89.0% of their income in that region. Crew whose own home region differed from their vessel home region spent on average 90.0% of their income between the two regions (41.6% in the vessel home region and 48.4% in their home region).

Table 9. Summary of responses to selected questions on changes in fishing business practices during the past five years due to regulations, asked in the Social and Economic Survey administered during Round II of the Northeast Multispecies Fishery Disaster Assistance Program

Question Asked	Percent of Yes Answers	
	Owners	Crew
Changes in fishing practices?:		
Spent less time on water	73.1	N/A
Postponed new gear	71.3	N/A
Changed fishing location	68.5	N/A
Took on less crew	67.5	N/A
Cut back on maintenance	66.1	N/A
Switched gears	57.3	N/A
Engaged in less exploratory fishing	49.7	N/A
Fished more species	47.2	N/A
Postponed new motor	43.0	N/A
Changes in household finances (for at least 10% of respondents)?:		
Cut back on savings	56.3	70.2
Cut back on vacations	54.2	53.0
Postponed new car/truck	44.1	51.4
Cut back on insurance	40.6	49.2
Cut back on clothes	21.3	25.4
Cut back on repairs	21.0	<10
Reduced spending overall	19.9	16.0
Postponed or sold home	17.8	31.5

Table 10. Summary of responses to selected data requests on assistance required at sea during 1995-99, asked in the Social and Economic Survey administered during Round II of the Northeast Multispecies Fishery Disaster Assistance Program

Year	Number of Vessels Requiring Assistance	Average Number of Times a Vessel Required Assistance
1995	45	1.5
1996	54	1.6
1997	72	1.5
1998	73	1.5
1999	64	1.4

Table 11. Summary of responses to selected questions on management alternatives, asked in the Social and Economic Survey administered during Round II of the Northeast Multispecies Fishery Disaster Assistance Program. (Responses were ranked scores, where 1 = most and 6 = least; table values are average ranks of scores.)

Alternative	Effective in Reducing Fishing Mortality?		Difficult for a Family to Adjust To?		Hard on Net Income or Profits?	
	Owner	Crew	Owner	Crew	Owner	Crew
DAS limits	2.8	2.9	3.1	2.7	2.8	2.8
Large, long-term closed areas	3.3	3.4	1.8	2.2	1.8	2.2
			(Most difficult)		(Most impact)	
Short-term closed areas	3.4	3.4	3.3	3.4	3.2	3.3
Mesh-size regulations	1.7	1.9	4.9	4.6	4.3	4.3
	(Most effective)		(Least difficult)		(Least impact)	
Trip limits	3.8	3.9	2.9	2.8	2.7	2.6
Overall quotas (TACs)	4.5	4.2	2.9	2.9	3.0	2.9
	(Least effective)					

Table 12. Summary of responses to selected questions on management and enforcement, asked in the Social and Economic Survey administered during Round II of the Northeast Multispecies Fishery Disaster Assistance Program

Question Asked	Survey	
	Owner Only	Crew Only
Do you feel you understand the Council/Committee management system?	59.1% Yes	51.4% Yes
How often do you express your views to the Council or a Committee of the Council in person or in writing over a year?	23.1% Never 48.3% Seldom	37.0% Never 50.3% Seldom
Do you think you have a basic understanding about fish population dynamics?	72.4% Yes	75.1% Yes
Do you feel you know the important laws (like the Magnuson Act) that guide the fisheries management process?	65.0% Yes	56.9% Yes
Do you think you know how economic information is used in the management process?	32.2% Yes	26.5% Yes
Do you know how social/cultural information is used in the management process?	23.4% Yes	12.7% Yes

Table 13. Summary of responses to selected questions on capacity and the future, asked in the Social and Economic Survey administered during Round II of the Northeast Multispecies Fishery Disaster Assistance Program

Question Asked	Survey	
	Owner Only	Crew Only
Do you think the current permit system reduces flexibility for fishermen?	86.7% Yes	79.0% Yes
Do you think the permit system could be changed to increase flexibility without increasing pressure on stocks?	56.0% Yes	52.5% Yes
Do you see advantages to more local control of fishing capacity and/or effort such as with lobster management by zones in Maine?	35.8% Yes	33.7% Yes
Can you think of any existing groups or organizations that could play that role, or would new groups and organizations need to be started?	23.1% Existing group 48.3% Need new group 28.0% Won't work anyway	17.1% Existing group 22.7% Need new group 44.8% Won't work anyway
Do you think there is too much active capacity now for stocks to recover without more regulations?	14.0% Yes	18.2% Yes
Do you think there will be too much active capacity for stocks to stay recovered when they do come back?	25.9% Yes	21.5% Yes
Have you invested in equipment to increase your catch per day as your days at sea have been reduced?	48.3% Yes	N/A
When stocks recover will you reduce your fishing effort?	25.2% Yes	N/A
Would you advise young people to go into the fishing industry?	27.3% Yes	22.1% Yes

Table 14. Summary of responses to selected questions on goals for fisheries, asked in the Social and Economic Survey administered during Round II of the Northeast Multispecies Fishery Disaster Assistance Program

Goal	Respondent Category	Percentage of Agreement				
		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Maximum economic benefits to the nation	Owner	24.8	36.7	24.1	6.3	4.5
	Crew	15.5	31.5	37.6	9.9	2.2
Harvest capacity matched to resources	Owner	27.6	45.1	16.1	6.6	2.4
	Crew	17.1	43.6	22.7	9.4	4.4
Unlimited entry in any fishery	Owner	7.3	9.1	12.6	19.2	49.3
	Crew	9.4	11.0	18.2	22.7	34.8
New entrants limited to numbers exiting	Owner	24.1	31.8	16.1	10.5	12.6
	Crew	13.3	35.9	28.2	13.3	5.5
Secure places for existing fishermen with opportunities not reduced by new entrants	Owner	44.4	31.8	11.5	5.2	4.5
	Crew	39.8	35.4	16.0	3.9	2.2
Maximum benefits to the community	Owner	39.2	44.1	10.8	2.4	1.0
	Crew	34.3	39.8	20.4	2.8	0.0
Maximum possible number of fishermen	Owner	13.6	19.2	30.4	19.2	15.0
	Crew	13.3	20.4	33.1	19.3	8.8
Maximum possible number of fishing jobs the resource can support	Owner	26.9	33.6	23.8	7.7	5.9
	Crew	22.7	41.4	22.7	6.1	4.4

Table 15. Summary of responses to selected questions on fishing family assistance asked of both owners and crew in the Social and Economic Survey administered during Round II of the Northeast Multispecies Fishery Disaster Assistance Program

Question Asked	Survey	
	Owner Only	Crew Only
Are you aware of Fishing Family Assistance type programs?	82.2% Yes	71.8% Yes
Have you ever used any of these programs?	22.0% Yes	21.5% Yes
Would you use a center that provided free Internet access, computer use for resumes, want ads, etc.?	31.8% Yes	60.8% Yes
Are you planning to stay in fishing?	93.7% Yes	87.3% Yes
How many generations of your family have been involved in the fishing industry?	Avg.: 2.5 Distribution:	Avg.: 2.2 Distribution:
	N/A: 8%	N/A: 12%
	0: 6%	0: 9%
	1: 25%	1: 29%
	2: 20%	2: 17%
	3: 19%	3: 20%
	4+: 21%	4+: 13%
Would you be interested in participating in a fishermen's round-table on gear conflict, new gear and technology, or some other topic?	57.7% Yes	54.1% Yes
Would you be interested in attending a career orientation workshop?	18.9% Yes	37.6% Yes
Do you have health insurance?	76.2% Yes	44.8% Yes
Were you fishing in 1994?	96.9% Yes	89.5% Yes
Do you need assistance in preparing any of the following?:		
Loan/credit availability	21.3% Yes	29.3% Yes
Bankruptcy/foreclosure	5.6% Yes	6.1% Yes
Setting up new business	11.5% Yes	22.1% Yes
Other	8.0% Yes	9.4% Yes

Table 16. Summary of responses to selected questions on fishing family assistance asked of only owners in the Social and Economic Survey administered during Round II of the Northeast Multispecies Fishery Disaster Assistance Program

Question Asked	Owner Survey
Do you fish alone?	26.9% Yes
If not, how many crew members do you have now?	Avg.: 1.8 Range: 1-5
If you were fishing in 1994, how many others were on the boat with you back then?	Avg.: 2.1 Range: 1-9
Are you interested in a boat buy back?	46.2% Yes
Are you interested in using your boat for research, charter, day hire, training, or other uses?	71.0% Yes, of which: Charter: 29.0% Yes Research: 62.2% Yes Day-hire: 39.5% Yes Training: 25.9% Yes
What additional information do you need to better conduct your business?:	
Regulations	47.6% Yes
Export markets	26.6% Yes
Local markets	28.7% Yes
Harvest techniques	37.1% Yes
Grants	48.3% Yes
Gear technology	61.5% Yes
Buy backs	32.9% Yes

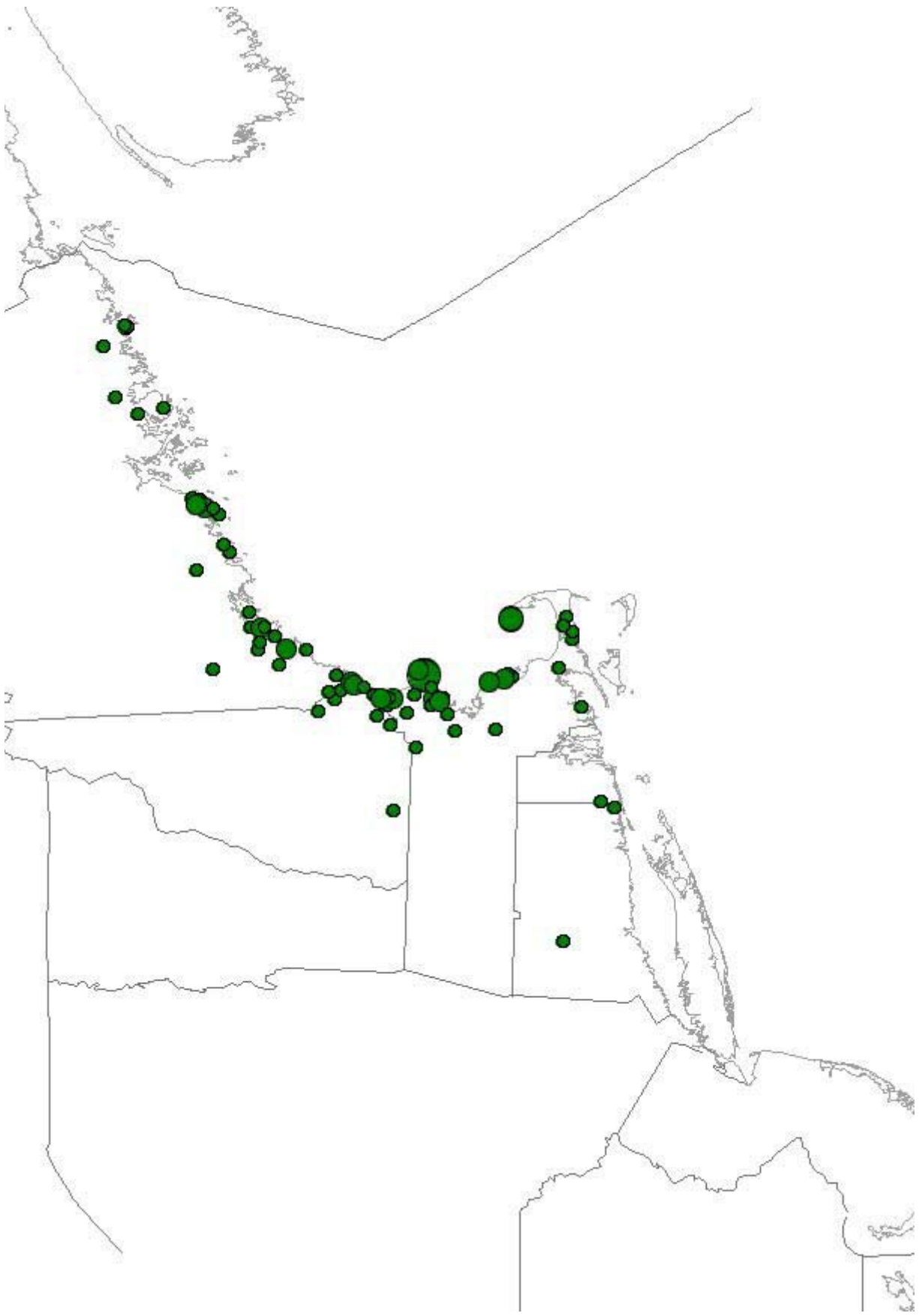


Figure 1. Hometown distribution of crew survey respondents. (Small dots represent 1-3 respondents, medium-small dots represent 4-8 respondents, medium-large dots represent 9-13 respondents, and large dots represent 14 or more respondents.)

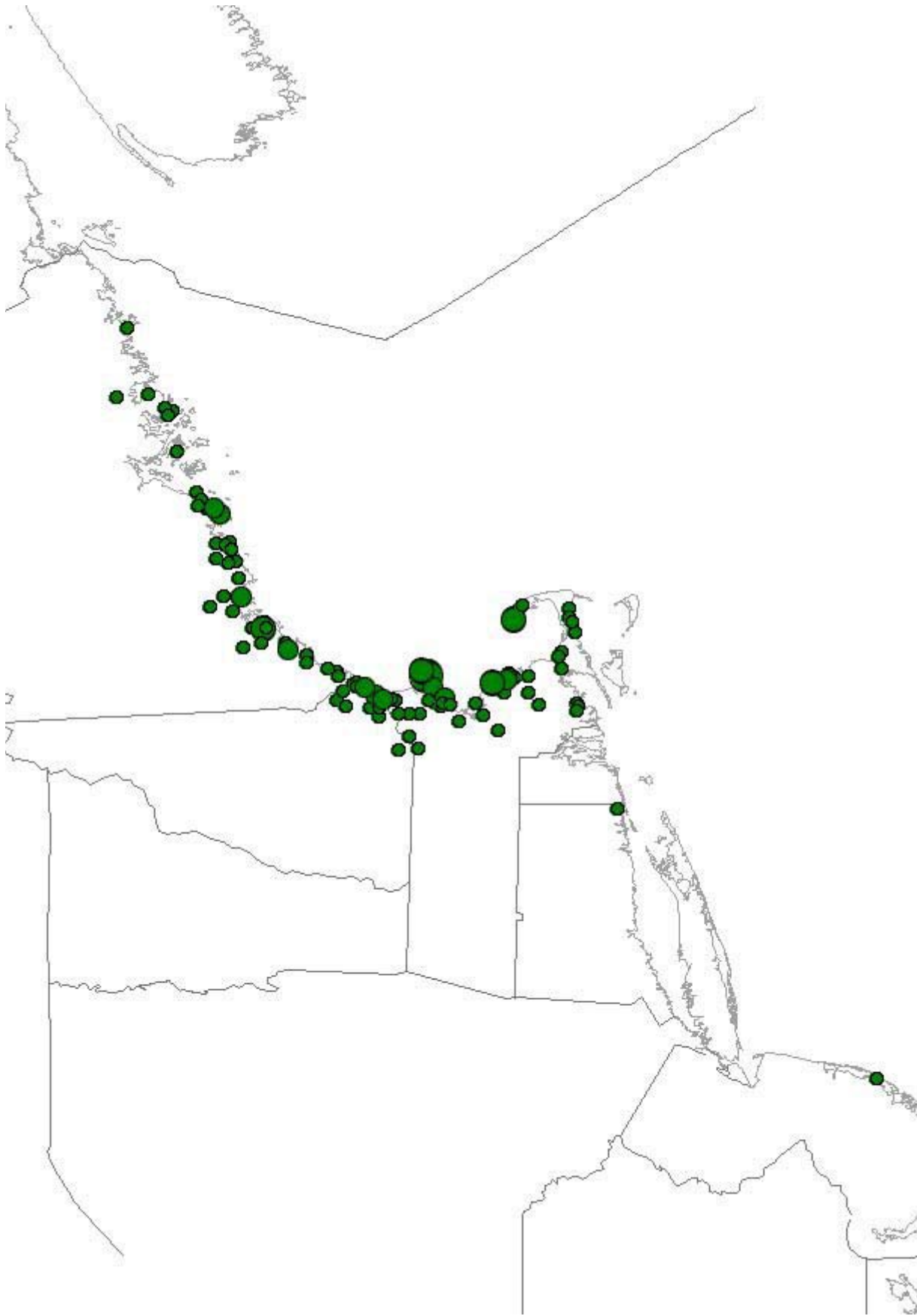


Figure 2. Hometown distribution of owner survey respondents. (Small dots represent 1-3 respondents, medium-small dots represent 4-8 respondents, medium-large dots represent 9-13 respondents, and large dots represent 14 or more respondents.)

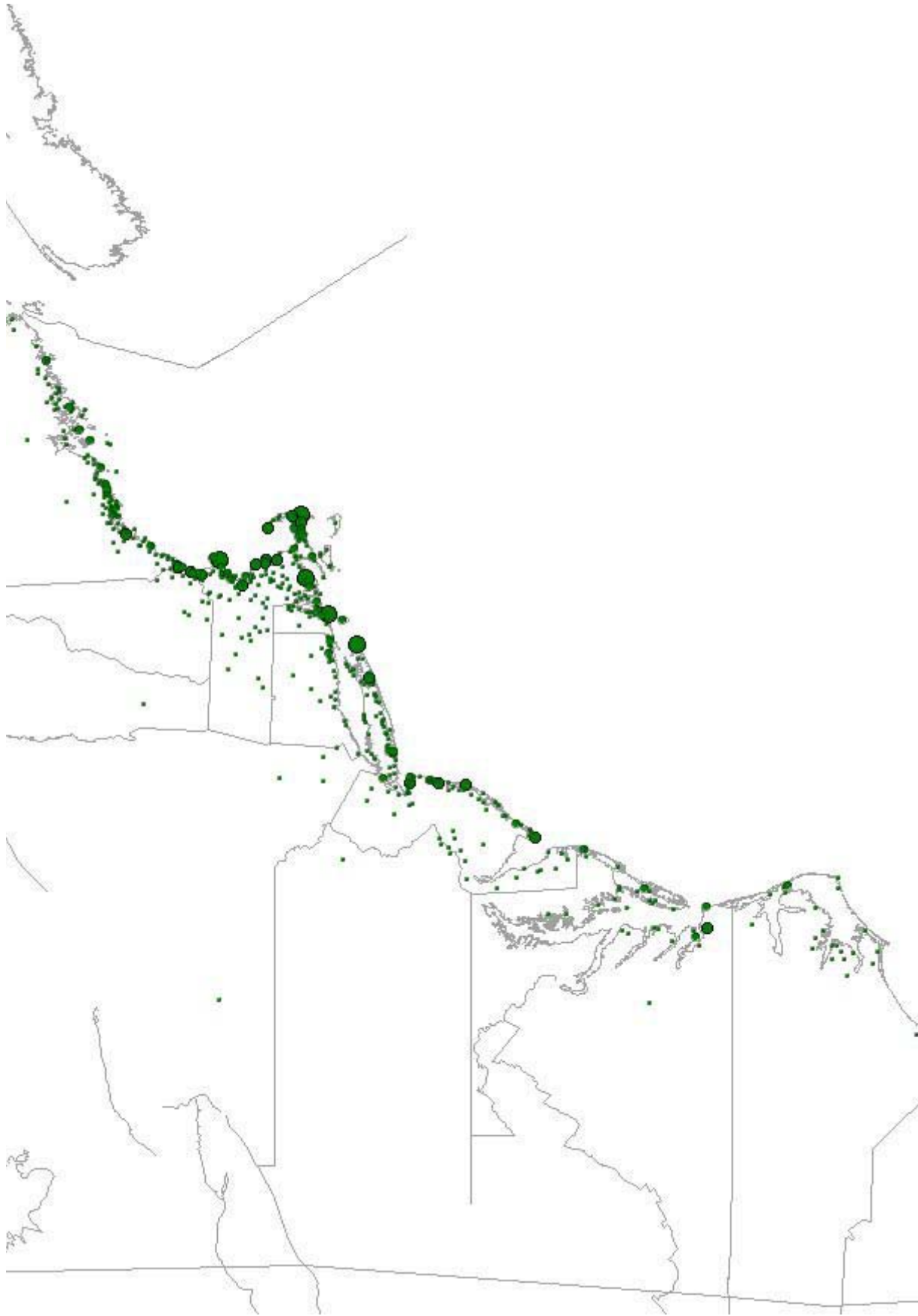


Figure 3. "Homeport" distribution of all multispecies-permitted vessels in the NMFS Northeast Region. (Data based on 1999 permit data, representing the last valid permit at the end of fishing year 1999.)

Social and Economic Survey

Instructions

Thank you very much for taking the time to fill out this survey. Included in this package you will find:

- 1) A set of Social and Economic Survey Questions designed for Northeast fishermen.
- 2) A stamped and addressed envelope for returning the completed questionnaire.

This is a sample set of questions from a variety of surveys that researchers have used in the past in order to learn more about how management affects fishermen and their communities. Many of the questions that follow ask you how to get good information from fishermen and ask you for your ideas for better questions. Other questions ask your opinion on topics that are important to you. Your collaboration in this research is appreciated. All information you provide will be kept confidential. Any public release of results, for example, to fishermen, will be in only a very summarized form, making it impossible for you to be identified. The survey is divided into six sections:

1. Households and Communities
2. Expenditure Impacts of Fishing Industry in New England
3. Fishing Business Practices
4. Management and Enforcement
5. Capacity and the Future
6. Fishing Family Assistance

NOTE: This questionnaire should be completed by the person to whom payment will be sent. Where the vessel is under corporate ownership, the principal owner or primary stockholder should complete the survey. Agents for vessels should not complete the survey.

Multiple vessel owners should answer vessel-specific questions with the vessel which produces the most groundfish revenue in mind.

If you would like to speak to someone about how to complete the survey call _____ at _____ in the Northeast Regional Office.

If you have any questions for Italian language interpretation please call Angela Sanfilippo or Nina Groppo at the Gloucester Fishing Family Assistance Center - (978) 283-2504.

If you have any questions for Portuguese language interpretation please call Rodney Avila at the New Bedford Fishing Family Assistance Center - (508) 979-1791.

Please Print your Name: _____

Please sign your name here: _____

Corporate Name (if applicable): _____

Your position in corporation (if applicable) _____

Your Address: _____
(corporate address if applicable)

Telephone Number: _____

Vessel #1 Name _____

Vessel #1 Multispecies Groundfish Permit Number:

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Vessel #1 US Coast Guard Documentation Number, or State Registration Number.

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Vessel #2 Name _____

Vessel #2 Multispecies Groundfish Permit Number:

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Vessel #2 US Coast Guard Documentation Number or State Registration Number

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Vessel #3 Name _____

Vessel #3 Multispecies Groundfish Permit Number:

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Vessel #3 US Coast Guard Documentation Number or State Registration Number

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If you need more room for answering questions, please use the other side of the page.

Please enter your Multispecies Groundfish Permit number in the space provided at the bottom of each answer page.

Please return all of the answered pages which contain your permit number using the stamped and addressed envelope - thank you!

Households and Communities

Section 1 asks questions about household and community topics, and also some direct questions about how different fishermen and fishing families go about fishing. By looking for patterns across all fishermen, we can see how different communities or other groups may be impacted by management decisions. ***Please use check marks and fill in with more information if appropriate.*** We appreciate you sharing your expertise and knowledge.

1a. Many surveys ask you to identify your race/ethnicity (e.g. Italian, Norwegian, Portugese, etc). This information can be important, since crews and work patterns are often based on ethnicity. Would a question about your ethnicity be too personal to ask in person in an interview setting?

- a. N (please go to question 2) b. Y (please continue to 1b)

1b. If yes, could such a question be improved by:

- a. Providing an explanation such as the one above
b. Wording the question in a different way. Please give an example of a question you would feel comfortable with _____
c. Deleting the question entirely
d. Other (please explain) _____

2a. Social researchers often ask you questions about what school grade you finished. This helps us know more about your background, in order for us to better understand the different people who live from fishing. Would asking for your education be too personal in an interview setting?

- a. N (please go to question 3) b. Y (please continue to 2b)

2b. If yes, could such a question be improved by:

- a. Providing an explanation such as the one above
b. Wording the question in a different way. Please give an example of a question you would feel comfortable with _____
c. Deleting the question entirely
d. Other (please explain) _____

Questions 3 through 7 are aimed at understanding you and your family's involvement in the fishing industry, since this helps us get a sense of your experience in fishing.

3. How long have you been in commercial fishing (including the recreational for-hire sector)?

_____ years

Please enter your Multispecies Groundfish Permit Number

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15a. Would a question about the level of your household indebtedness (for example, as a percentage of your household income) be too personal to ask in an interview setting?

- a. ___ N (please go to question 16) b. ___ Y (please continue to 15b)

15b. If yes, could such a question be improved by:

- a. ___ Providing an explanation such as the one above
b. ___ Wording the question in a different way. Please give an example of a question you would feel comfortable with _____
c. ___ Deleting the question entirely
d. ___ Other (please explain) _____

16a. Would a question about whether your home mortgage is tied to your vessel be too personal to ask in an interview setting?

- a. ___ N (please go to question 17) b. ___ Y (please continue to 16b)

16b. If yes, could such a question be improved by:

- a. ___ Providing an explanation such as the one above
b. ___ Wording the question in a different way. Please give an example of a question you would feel comfortable with _____
c. ___ Deleting the question entirely
d. ___ Other (please explain) _____

The next questions look at the links between community membership, and the fishing industry, and the kinds of practices that strengthen these links. The questions attempt to understand the different kinds of communities that may be important to fishermen and their families.

17. What town do you live in? _____

18. How long have you lived here? ____ years

19a. Do you consider this town a fishing community?

- a. ___ N b. ___ Y

19b. Why or why not? _____

19c. Has your view about this changed in the past few years?

- a. ___ N b. ___ Y Please explain _____

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20a. Is this community dependent on the fishing industry?

a. ___ N b. ___ Y

20b. If Yes why is it dependent? _____

20c. Has your view about this changed in the past few years?

a. ___ N b. ___ Y

Please explain _____

21. Would you have to move out of your town if fishing became more difficult because of more regulations? a. ___ N b. ___ Y

What else might you be able to do in your town? _____

22. Do you or your vessel participate in a Blessing of the Fleet ceremony?

a. ___ N b. ___ Y

Why or why not? _____

23. Do you or any household members participate in other community organizations?

a. ___ N b. ___ Y

If so, can you describe further? _____

24. Do you have relatives who are fishermen and live in other towns than you?

a. ___ N b. ___ Y (If so, what town(s)? _____

25. Who (e.g. friends, relatives, co-workers) do you go to when you need advice:

About fishing? _____

About equipment? _____

About regulations or any other such issues? _____

26. We would like to know if the questions 17-25 let you identify your community and adequately characterize it. Are there any issues which you think are missing? _____

Please enter your Multispecies Groundfish Permit Number

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Expenditure Impacts of Fishing Industry in New England

The fishing industry is not isolated from the rest of the New England economy. Commercial fishermen purchase fuel, ice, bait, insurance and other products and services from businesses that help make fishing possible. How fishermen and coastal communities are impacted by fishery regulation requires information about what fishermen buy, where they buy it and where captain and crew income is spent.

Information on what fishing businesses buy helps us understand what other types of shore-side businesses may be affected when fishing conditions change. Knowing where these businesses are located and where captain and crew live helps us understand how economic impacts are spread throughout the New England coastal region.

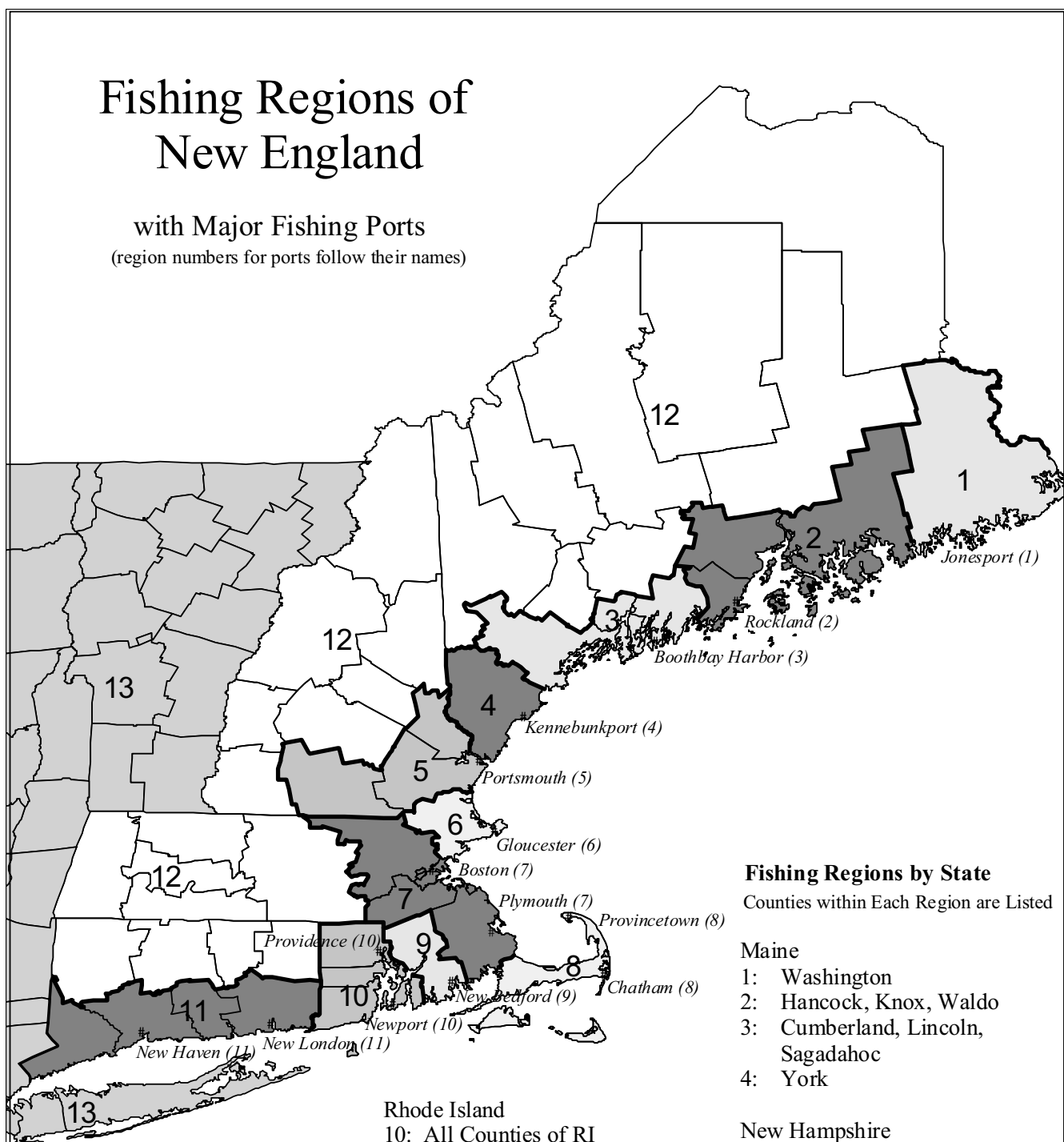
On the next page you will find a map of New England with several different coastal subregions identified along with towns and cities for reference. Each subregion has been identified with a number and a name. For example, subregion 2 has been called the "Upper Mid-Coast region of Maine." Altogether there are 11 coastal subregions for New England, one non-coastal region for the entire inshore part of New England (region 12), and one region for everything outside New England (region 13).

Following the map are tables for recording where you make purchases. Table 1 is for trip costs, annual repair and maintenance costs, and fixed costs. Table 2 asks for the home region of your vessel, your current crew and, if not yourself, your current captain.

If you buy goods and services from more than one region, try to give approximately what percent you purchase in each region. For example, if you operate out of Portland, Maine, then in 1999 you may have purchased 50% of your fuel within the Lower Mid-Coast region, 25% from Southern Maine and the remaining 25% from the Gloucester/North Shore region (the percentages should sum to 100). **Please use a best guess - do not go through your records.** For any listed item that you did not purchase over the course of 1999, please write a zero in the Total column for that item..

Fishing Regions of New England

with Major Fishing Ports
(region numbers for ports follow their names)



Fishing Regions by State

Counties within Each Region are Listed

Maine

- 1: Washington
- 2: Hancock, Knox, Waldo
- 3: Cumberland, Lincoln, Sagadahoc
- 4: York

New Hampshire

- 5: Hillsborough, Rockingham, Strafford

Massachusetts

- 6: Essex
- 7: Norfolk, Plymouth, Suffolk
- 8: Barnstable, Dukes, Nantucket
- 9: Bristol

Rhode Island

- 10: All Counties of RI

Connecticut

- 11: Fairfield, Middlesex, New Haven, New London

Other regions

- 12: Near Coastal New England
- 13: Other US Regions

Table 1														
Annual Expenses	Downeast Maine	Upper Mid-Coast Maine	Lower Mid-Coast Maine	Southern Maine	New Hampshire Coast	Gloucester/North Shore	Boston/South Shore	Cape and Islands	New Bedford Area	Rhode Island	Connecticut Coast	Non-Coastal New England	Outside New England	
Region Number	1	2	3	4	5	6	7	8	9	10	11	12	13	
	%	%	%	%	%	%	%	%	%	%	%	%	%	Total
<i>Example</i>			50	25		25								100
Trip Needs (where bought)														
Fuel														
Ice														
Food														
Bait														
New Gear														
Repair Needs (where bought)														
Hull														
Engine														
Gear														
Electronics														
Fixed Needs (where bought)														
Insurance														
Accounting														
Legal														
Moorage														

Please enter your Multispecies Groundfish Permit Number

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3. Compared to the way you would prefer to operate, have area closures shifted where you make purchases? (Check one)

a. N b. Y

If yes, what changes in your purchasing pattern have you made? _____

4. Besides area closures, are there any other regulations that have shifted where you make purchases? (Check one)

a. N b. Y

If yes, what are these regulations and what changes have you made? _____

5. Are there better ways of asking fishermen about where they make their purchases? (Check one)

a. N b. Y

If yes, what improvements do you suggest? _____

6. Are there any other questions you think fishermen want to be asked about their industry's impact on the broader New England Economy or on the economy of the Town or Port?

(Check one)

a. N b. Y

If yes, what questions do you recommend? _____

Please enter your Multispecies Groundfish Permit Number

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4. Do you think you have good price information going into a sale?

- a. ___ N b. ___ Y

5. Do you pay for price information now?

- a. ___ N b. ___ Y

6. What kind of price information service would be best for you? What kind of Technology -phone, fax, computer, etc? What would you wan to know? When would you want to know it, and how frequently would you use it? _____

7. How do auctions compare to non-auction sales of your fish. **Check which is better** for

	Traditional	Auction
a. Speed of sale	_____	_____
b. Firm prices	_____	_____
c. Price reflects broad market	_____	_____
d. Personal contact	_____	_____
e. Get good information	_____	_____
f. Treated well	_____	_____
g. No hassles	_____	_____
h. Good idea of prices beforehand	_____	_____
i. Quality is rewarded	_____	_____
j. Works better with my accounting arrangement	_____	_____
k. Speed of payment	_____	_____
l. Other _____	_____	_____

8. Have you needed help while at sea or in getting back to port over the last five years?

- a. ___ N b. ___ Y

9. How many times in _____ 1995, _____ 1996, _____ 1997, _____ 1998, _____ 1999?

10. How many times have you delayed leaving on a trip because of mechanical/electrical problems in the last 12 months? ___ times. **(Please keep primary groundfish vessel in mind)**

Please enter your Multispecies Groundfish Permit Number

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5. Do you feel you understand the Council/Committee management system?

a. ___ N (go to 6.) b. ___ Y (go to 7.)

6. If no, what isn't clear? _____

7. How often do you express your views to the Council or a Committee of the Council in person or in writing over a year?

a. ___ Never b. ___ Seldom c. ___ Frequently

8. Do you think you understand the basics of fish population dynamics?

a. ___ N b. ___ Y

9. What do you think fishermen want to know about fish population dynamics/biology that they don't already know? _____

10. Do you feel you know the important laws (like the Magnuson Act) that guide fisheries management? a. ___ N b. ___ Y

11. What do you think fishermen want to know about the laws that apply to fisheries management?

12. Do you feel you know how economic information is used in the management process?

a. ___ N b. ___ Y

13. What do you think fishermen want to know about how economic information is used?

14. Do you feel you know why social/cultural information is needed in the management process?

a. ___ N b. ___ Y

15. Do you know how social/cultural information is used in the management process?

a. ___ N b. ___ Y

Please enter your Multispecies Groundfish Permit Number

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24. Please estimate as best you can, what percent of commercial fishermen frequently VIOLATE the groundfish laws and regulations? (**Check the ONE category that is closest to your answer**)

- a. ___ Zero %
- b. ___ 1 - 4%
- c. ___ 5 - 9%
- d. ___ 10 - 24%
- e. ___ 25 - 49%
- f. ___ 50 - 74%
- g. ___ 75 - 89%
- h. ___ 90 - 94%
- i. ___ 95 - 98%
- j. ___ 99 - 100%

25. What percent of the management meetings (Council or Committee or Advisors' meetings) **that you would like to attend** are you able to get to? ___ %

26. Which of the following general tools of fisheries management do you feel are most effective in reducing fishing mortality? **Please Rank: Most effective = 1, Least effective = 6.**

- a. ___ Days At Sea (DAS) limits
- b. ___ Large and long closed areas
- c. ___ Short term closed areas
- d. ___ Mesh size regulations
- e. ___ Trip Limits
- f. ___ Overall TAC

27. Which of the following general tools of fisheries management do you feel are most difficult for a family to adjust to? **Please Rank: Most difficult to adjust to = 1, Easiest = 6.**

- a. ___ Days At Sea (DAS) limits
- b. ___ Large, long-time closed areas
- c. ___ Short term closed areas
- d. ___ Mesh size regulations
- e. ___ Trip Limits
- f. ___ Overall Quota (TAC)

28. Which of the same tools are hardest on net income or profits? **Please Rank: Most impact on net income = 1, Least impact on net income-profits = 6.**

- a. ___ Days At Sea (DAS) limits
- b. ___ Large and long closed areas
- c. ___ Short term closed areas
- d. ___ Mesh size regulations
- e. ___ Trip Limits
- f. ___ Overall TAC

29. What questions should fishermen be asked so that others understand the impacts of different kinds of regulations on their **businesses**? _____

30. What questions should fishermen be asked so that others understand the impacts of different kinds of regulations on their **families and family life**? _____

Please enter your Multispecies Groundfish Permit Number

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9. If you answered (b) a new group, what would it look like? _____

10. Have you invested in equipment to increase your catch per day as your days at sea have been reduced?

a. ___ N b. ___ Y

11. If yes, what have you invested in? _____

12. When stocks recover will you reduce your fishing effort?

a. ___ N b. ___ Y

13. Can you think of a way to “bank” capacity until stocks recover?

a. ___ N b. ___ Y

14 . If yes, how? _____

15. Do you think there is too much active capacity now for stocks to recover without more regulations?

a. ___ N b. ___ Y

18. Do you think there will be too much active capacity for stocks to stay recovered when they do come back?

a. ___ N b. ___ Y

19. What questions do fishermen want to be asked about capacity? _____

Please enter your Multispecies Groundfish Permit Number

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Fishing Family Assistance

These questions ask about your involvement and views on Fishing Family Assistance Programs in general and about other programs aimed at helping fishermen and their families. Your suggestions for making these programs as useful as possible is invited. ***Please use check marks and fill in with more information if appropriate.***

1. Are you aware of Fishing Family Assistance type Programs?

a. ___ N b. ___ Y

2. If yes, how did you become aware? _____

3. Have you ever used any of these programs?

a. ___ N b. ___ Y

4. If yes, what is your opinion of them? _____

5. If no, why haven't you used them? _____

6. What do you think are the best ways to inform fishermen about the kinds of job training programs available to them? _____

7. What type of training/services would you like to see offered through these centers to fishermen experiencing a decline in fishing activity/income? _____

8. What kind of employment/career would interest you if fishing couldn't support you and your family? _____

Please enter your Multispecies Groundfish Permit Number

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9. What services could Centers like this offer to fishermen who want to continue to fish?

10. Would you use a Center that provided free Internet access, computer use for resumes, want ads, and so on?

a. ___ N b. ___ Y

11. Are you planning to stay in fishing?

a. ___ N b. ___ Y

12. How many generations of your family have been involved in the fishing industry? ___

13. Do you fish alone?

a. ___ N b. ___ Y

14. If no, how many crew members do you have now? _____

15. Were you fishing in 1994?

a. ___ N b. ___ Y

16. If yes, how many others were on the boat with you back then? _____

17. Are you interested in a boat buy back?

a. ___ N b. ___ Y

18. If yes, what should the buy back program do? _____

19. Are you interested in using your boat for research, charter, day hire, training or other uses?

a. ___ N b. ___ Y

20. If yes, check one or more:

a. ___ Charter b. ___ Research c. ___ Day-hire d. ___ Training e. ___ Other

Please enter your Multispecies Groundfish Permit Number

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21. Would you be interested in participating in a fishermen’s round-table (discussion group, meeting) on gear conflict, new gear and technology, or some other topic?

- a. N
- b. Y

22. If yes, what topics? _____

23. What additional information do you need to better conduct your business? **Check any that apply**

- a. More about regulations
- b. Export markets
- c. Harvest techniques
- d. Grants
- e. Aquaculture
- f. Other _____
- g. Local markets
- h. Gear technology
- i. Buy backs
- j. On-board processing
- k. Retraining for yourself or a family member
- l. _____

24. Would you be interested in attending a career orientation workshop?

- a. N
- b. Y

25. Do you have health insurance?

- a. N
- b. Y

26. Do you need assistance in preparing any of the following? **Check any that apply**

- a. Loans or credit availability
- b. Bankruptcy/ foreclosure
- c. Setting up a new business
- d. Other _____

27. What other kinds of assistance or training programs do you think fishermen should be asked about?

Thank you very much for your time and effort!
Please return the answer sheets by using the stamped and addressed envelope.

Please enter your Multispecies Groundfish Permit Number

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Please Print your Name: _____

Please sign your name here: _____

Your Address: _____

Telephone Number: _____

Name of Vessel whose owner identified you as a crew member (Captain or Mate, etc.)

What is this Vessel's Multispecies Groundfish Permit Number?

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Instructions

Please enter the Multispecies Groundfish Permit number of the vessel whose owner identified you as a crew member in the space provided at the bottom of each answer page.

Please return all of the answered pages which contain that permit number. Please use the stamped and addressed envelope - thank you!

Please enter your Multispecies Groundfish Permit Number

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12b. If yes, could such a question be improved by:

- a. Providing an explanation such as the one above
- b. Wording the question in a different way. Please give an example of a question you would feel comfortable with _____
- c. Deleting the question entirely
- d. Other (please explain) _____

13. How long have you lived in the town you live in now? _____ years

14a. Do you consider this town a fishing community? a. N b. Y

14b. Why or why not? _____

15a. Do you consider this town a community which is dependent on the fishing industry?

- a. N b. Y

15b. Why or why not? _____

16. Would you have to move out of your town if fishing became more difficult because of more regulations? a. N b. Y

17. What else might you be able to do in your town if you were not fishing? _____

18. Do you or any household members participate in community organizations?

- a. N b. Y If yes, can you describe them and what you do with them?

19. We would like to know if the questions above gave you a chance to identify your community and describe its relation to the fishing industry. Are there other questions we should have asked? _____

Please enter Vessel's Multispecies Groundfish Permit Number

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Expenditure Impacts of Fishing Industry in New England

The fishing industry is not isolated from the rest of the New England economy. How fishermen and coastal communities are impacted by fishery regulation requires information about where captain and crew income is spent.

Information on what fishing businesses buy helps us understand what other types of shore-side businesses may be affected when fishing conditions change. Knowing where these businesses are located and where captain and crew live helps us understand how economic impacts are spread throughout the New England coastal region.

On the next page you will find a map of New England with several different coastal subregions identified along with towns and cities for reference. Each subregion has been identified with a number and a name. For example, subregion 2 has been called the “Upper Mid-Coast region of Maine.” Altogether there are 11 coastal subregions for New England, one non-coastal region for the entire inshore part of New England (region 12), and one region for everything outside New England (region 13).

Following the map is a table for recording the home region of your vessel, where you live, and where you spent whatever you didn't save of your 1999 income. If you spent your money in several regions, try to give approximately what percent you spent in each. For example, if you operate out of Portland, Maine, then in 1999, 50% of whatever you spent of your income may have been spent within the Lower Mid-Coast region, 25% in Southern Maine, 15 % in the Gloucester/North Shore region and 10% perhaps in Culebra, Puerto Rico (the percentages should sum to 100). **Please use a best guess.**

Fishing Regions of New England

with Major Fishing Ports
(region numbers for ports follow their names)



Fishing Regions by State

Counties within Each Region are Listed

Maine

- 1: Washington
- 2: Hancock, Knox, Waldo
- 3: Cumberland, Lincoln, Sagadahoc
- 4: York

New Hampshire

- 5: Hillsborough, Rockingham, Strafford

Massachusetts

- 6: Essex
- 7: Norfolk, Plymouth, Suffolk
- 8: Barnstable, Dukes, Nantucket
- 9: Bristol

Rhode Island

- 10: All Counties of RI

Connecticut

- 11: Fairfield, Middlesex, New Haven, New London

Other regions

- 12: Near Coastal New England
- 13: Other US Regions

Fishing Business Practices

Over the past five years fishery regulations have significantly impacted fishing practices. This section seeks to find out what adjustments fishermen have made. Some questions look at how these changes impact the family as well. *Please use check marks and fill in with more information if appropriate.*

1. Please **list** the most significant changes in your household finances that you have seen over the last five years because of regulations. Some examples are: Cut back on life and or health insurance, Cut back on family vacations, Cut back on new clothes, Cut back on savings, Postpone new car, truck, house, etc.

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

2. What percentage of the fishermen that you know well work on or own vessels which have all of the required safety equipment in good operating order on board their vessels? _____ %.

3. How many boats did you worked on in 1999? _____ boats

4a. Is this about the same number of boats you usually work on in a year?

- a. ___ Same
- b. ___ More than usual. Up by _____ (please fill in)
- c. ___ Went down by _____ (please fill in)

4b. Are you considered a regular crew member of one boat? a. ___ N b. ___ Y

5. Are you usually able to get on the boat that you want to crew on? a. ___ N b. ___ Y

6. How did you get your site on this boat? _____

7. What makes a boat the kind you would like to work for (e.g. one that catches a particular species of fish, one where you know the captain or owner, one with a good safety record etc.)?

Please enter Vessel's Multispecies Groundfish Permit Number

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8a. Looking at a typical boat you have worked on, do you think the crew generally stays about the same for the whole year?

a. ___ N (If not, what causes the crew to change?) _____
_____)

b. ___ Y (If so, what accounts for the loyalty of crew to that particular boat?) _____
_____)

8b. Do you think crew members generally come from families with a history of fishing?

a. ___ N (If not, why?) _____
_____)

b. ___ Y (If so, why?) _____
_____)

8c. Do you think that crew members ought to come from families with a history of fishing?

a. ___ N (If not, why?) _____
_____)

b. ___ Y (If so, why?) _____
_____)

9. Is your experience of other crew members changing (for example, do you see them getting older or younger than they used to be, are they coming from different ethnic groups or nationalities now, etc.)? _____

10a. How often are you away from home on a fishing trip, and for how long at a time?

10b. Do you have any say in how long your boat stays out fishing?

a. ___ N b. ___ Y

10c. Is this amount of time away from home different than it was five years ago?

a. ___ N b. ___ Y (If so, please indicate whether time away from home has increased or decreased, and the impact on you _____

Please enter Vessel's Multispecies Groundfish Permit Number

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11. How have you been affected by regulations such as Days at Sea?

12a. How are you paid for your work on the boat (for example, lay system, hourly wages, piece rate)?

12b. Has this changed at all from the way it was five years ago? a. ___ N b. ___ Y (If so, how has it changed?)

13a. Do you want to own your own boat in the future? a. ___ Y b. ___ N

13b. Do you think you would be able to own your own boat if you wanted to? a. ___ Y b. ___ N. If no, why not?

13c. Have your expectations about owning a boat in the future changed over the past 5 years?

a. ___ N b. ___ Y If yes, why?

14. What other questions should crew be asked to get at how regulations have affected them?

15. What other questions should crew members be asked to show the differences between being a crew member and being a vessel owner?

16. Do you think crew members should be licensed? a. ___ N b. ___ Y. If yes, what requirements would you make for getting a license?

Please enter Vessel's Multispecies Groundfish Permit Number

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8. Do you think you know how economic information is used in the management process?
a. ___ N b. ___ Y

9. What do you think fishermen want to know about how economic information is used?

10. Do you know how social/cultural information is used in the management process?
a. ___ N b. ___ Y

11. What questions do fishermen have about how social/cultural information is used?

12. Do you think fishermen generally want to comply with regulations? a. ___ N b. ___ Y

13. Do you think most fishermen know how to improve enforcement? a. ___ N b. ___ Y

14. What questions should be asked to fishermen to give them a chance to tell how to improve enforcement?

15. Do you feel there is adequate fisheries enforcement at sea in the areas where you fish?
a. ___ N b. ___ Y

16. Do you feel there is adequate fisheries enforcement at the dock where you land your catch?
a. ___ N b. ___ Y

17. What percentage of the enforcement in the groundfish fishery is carried out by fishermen themselves without the help or knowledge of enforcement officers? **(Check the one that most applies)**
a. ___ None b. ___ 1 - 25% c. ___ 26 - 50%
d. ___ 51 - 75% e. ___ 76 - 100%

Please enter Vessel's Multispecies Groundfish Permit Number

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Capacity and the Future

These questions ask for your views on fishing capacity and its impact and ask for your ideas about the future of fishing. *Please use check marks and fill in with more information.*

1. Do you think the current permit system reduces flexibility for fishermen? a. ___ N b. ___ Y

2. Do you think the permit system could be changed to increase flexibility without increasing the pressure on stocks? a. ___ N b. ___ Y If Yes, how do you think it could be done?

3. Do you see advantages to more local control of fishing capacity and/or effort such as with lobster management by zones in Maine? a. ___ N (go to #4) b. ___ Y If yes, what are the advantages? _____

4. If no, why do you think there would be no advantage? _____

5. Can you think of any existing groups or organizations that could play that kind of role, or would new groups or organizations need to be started? a. ___ Existing group(go to #6)

b. ___ Need new group (please go to #7) c. ___ Won't work anyway.

6. What group or kind of group? _____

7. If you answered (b) a new group, what would it look like? _____

8. Can you think of a way to "bank" capacity until stocks recover? a. ___ N b. ___ Y If yes, how? _____

9. Do you think there is too much active capacity now for stocks to recover without more regulations? a. ___ N b. ___ Y

10. Do you think there will be too much active capacity for stocks to stay recovered when they do come back? a. ___ N b. ___ Y

Please enter Vessel's Multispecies Groundfish Permit Number

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Fishing Family Assistance

These questions ask about your involvement and views on Fishing Family Assistance Programs in general and about other programs aimed at helping fishermen and their families. Your suggestions for making these programs as useful as possible is invited. *Please use check marks and fill in with more information if appropriate.*

1. Are you aware of Fishing Family Assistance type Programs?

a. ___ N b. ___ Y

2. If yes, how did you become aware? _____

3. Have you ever used any of these programs?

a. ___ N b. ___ Y

4. If yes, what is your opinion of them? _____

5. If no, why haven't you used them? _____

6. What do you think are the best ways to inform fishermen about the kinds of job training programs available to them? _____

7. What type of training/services would you like to see offered through these centers to fishermen experiencing a decline in fishing activity/income? _____

8. What kind of employment/career would interest you if fishing couldn't support you and your family? _____

9. What services could Centers like this offer to fishermen who want to continue to fish? _____

Please enter Vessel's Multispecies Groundfish Permit Number

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10. Would you use a Center that provided free Internet access, free computer use for resumes, and want ads, etc?

- a. ___ N b. ___ Y

11. Are you planning to stay in fishing?

- a. ___ N b. ___ Y

12. How many generations of your family have been involved in the fishing industry? ___

13. Were you fishing in 1994?

- a. ___ N b. ___ Y

14. Would you be interested in participating in a fishermen's round-table (discussion group, meeting) on gear conflict, new gear and technology, or some other topic?

- a. ___ N b. ___ Y

15. If yes, what topics? _____

16. Would you be interested in attending a career orientation workshop?

- a. ___ N b. ___ Y

17. Do you have health insurance?

- a. ___ N b. ___ Y

18. Do you need assistance in preparing any of the following? **Check any that apply**

- a. ___ Loans or credit availability c. ___ Setting up a new business
b. ___ Bankruptcy/ foreclosure d. ___ Other _____

19. What other kinds of assistance or training programs do you think fishermen should be asked about? _____

Thank you very much for your time and effort!
Please return the answer sheets by using the stamped and addressed envelope.

Please enter Vessel's Multispecies Groundfish Permit Number

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Publications and Reports of the Northeast Fisheries Science Center

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