

Comments on Amendment 13 by the Community Panels Project

October 15, 2003

A Massachusetts Fishermen's Partnership Project

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I. Introduction

The Panels Project is a cooperative research project funded by the Northeast Consortium and the Saltonstall-Kennedy program. The project is focusing on 6 communities in the region, Beals Island/Jonesport and Portland (Maine), Gloucester, Scituate (actually, South Shore), and New Bedford (Massachusetts) and Pt. Judith (Rhode Island). These six communities are representative of the variety of characteristics of the fishing industry in the region including inshore/offshore, large/small, urban/rural, fish/shellfish, mobile/fixed gear, auction/entrepreneur-dealer, etc.

The primary objective of this project is to develop a community-based process for gathering and assessing social science data relevant to the fishing industry. We believe the information gathered and kept current will help communities protect their needs and interests in the fisheries management, coastal zone management, and economic development arenas.

The methodology being used and information gathered by each panel is slightly different, driven by the interests of the panelists and preferences of the panel coordinators. However, Amendment 13 has been a topic of discussion in both panel meetings and individual interviews. Certain themes relating to the potential impacts of Amendment 13 resonate throughout the region. Comments made at the New Bedford public hearing identified some of these. Additional comments by project participants were offered in Gloucester and in Portland.

The first portion of this written comment will briefly summarize the issues that have been identified throughout the region. Some of these address the likely impacts of Amendment 13, others indicate vulnerabilities, and a few address a vision of the future for which participants hope.

Following this summary is a document from the Gloucester Community Panel that elaborates on fisheries infrastructure. A report from Portland discusses in some detail market, crew and flexibility impacts. New Bedford's report was presented at the Fairhaven hearing, but is included here. Comments on Amendment 13 from Scituate and Point Judith have been incorporated into the theme summary. The Panels Project's comments on the economic analysis of Amendment 13 was presented at the Fairhaven public hearing, but will also be appended here to keep the Panels Project's documents together. Finally, a section on methodology is included for purposes of considering the project's data quality.

II. Themes

Cumulative regulatory impacts

It is difficult to separate the likely impacts of Amendment 13 from the effects of the series of management measures that have been implemented since 1994 commencing with Amendment 5 to the Multispecies Fishery Management Plan.

Some fear that Amendment 13 will be the proverbial straw that broke the fishing industry's back. Some of the impacts noted below began with Amendment 5, but are likely to be more severe under Amendment 13, possibly pushing the vulnerable over the tipping point.

Whereas some have been able to stay in the business by shifting target species, taking on more personal debt, finding niche markets with higher prices, etc., the added constraints of the new regulations are likely to push businesses on the edge over the line of sustainability. "We lost 75 percent of our time since 1994." This same concern was voiced by shoreside businesses, with parallel estimates of the extent of cuts. One small but essential support service business owner noted that he has had to fire 6 employees in the last 3 years.

On families

Anxiety about the reliability of income from fishing has become more acute as regulations have increasingly limited fishermen's options.

Spouses commonly began working soon after Amendment 5. Some chose to work because of a change in expectations regarding women's work, but others felt compelled to work because of the uncertainty regarding family income from fishing. Many admit that they started working in order to obtain health care for their families.

Health care tends to be the first expense eliminated when fishing income goes down.

Anxiety about the regulations has taken a toll on social networks and social capital. Some families have reconsidered their children's choices of college.

On crew

Quality of the crew: Vessel owners and captains complain that it is more difficult to find hard-working, skilled and motivated crew members because

of the DAS limitations and other regulations that limit fishing options, making provision of a regular income uncertain.

Size of the crew: In order to assure their crew a reasonable income, many are fishing short-handed, or sharing one crew with two vessels.

Crewmembers shoulder a large portion of the burden of new regulations, but rarely benefit from government assistance. Vessel buybacks, for example, did not provide any compensation to crewmembers.

Maintenance costs of the VTR systems are taken out of the crew share. Some crew have noted income reductions of 30 to 35 percent.

On the fleet

Both crew members and vessels are getting older. The average age of fishermen in the six ports is estimated as 40 years old. Due to the uncertainty associated with the frequently changing regulations, young people are being steered away from fishing as a career. Panelists note the importance of the passing of traditional knowledge from generation to generation. “We teach each other on deck of the boat, you can’t teach them that in the schoolroom...that’s a hands-on industry...You’re going to lose this industry.”

Furthermore, the start-up costs for entry into fishing (for both fishing vessels and permits) has sky-rocketed. Also because of the uncertainty, old vessels are being repaired rather than replaced.

Shore business owners also noted the difficulty of attracting and keeping employees. “We have to compete [like] everyone else. We have to go out and find people to come into this industry and we have to be able to keep them...we just don’t have anything left to cut.”

On planning

The frequent changes in regulations limits the ability of vessel owners and shoreside companies to establish a multi-year business plan. This, in turn, limits their ability to leverage funds by obtaining business loans or lines of credit.

Fishermen generally seek a balance of quantity, quality and price, however, with the frequent changes in the regulations, some are afraid to experiment, search for new grounds or try different species, or even change the timing of their fishing for fear that they will lose the DAS available. The businesses dependent on the harvesters also suffer from the inability to

plan ahead or change due to the threat of new regulations instantly applied. “Every two minutes there’s a change.”

On other species

The restrictions on groundfish have caused some fishermen to shift to other species, driving up effort on those. Lobster fishing has grown exponentially since the implementation of Amendment 5.

Lack of flexibility

Availability of a diversity of species and a willingness to switch to whatever species is most plentiful has traditionally worked to the advantage of inshore fishermen. Now, panelists complain that every fisherman is “being put in a box.” Single species management has negative economic and ecological consequences since fishermen, who in the past diverted to more plentiful species if their target species was unavailable, now continue fishing for whatever species for which they have permits. The lack of flexibility also keeps fishermen from being able to recuperate from trips with poor catches, poor prices, or equipment failures.

The allocation of days-at-sea (DAS) relies on “history,” that is, a record of the days associated with fishing for and landing managed species. Those who traditionally fished a variety of species sometimes have not garnered sufficient history during the qualifying period to retain a sufficient number of DAS for each of the species to be able to continue fishing flexibly.

The limitations on entry into each of the managed species have resulted in a developing market for permits. The increasing costs of the permits noted above are constraining the entry of young people into the industry.

Impacts on vessel condition/safety

Costs of vessel maintenance and repair have gone up due to the decrease in the numbers of active fishing vessels, increase in technology, and competition with leisure vessels. As one panelist noted, the high cost of repairs cuts into profitability, but it also has serious safety implications, “[we’re] playing musical chairs with Davy Jones locker.”

Closed areas force the fleet to fish farther out. This is particularly problematic given the numbers of older boats in the fleet.

Fishing with smaller crews results in fatigue and an over-reliance on the autopilot.

Impacts on shoreside businesses (Infrastructure)

A report on infrastructure in Gloucester is included in these comments. Many of the issues thoroughly explored in Gloucester have been raised in the other six

communities of this project. Portland, New Bedford and, to a lesser extent, Point Judith, all provide essential services to surrounding fishing communities. Each community, however, feels that their role as a fishing industry hub is threatened by the likely impacts of Amendment 13. All of these communities have lost a plethora of businesses, leaving only a minimum number.

Threats to the remaining businesses include the increasing level of debt. Long established businesses have extended credit to loyal customers for as long as six months, but question the feasibility of continuing to do so.

Gentrification, particularly in the form of tourism interests, creates a high demand for waterfront property. For example, Pt. Judith now serves as a staging area for the ferry to Block Island. The areas where fishermen used to park or work on gear, are “filled with tar and [ice cream] cones.” The demand has led to increases in property taxes (or the costs of leases) in some communities, further eroding the viability of fishing dependent businesses.

As the Gloucester report points out and other panels noted, the high costs of waterfront property and its transformation to residential structures or other gentrified businesses will also limit the ability of fishing businesses to regain access after stocks rebuild.

Impacts on supply and prices

The regulations may cut supply, but it is unlikely that the prices for fish will rise sufficiently to compensate. Processors are forced to import fish to maintain a steady supply of raw material for their product. Much of the imported fish, however, is caught by fishermen unconstrained by the strict regulations that New England’s fishermen face.

Prices also falter when processors go out of business, so there are not sufficient numbers of processors to create demand. Furthermore, as the New Bedford report points out, the large size of the fish being landed defeats the ability of the automatic cutting machines to function properly and there are insufficient numbers of skilled (human) cutters in many of the communities.

Once product has been replaced, it is much harder to regain market position, particularly if the supply is inconsistent due to closures and other regulations.

Economic costs

Landing of fish is said by some to “create new money for the state,” so to the extent that the regulations decrease landings in any state, there will be economic losses.

Insurance costs have increased, despite the cuts in DAS per vessel. *Variable costs are significant though they differ according to age and condition of vessel; crew size; etc.

See below for a critique of the economic analysis in the DSEIS for Amendment 13.

Concerns and vision for the future

Anticipated problems with hard TACs

Hard TACs tend to lead to “fishing derbies” or the “race to fish” because everyone wants to be certain that they are able to catch a portion of the managed species before the TAC is reached. In consequence, the landings tend to be too high for processors to handle immediately and the prices diminish. If the catch is frozen by dealers or processors to avoid overloading the market, the frozen inventory ties up cash that might otherwise have been used for new product lines or additional workers. The “only ones who benefit are the cold storage companies and the bank,” noted a Pt. Judith business owner.

Other panelists have pointed out that managing through hard TACs could lead to transferable quotas, a management method that most of our panelists oppose.

Fleet structure

With only one or two exceptions, participants in all six panels would like to see the New England fleet retain its diversity of vessel size, gear, and fishing strategies.

Environment

No one argues against the need for regulations to rebuild stocks. According to one panelist, it is the “knee jerk fisheries management” in reaction to lawsuits to which the industry objects. Equity is a major concern, but in general sustainability of both fish stocks and fishing communities is desired.

III. Economic analysis of the DSEIS

By David Terkla, Economist, UMASS Boston

Presented at the Fairhaven Public Hearing by David Martins

While the DSEIS for Amendment 13 is a long complicated document, this memo highlights some key points that emerge from the economic analysis of the alternatives as presented in the 8/21/03 draft of the DSEIS. The analysis is conducted based on the rebuilding time frames and strategies, as opposed to particular alternatives. However, each alternative falls under one of these strategies and/or time frames.

The major point that arises from these analyses is that retaining the 2001 rules (labeled No Action) is almost as beneficial in terms of net economic benefits over the study period (2003-2026) as any of the proposed rebuilding plans. In fact, it is not until the year 2014 that one of the rebuilding plans would result in higher landings than No Action and 2015 that the other rebuilding plans would achieve higher landings.

Thus it takes almost to the end of the period (2021-2023) for the discounted net benefits of any of the rebuilding plans to exceed the discounted net benefits associated with the No Action plan. By the year 2026, the rebuilding plans are generating net benefits [value of projected landings minus assumed fixed costs and some operating costs (labor costs are not included due to the complications of the share payment system)] of \$310 - \$327 million per year as opposed to the No Action alternative, which is estimated to be generating \$280 million per year.

Given the considerable uncertainty associated with forecasting trends in technology, biological stocks, and changes in fishing behavior in response to regulatory changes, it is hard to conclude that being able to produce added net benefits of \$30-\$47 million per year over twenty years from now is a sufficient basis to justify adoption of any of the rebuilding strategies over the No Action alternative if net economic benefits were to be the sole criteria used. The DSEIS does test some of these benefit streams with a sensitivity analysis that concludes that there is only a 17% chance that one of the rebuilding alternatives will result in greater than \$100 million in additional discounted net benefits over the No Action plan and only a 50-55% chance that the other rebuilding alternatives will achieve this result.

Moreover, it appears that while this sensitivity analysis takes account of possible uncertainty in projecting landings, it does not account for behavioral or technological changes.

Consequently, it is important to examine the level of disruptions to the communities and industries involved in the alternative plans quite closely since dramatic distributional changes or infrastructure costs are not included in the figures for calculating net benefits. This is particularly the case in choosing among rebuilding strategies (assuming the legal

requirements for biomass goals cannot be met with the No Action plan), since the differences among them are even smaller than the differences cited above. Thus, equity considerations may dominate any efficiency (net benefit) savings.

**IV. A Study of Gloucester's Commercial Fishing Infrastructure:
Interim Report**

by

Gloucester Community Panel (Sarah Robinson, Coordinator)
Massachusetts Fishermen's Partnership Community Panel Project

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A Study of Gloucester's Commercial Fishing Infrastructure: Interim Report

by

Gloucester Community Panel (Sarah Robinson, Coordinator)
Massachusetts Fishermen's Partnership Community Panel Project

Summary

This is an interim report on a cooperative research study of the shoreside infrastructure supporting commercial fishing in Gloucester in 2003.

Gloucester is and has been for a very long time a northeast regional center for the United States fishing industry. Gloucester's fleet is changing, but as before, the majority of its vessels fish for groundfish. However, some groundfish vessels fish for non-groundfish species as well, and there are also vessels in Gloucester that fish exclusively for non-groundfish species. Gloucester's shoreside support businesses serve Gloucester-based vessels but they also serve vessels from outside Gloucester. Because Gloucester is a regional hub, boats from outside Gloucester come to Gloucester for haul-outs, for machine parts, for gear, to land catch, and so on. They buy these services in Gloucester because they cannot get comparable services where they tie up; because they come to Gloucester to land fish and then pick up services while they are in the city; and/or because they temporarily relocate to Gloucester to be near the fishing grounds off Gloucester.

Gloucester's shoreside infrastructure, and hence its very status as a hub port, is precarious today. This is due, it appears, to the cumulative effects of diminished landings and extensive regulation of fishing throughout the 1990s. Moreover, Gloucester was significantly changed – diminished – by the 1997 federal buyback program which removed a significant proportion of Gloucester's large groundfish vessels, along with their seasoned captains and experienced crews.

At present, the shoreside infrastructure in Gloucester supporting commercial fishing consists of six or seven processors of any size (three for groundfish and other species, and three to four for specialty species); a seafood display auction that sells mainly groundfish; multiple buyers of fish (groundfish, tuna, lobsters, and others); multiple wharves for offloading; one ice company; two repair and haul-out facilities; several fuel services (though only one with a fuel barge); a handful of gear shops (one that sells bottom-trawl gear, one that hangs gill-nets, three that sell lobster and gillnet gear, one that sells mid-water trawl gear); and public and private berthing facilities. These shoreside businesses are tending to one of two directions: Some are sustaining serious financial losses and will likely cease operations, while some are staying solvent by

diversifying away from serving the fishing industry. Fish processing businesses that, by their nature, cannot diversify away from the fish business, have either gone out of business or are diversifying away from Gloucester-landed (or even New England-landed) groundfish. The few waterfront businesses who do not face the choice of diversifying away from the fishing industry or from groundfish are the buyers and processors of some non-groundfish species. Many of the species these businesses deal in, however, cannot support expansion (hagfish, lobsters) and may be short-lived, as were dogfish and sea urchins.

This stripped down infrastructure is highly vulnerable to further cuts in fishing activity. As some businesses fail and others turn away from supporting commercial fishing, two things are likely to happen. First, if one or more of the critical elements comprising the fishing industry infrastructure disappears, the others will likely fall like ‘dominoes.’ If boats are unable to get a full suite of services in Gloucester, they will move to other ports where the full suite of services is available. Gloucester boats that are mobile will leave, and boats from outside Gloucester will cease coming to Gloucester. Second, as the Gloucester waterfront loses the set of services supporting the commercial fishing industry, the pressure to remove the marine industrial zoning restrictions in the waterfront area will mount, and, at some point, presumably succeed. When and if the waterfront is re-zoned (a matter of both city regulation and state law) and non-industrial, non-water dependent uses of the properties are installed, it will be, practically speaking, impossible to re-zone the area for marine industrial uses.¹

The Gloucester fishermen and shoreside business owners who shared their expertise in this cooperative research project are appalled at the idea that pending measures to rebuild the groundfish fishery could have the effect of bringing down the centuries old commercial fishing infrastructure in the proud port of Gloucester. They fear that when groundfish landings are rebuilt and landings are increased 2.5 – 3x their current rates, there will be no Gloucester infrastructure, and hence no Gloucester industry, to participate in the fishery. This loss will be an economic loss, a loss of identity, a loss of skills, and a loss of a ‘way of life’ that has inspired and sustained people both inside and outside the industry. These losses will bring in their wake large social restructuring difficult to foresee.

¹ One state law, Massachusetts General Laws, Chapter 91, requires that filled-in tidelands be used for water dependent uses or for a proper public purpose, and this law, which applies throughout the state, is unlikely to change. However, Chapter 91 applies to only the shorefront portions of the waterfront, and, unlike the requirements more vulnerable to change, does not require marine industrial use of such properties.

I. Introduction

A. Background

This is an interim report on Gloucester's shoreside infrastructure produced as part of an ongoing cooperative social science research project. The research project is entitled 'Institutionalizing Social Science Data Collection' and is funded by the Northeast Consortium and the Saltonstall-Kennedy federal grant program. The three principal investigators are David Bergeron, Executive Director, Massachusetts Fishermen's Partnership; Dr. Madeleine Hall-Arber, anthropologist at MIT Sea Grant; and Dr. Bonnie McCay, anthropologist at Rutgers University. Prof. David Terkla, economist at U Mass Boston, is a consultant to the project. The purpose of the project is to set up community panels in six fishing ports along the New England coast, and for the community panels to identify and develop critically needed social and economic information about their ports. The six ports in the study are Point Judith, Scituate, New Bedford, Gloucester, Portland, and Jonesport/ Beals Island. This project is one of only a few social science cooperative research projects regarding the fisheries, and it is predicated on the idea that members of the fishing industry (including the allied support industries) are experts in their fields and that their expertise is essential to developing accurate and useful information about the social and economic side of the fisheries.

In Gloucester, the panel is composed of fishermen (owners and operators of small, medium, and large draggers, small and medium gillnet boats, and one small long-lining vessel), owners and operators of shoreside businesses (the seafood display auction, fish processing facilities, the ice company, gear shops, the marine railways), a settlement agent, a maritime attorney, representatives of fishing industry organizations (the Gloucester Fishermen's Wives Association and the Northeast Seafood Coalition), Gloucester's Harbor Plan Implementation Coordinator, and others. Some members represent both the shoreside and the harvesting sector: One fisherman is also a wharf owner, and one gear shop owner is also a lobsterman. The coordinator of the panel is Sarah Robinson, Ph.D. candidate in anthropology at Harvard University. Thirty-four people contributed to this study, either as panel members or through interviews with the panel coordinator. A complete list of panel members and interviewees is appended to this report as Appendix A.

B. Purpose

The Gloucester panel decided to focus on the status of the commercial fishing infrastructure in the port of Gloucester. Gloucester today is predominantly a groundfish port, and it is a hub for groundfish vessels in the region. (In 2001, 71.4% of the revenues of multi-species vessels homeported in Gloucester were from groundfish; this figure

averaged 63% in the period 1994 to 2001.²) Panel members wanted to determine the effects of increasingly severe federal restrictions on groundfishing (beginning with the emergency closure of Georges Bank in 1993 and continuing through Amendments 5 and 7, various frameworks, and the Interim Rule) and related programs (the buyback program) on the shoreside infrastructure in Gloucester.

Moreover, the pendency of Amendment 13 makes a study of shoreside infrastructure both timely and essential. There is widespread concern that the shoreside infrastructure in Gloucester will not survive the additional cuts in groundfishing that will be mandated by Amendment 13. Moreover, there is concern that a loss of infrastructure will mean the loss of the fishing industry in Gloucester. This is because the industry cannot exist without supporting shoreside infrastructure. Finally, there is concern that this loss of infrastructure and industry, when and if it comes, will be permanent. When and if the offloading facilities, the ice house, the fishing vessel berths, and so on disappear from the waterfront, their place will be taken by other uses (residential, recreational, non-water dependent commercial, etc.), and these other uses will not be easily dislodged in the future. This concern about the practical irreversibility of the loss of commercial fishing infrastructure on waterfronts is supported by basic principles of economics and by case studies of such change.³

This scenario is especially disturbing for community panel members because the goal of Amendment 13 is to rebuild groundfish stocks to levels that will permit a two and one-half to three-fold increase in permissible landings.⁴ The fishery will be rebuilt, and is already rebuilding.⁵ The grave and abiding concern is that, in the future, when federal regulations permit the harvesting of these rebuilt stocks, Gloucester will not be able to participate in the fishery because it will have lost its infrastructure and its industry during the rebuilding period, and it will not be able to get them back.

The study of shoreside infrastructure, therefore, was an obvious priority for the Gloucester community panel. The urgency of undertaking the study was underscored by

² See Amendment 13 DSEIS, Volume II, p. 1410, Table 542: Fishing Activity for Vessels Homeported in Gloucester (August 21, 2003). This table may overstate the percentage of total Gloucester fishing revenues from groundfish because the table examines only those vessels homeported in Gloucester that have federal multispecies permits. However, the percentage of federally permitted vessels homeported in Gloucester with multispecies permits is very high. Of all federally permitted fishing vessels claiming Gloucester as a primary port, 87 per cent have multispecies permits. See NMFS online permit database (query run in March 2003).

³ See Marine Law Institute, University of Maine, in association with Center for Applied Social Science, Boston University, *Guidebook to the Economics of Waterfront Planning and Water Dependent Uses*, p. 24-26 (1988).

⁴ See DSEIS, Section 4.4, Economic Impacts, p. I-516 et seq. (August 21, 2003).

⁵ See DSEIS, Executive Summary, I-v (August 21, 2003).

the fact that the New England Fishery Management Council's study of the likely social and economic impacts of Amendment 13 does not include an assessment of the impacts of Amendment 13 on shoreside infrastructure in the New England fishing ports.

C. Method

In order to undertake the study of commercial fishing infrastructure in the port of Gloucester, members of the panel met as a focus group three times. In addition, some panel members gathered information outside of meetings and the panel coordinator conducted a number of interviews. In the first of the three focus group meetings, the group brainstormed in an effort to (1) determine the elements of shoreside infrastructure essential to the support of commercial fishing; (2) assess the status of each of these critical elements in Gloucester today; (3) identify the characteristics of the shoreside support industries in Gloucester today; and (4) characterize the harbor today as a whole. The coordinator prepared a transcript of this extensive (4 hour) brainstorming session and, on the basis of that transcript, prepared a draft report. The second time the group met to review the draft report and to identify further data needs. Following that second meeting, the panel coordinator conducted a series of interviews of local shoreside experts and added to and revised the draft report. The group met one last time to review the information in the report and to recommend further changes and additions. See Appendix A for a list of the 34 people who participated in the project as panel members or interviewees.

It should be noted that, in addition to characterizing the current difficulties on the waterfront, panel members are also working among themselves and with city officials – the Gloucester Harbor Plan Implementation Coordinator (who has been attending all the sessions as a panel member), the Director of Community Development, and others – to suggest ways in which some of Gloucester's shoreside infrastructure difficulties might be addressed. There is a creative energy within the group and a very strong desire to develop means to maintain Gloucester as a key port for the fishing industry.

D. Outline

This interim report is divided into six sections. The first is this introduction; the second is a list of shoreside infrastructure needs essential to a functioning fishing port; the third is a discussion of selected elements of Gloucester's shoreside infrastructure; the fourth is a discussion of some characteristics of Gloucester's shoreside support businesses; the fifth is an assessment of the Gloucester's infrastructure as a whole; and the sixth sketches the panel's vision for the port. Appendix A to the report is a list of all panel members and interviewees. Appendix B is a list of the businesses, structures, and space that together comprise Gloucester's shoreside infrastructure. Appendix C is a compilation of the graphs referred to throughout the text.

II. Infrastructure Needs for a Commercial Fishing Port

The panel identified three different categories of commercial fishing infrastructure critical to a commercial fishing port: businesses, structures, and space; people (labor); and various ‘intangibles.’ The list below is still a work in progress and thus should not be read as complete; however, the panel does believe that the following items are critical to a functioning commercial fishing port.

(A) Businesses, Structures, and Space:

- Mooring space for fishing vessels
- Facilities to maintain and repair fishing vessels
- Gear and supply shops
- Open space for working on gear
- Fueling facilities
- Ice plant(s)
- Fish buyers/ Auction for fish buyers
- Fish processors
- Transportation for fish and fish products
- Coast Guard/ port security

(B) People

- Experienced fishermen, including captains
- Young fishermen, including young captains
- Gear technicians: people who understand gear, and can fix and design gear (usually such people are also fishermen)
- Lumpers
- Settlement agents
- Maritime attorneys
- Skilled trades
 - Welders
 - Electricians
 - Woodworkers
 - Diesel engine mechanics
 - Commercial divers/ underwater welders
 - Electronics specialists
 - Refrigeration specialists

(C) Intangibles

- Markets for fish
- Financing for shoreside operations
- Fishing industry organizations
- A voice for the city in the fishery management process
- A vision for the harbor
- Positive public relations for the fishing industry
- Clear lines of communication between the city/industry and government decision-makers

III. Discussion of Selected Elements of Gloucester's Shoreside Infrastructure

This section contains a discussion of selected elements of Gloucester's shoreside infrastructure today. This discussion should be read in conjunction with Appendix B to this report, which is a working list of the existing shoreside businesses that comprise the infrastructure that supports commercial fishing in Gloucester today.

While the panel focused in this project on shoreside infrastructure rather than on the fishing industry itself, it was necessary to consider two aspects of the industry when examining shoreside infrastructure: the number and size of vessels fishing from Gloucester and the types and volumes of species landed in Gloucester. Thus, this discussion of selected elements of Gloucester's shoreside infrastructure begins with a preliminary note on vessels and catch. (It should be noted, moreover, that the panel is well aware of the need to study other aspects of the industry critical to the shoreside infrastructure, most notably labor, but it has not yet undertaken that part of the study.)

A. Preliminary Note on Catch and Vessels

The Size and Composition of the Catch

Gloucester is, and has been, a groundfish port. In the 'modern,' post-Magnuson era, groundfish revenues have accounted for between 78 percent (1984) and 43 percent (2002) of all landings in Gloucester (see figure 1 showing groundfish revenues as a percent of all Gloucester landings each year from 1975-2002).⁶ As is well known, groundfish landings in Gloucester were highest in the late 1970s and early 1980s, fell significantly in the late 1980s, increased in 1990, and then fell again in the 1990s (see figure 2 showing Gloucester's groundfish landings from 1975-2002).⁷ Starting in 1993 with the emergency closure of Georges Bank, the past decade has seen increasingly intensive regulation of the groundfishery and an accompanying decrease in landings. In 1981, the year of the highest groundfish landings in the 'modern,' post-Magnuson era, 81 million pounds of groundfish were landed in Gloucester; in 1997, the year of the lowest groundfish landings in Gloucester in this same period, 11 million pounds were landed. And, as the Council has calculated, between 1994 and 2001, groundfish revenues accounted for between 60.5 percent and 71.4 percent of the revenues of multi-species permitted vessels homeported

⁶ All figures are contained in Appendix C

⁷ . Total landings (all species combined) in Gloucester for the period 1975-2002 show the same pattern of decline since the 1980s shown by Gloucester's groundfish landings (a function of the dominance of groundfish). See figure 2.

in Gloucester (such vessels account for 87 percent of federally permitted vessels that identify Gloucester as their ‘principal port’).⁸

Other species currently landed in Gloucester include lobster, monkfish, tuna, hagfish, herring, mackerel, whiting (silver hake), and scallops. Some of these are being landed in increasing quantities in recent years (monkfish, lobster, hagfish, and mackerel, for example). Others are being landed in decreasing quantities in current years (whiting and shrimp, for example). Herring has had a cyclical pattern of landings; landings increased significantly in 2001 but decreased somewhat in 2002. Some species landed in the recent past are now not landed at all or in very small quantities (dogfish, sea urchins, crabs), and some fluctuate, such as swordfish, which was landed in some quantity between 1985 and 1995 but not again until 2001. See the graphs of Gloucester landings, by species, for the years 1975-2002, in Appendix C.

The Number and Size of the Vessels

The number of vessels based in Gloucester has declined significantly, as has the average size of a Gloucester vessel.⁹ It is difficult, however, to determine the precise number of vessels fishing from Gloucester (or most any port), now, or in the past. Lists of federally and state permitted vessels associated with the port are helpful but can be misleading.¹⁰ First, as is well known, some permitted and registered vessels are not active. Second, even if a vessel is fishing, its ‘homeport’ or ‘hailing port’ is often not a good indicator of the port out of which it fishes. In the words of one knowledgeable panel member, an attorney: “It doesn’t make any difference where the boat is homeported; it doesn’t mean beans.” ‘Homeport’ is a function of the location of the regional Coast Guard office that houses the abstract of the vessel. ‘Hailing port’ is sometimes the principal place of business of the corporation that owns the vessel and not the port from which the vessel fishes (for this reason there are sometimes vessels with inland hailing ports). Third, some owners of Gloucester vessels specifically avoided registering their vessels in Gloucester in an attempt to obtain lower insurance rates than were available for ‘Gloucester vessels’ after the insurance crises of the late 70s and the 80s.

⁸ DSEIS, Vol II, Table 542. Of 288 federally permitted vessels listing Gloucester as principal port in 2003, 251, or 87 percent, have multi-species permits. NMFS online permit database, query run in March 2003.

⁹ A decline in the number of multi-species permitted vessels fishing is noted in the Council’s analysis which shows that, in 1994, 184 of the multi-species permitted vessels homeported in Gloucester were ‘active’ (landing one or more pounds of fish), while, in 2001, only 159 of the multi-species vessels homeported in Gloucester were active. The number of active multi-species permitted vessels homeported in Gloucester dipped to a low of 143 in 1999. See DESIS, Table 542.

¹⁰ Historical lists are also difficult to come by; while current year figures are online, historical lists may be obtained only through requests to NMFS, and our requests were unavailing.

Fourth, vessels move around, and do not necessarily fish from a single port. Vessels from outside Gloucester come to fish in Gloucester, and vessels from Gloucester migrate out of Gloucester to fish from other ports. These movements may be temporary, they may be seasonal, or they may be ‘permanent.’ The extensive regulation of the groundfishery over the past decade has heightened this phenomenon, as boats move around in attempts to avoid closures and to make the most of limited days at sea. Fifth, it is common for boats fishing from one port to land fish in another. For this reason, the number of vessels landing fish in a port is not a good indicator of the number of boats fishing from that port. Boats from Gloucester may land their catch outside of Gloucester, and boats from outside Gloucester may come to Gloucester to land their catch.

That said, the sharp downward trend in the number and size of vessels fishing from Gloucester is evident from a number of sources:

(i) Historical estimates

A good way to get a sense of the number of boats fishing from a port is to count the number of boats buying ice in that port. With some exceptions, boats need ice to go fishing, and thus the number of boats buying ice in a port is a good proxy for the number of boats fishing from the port. Records of Gloucester’s Cape Pond Ice Company show that 182 different vessels bought ice from the company in 1981, the peak year in the ‘modern,’ post-Magnuson era of commercial fishing in Gloucester. At that time, Cape Pond Ice was one of two ice companies selling ice to vessels on the Gloucester waterfront (the other was the Ice Division of the Gloucester Marine Railways), and the current company president estimates that the two ice companies shared the business roughly 50-50 back in 1981. This would mean that roughly 362 vessels bought ice to go fishing from Gloucester in 1981. This does not mean, however, that all of these vessels were ‘Gloucester’ vessels or made repeated trips from Gloucester in that year. Some may have been fishing temporarily from Gloucester, some may have been fishing seasonally in Gloucester, and some may have landed fish in Gloucester and picked up ice as they left to go back out fishing.

One fisherman with a keen memory recalls counting the number of vessels that tied up in the Gloucester harbor in 1983 and determining that there were 138 large or medium draggers in the harbor. Most were over 60 feet long and many were in the 75-100 foot range and carried five to eight fishermen. (The same fisherman estimates that there are at present in Gloucester only about 38 draggers 50 feet or larger.)

Doeringer, Moss, and Terkla reported in 1986 that there were “somewhat more

than 200 finfish boats, or ‘draggers’” in Gloucester.¹¹

A.T. Kearney, a management-consulting firm that conducted a study of the Gloucester fishing industry in 1994 for the Massachusetts Land Bank when the latter was deciding the manner in which to continue the development of the Jodrey State Fish Pier in Gloucester reported the following figures, as of 1994:

Vessel type and size	Number
Groundfish trawlers (70-100 ft)	40-50
Groundfish trawlers (50-70 ft)	70
Gillnet boats (50-70 ft)	60
Lobster boats	100-150 in the region
Purse seine vessels (60-100 ft)	10 transient
‘Combination’ vessels (tuna, swordfish, others) (45-70 ft)	Number indeterminate but increasing

Table adapted from A.T. Kearney, Gloucester State Fish Pier Redevelopment Project: Comprehensive Industry Assessment and Pier Development Plan, p. 3-2 (1994).

(ii) Present-day estimates

In 1999, Cape Pond Ice Company became the sole ice company on the Gloucester waterfront.¹² The number of vessels buying ice from Cape Pond Ice Company since it became the sole ice plant in 1999 has fluctuated between (approximately) 91 and (approximately 104).¹³ As indicated in the historical discussion of ice sales, these numbers represent the total number of boats buying ice in the port and so include one-time visitors, seasonal visitors, and so on. In addition to these 100-odd vessels buying ice in Gloucester, there are also in Gloucester at present at least eight large vessels that do not buy ice. These are: two 140 ft mid-water trawl herring and mackerel boats using a refrigerated seawater chilling system, two large herring purse seine vessels also using a refrigerated seawater chilling system, and four large freezer-processor vessels that have recently come to Gloucester to fish for hagfish.

Of the 100-odd vessels buying ice, panel members report that only nine are large

¹¹ P. Doeringer, P. Moss & D. Terkla, *The New England Fishing Economy: Jobs, Income, and Kinship* (1986), p. 35.

¹² See the discussion of Gloucester’s ice companies, below.

¹³ The need to approximate is due to the fact that some vessels are billed directly by the ice company and others are billed through the auction; the ice company, which has provided its records for this analysis, has detailed records of the boats it bills directly and less detailed ones for the boats it bills through the auction.

vessels (70-90 ft), and that these nine large vessels are all that remains of Gloucester's former fleet of large groundfish vessels. Not only has the number of active boats in Gloucester declined, but also, just as importantly, the average size of the active vessels has decreased dramatically.

One important factor in this decrease in the number and size of groundfish vessels in Gloucester was the 1997 buyback program that targeted Gloucester's larger groundfish vessels. Thirteen Gloucester vessels were bought back; of these, 12 were over 60 feet (five were between 60 and 70 feet; three were between 70-80 ft, and four were between 80-90 feet). Moreover, the buyback also removed 14 other vessels that fished from Gloucester though they were homeported elsewhere; of these 14, 11 were greater than 60 ft (one was between 60-70 ft, eight were between 70-80 feet, and two were between 80-90 feet).¹⁴ The impact on shoreside infrastructure of the removal of these large vessels should not be underestimated. Larger, offshore vessels buy much more ice, fuel, gear, groceries, and so on than smaller day or two to three day trip boats; they make considerably higher revenues than small or medium vessels; and they consistently undertake major haul-outs in the summer time. One panel member put it this way: "Every boat that is bought back is a business; that [buyback] represents a business closing, and some of those businesses had gross sales of a million dollars, in a million dollar range. That's a significant business to close down, for this community."

B. Buyers and Processors:

1. Groundfish

The Seafood Display Auction and Groundfish Buyers

The Gloucester Seafood Display Auction opened at the end of 1997. It is owned and operated by a family that formerly owned and operated a fish processing facility on several locations on the waterfront (Star Fisheries, and, prior to that, Morning Star). The decision to invest in the auction, family members have said, was based partly on the fact that Amendments 5 and 7 to the groundfish management plan were working to rebuild groundfish stocks. The business aimed to position itself as a central site for buying high quality groundfish when the stocks were rebuilt. The Auction has become the focal point for the buying of groundfish for out-of-town processors (either directly or through local brokers). There are about 14 regular buyer/processors from outside Gloucester, and about 10 regular buyers from Gloucester. Of the Gloucester buyers, some are buyer/brokers who buy for others or re-sell as soon as they buy (around six); and some are

¹⁴ The list of the vessels and their dimensions is from a report in Commercial Fishing News, March 1998, pp. 1B, 14B-16B, citing National Marine Fisheries Service, Northeast Financial Services Office, as source. The list of the non-Gloucester vessels that had fished in Gloucester is from Cape Pond Ice records.

buyer/processors who process the fish at their facilities on the Gloucester waterfront (three). Of the latter local buyer/ processors, two of the three buy fish directly from boats as well as at the auction. After the auction opened, at least one fish dealer stopped buying groundfish altogether and focused instead on species not handled by the auction (lobsters).

The Auction is a display auction and is credited by many for having helped the development of a market for quality fish, and for having helped boost groundfish prices. It is also credited with bringing a substantial number of boats from outside Gloucester to land fish in Gloucester (in 2001, for example, there were close to twice as many boats landing groundfish in Gloucester as were homeported in Gloucester: 261:149).¹⁵ Many of these boats pick up shoreside services (ice, fuel, etc) when they are here to land fish. The Auction has experimented with auctioning a variety of species – tuna, lobsters, swordfish, hagfish – but its greatest success has been in selling groundfish, and today it is principally a groundfish auction.

Groundfish buyer/processors

There are three groundfish processors on the Gloucester waterfront today: Ocean Crest, Pigeon Cove/ Whole Foods, and Steve Connolly Seafood Co., Inc. Ocean Crest cuts only about 10 percent of what it buys and it acts as a wholesaler for the balance, selling to processors in Boston and New York. The ten- percent or so that it cuts it sells locally, to restaurants on Cape Ann. Ocean Crest also makes a fertilizer/ animal feed product from groundfish waste (more oily fish, such as herring or salmon, is not suited to its process); it distributes this product, ‘Neptune’s Harvest,’ throughout the United States and internationally (to Sri Lanka, Mexico, Italy, and elsewhere). This processor employs about 30 employees, including 2-3 hand cutters. Up until the late 1980s, the company was a relatively large groundfish processor, employing 50-60 people; significant numbers of who were cutters and packers. The company started the fertilizer/ feed product shortly after cutting back its processing capacity.

A second groundfish processor is Pigeon Cove/ Whole Foods. This facility supplies Whole Foods Markets throughout the country with high quality groundfish from NE and processes the groundfish in its 17,000 sq. ft facility on the waterfront (using hand cutters). It buys groundfish in Gloucester, but also in Portland and is starting to do so in New Bedford and NYC as well. Pigeon Cove/Whole Foods also buys some non-groundfish species locally (scallops, some mackerel, shad, and stripers). The facility also processes a wide variety of species imported or bought elsewhere in the United States, and it acts as a distribution center for a host of value-added products made

¹⁵

DSEIS, Vol II, Tables 541 & 542.

elsewhere. Only about 33 percent of the total value of this facility's product comes from North Atlantic caught fish, and only a piece of this 33 percent is fish landed in Gloucester. The facility has 35-37 employees and has plans to expand.

The third groundfish processor on the Gloucester waterfront is Steve Connolly Seafood Co., Inc. This is a Boston-based firm with a satellite operation (albeit a sizeable one) on the Gloucester waterfront. Like many Boston processors, Steve Connolly has recently expanded its Boston facility. Steve Connolly buys and processes a wide variety of species worldwide; groundfish is only one of many types of fish bought and processed by Steve Connolly, and Gloucester is only one of many sources of fresh groundfish for the company.

In addition to these three sizeable groundfish processors, there are approximately eight very small businesses that rent space on the waterfront and buy and cut (and in one case smoke) groundfish in Gloucester. Of these, some are 'one or two man bands' that cut 10 boxes of fish and sell it themselves to fish restaurants along the coast in New Hampshire; some sell retail in Gloucester or nearby; and some sell to restaurants in Gloucester and nearby. Four of these very small businesses rent space in the facility of a company, John B Wright, which formerly operated a groundfish processing business but which now is in the business of buying and selling fish (and renting out its facility).

- **Non-groundfish species:**

There are nine lobster buyers on the waterfront; five tuna buyers; two sea urchin buyers; and three herring buyers. In the case of lobster and tuna, there is no processing involved; as one lobster buyer put it, "I'm basically just a shipping company." In the case of sea urchins, there is processing involved, but the market for sea urchins and the supply of urchins have both decreased significantly. In the case of herring, two of the buyers do not process the herring but sell it for bait (Aram and D & B Bait). A third herring buyer, Cape Seafoods, has a larger operation, operates two of its own vessels (each one 140 ft) and freezes whole herring and mackerel and exports them to Africa as food fish. As Cape Seafoods merely freezes whole fish, it does not do much processing of the fish; however, the owners and plant manager have expressed interest in expanding operations to process these pelagics. They have also expressed their hope and expectation that Gloucester will become, as it once was, a center for small pelagic fishing.

In addition to these buyers, there are three buyer/processors of non-groundfish specialty species on the waterfront. New England Marine Resources focuses on buying and processing hagfish, monkfish, and other species bound for markets in South Korea and Japan. Intershell International focuses on scallops, clams, and various specialty products. And finally, a recent addition to the waterfront's processing capacity is Zeus Packing, which packs whole whiting for Spanish markets.

Additional Notes on Fresh Fish Processing in Gloucester:

1. There are several large-scale fish businesses in Gloucester, which, until the 1960s or so, caught and processed fresh fish landed in Gloucester. Around that time, however, the large-scale companies began to rely on fish landed outside Gloucester. Much of this fish was imported, and much of it came into the port as frozen product, in large frozen blocks. Today, those large companies or ones evolved from them (Gorton's, Good Harbor Fillet, North Atlantic Fish, etc.) continue to rely exclusively on frozen product landed outside New England or imported into the United States. These frozen fish processors have little to do with commercial fishing in Gloucester. One panel member, a fisherman, said of the large, frozen fish processors, simply: "They don't deal with us." The division between the frozen sector and the fresh sector has been firmly in place since the 1970s.¹⁶ The infrastructure that supports the two sectors – the frozen sector and the fresh sector -- is largely distinct. The commercial fishing industry (that which lands New England caught fish in Gloucester) may derive some benefit from the trucking services within the port used by frozen sector and, recently, has begun using freezers (for the frozen hagfish processed at sea and for the herring and mackerel frozen on the waterfront). Other than these, however, no apparent benefits flow from the frozen imported (or non-New England) sector to the fresh or New England sector. However, it may well be true that the existence of the commercial fishing sector – the 'New England' sector – is important to the frozen block sector, as the latter may derive value from being located in, and associated with a working fishing port even though they do not participate in fishing industry at work in the port. 'Gorton's of Gloucester' will carry less cachet if Gloucester loses its fishing industry.¹⁷

2. There has been a large decline in fresh fish processing on the Gloucester waterfront since the late 1980s. A number of groundfish processors are no longer in business cutting fish (e.g., John B Wright) or have radically cut back their operations (e.g., Ocean Crest). Empire Fisheries and Star Fisheries, once large scale fish cutting operations for groundfish, whiting, and other species ('We did it all,' said an owner of Star Fisheries), have long since ceased operations. A shrimp processor that bought from a large number of boats in the eighties and early nineties closed up shop. So too did a jonah crab processor in the 1990s. As a result of this substantial decline in processing on the Gloucester waterfront, most groundfish is sent to Boston or New York for cutting. Boston has become the regional center for fish cutting, with several firms building large new facilities. Those boats that still fish for whiting typically truck their catch to buyers

¹⁶ Terkla & Doeringer, "Gloucester Waterfront Study: Land Use and Economics, p. 55 (1994).

¹⁷ Moreover, Gorton's of Gloucester, a mainstay of the frozen block sector, has recently started an online fresh fish business. See www.gortonsfreshseafood.com.

at Fulton Fish Market in New York (at a cost of 8 cents a pound, a not insignificant cost for a high volume, low value fish).

3. At least two of the newer fish processors that process non-groundfish species use so-called 'workforce labor.' These are people supplied by temporary agencies, on a temporary basis. One company uses this labor source for peak periods (bringing in 20 people to add to its regular staff of about eight during busy periods), and the other, a seasonal business, uses this labor source as its sole source of labor. People who are part of the 'workforce' labor supply generally do not live in Gloucester or Cape Ann but travel into the city to work.

4. Very little fresh fish waste is processed in the port today. Ocean Crest is the only one doing so. Another company processed waste (including salmon waste which was trucked in from elsewhere) into oil up until 2002. At that time, the company, which had been located at John B Wright's, relocated to New Brunswick, Canada. Cape Seafoods, the herring/mackerel company, trucks its fish waste to Canada. In 1985, the Lipman 'de-hyde' plant, which had processed herring and menhaden into industrial products, shut down (thereby ending the menhaden fishery in Gloucester). Many stories are told of the grim last years of this plant, when waste lay in the open air on barges and the smell knocked people over. A number of members of the fishing industry in town have expressed keen interest in a new, state-of-the-art, sanitary reduction plant on the waterfront, the type, one man explained, that can be found in the middle of cities in Norway where no one knows of its existence (it being so unobstrusive and un-smelly).

5. Wastewater pretreatment is at capacity locally and without an increase in that capacity it is not possible to increase fish processing in Gloucester. Fish processing generates a good deal of wastewater and the existing wastewater pretreatment plant cannot handle any increases over what it currently handles. Possible ways around this problem include a plant that has its own wastewater pretreatment facility (a very expensive option) and the pooling of resources of multiple plants to build a facility jointly (a suggestion in the 1999 Gloucester Harbor Plan).

6. There is also an insufficient supply of fresh water in Gloucester to support additional processing of fish (abundant fresh water is required for processing). One suggestion for overcoming this obstacle that has been suggested is the desalinization of seawater.

7. Finally, the concept of 'value-added' is one that has captured the imagination of many waterfront entrepreneurs. A small business incubator for value-added food products (basically a large up-to-code kitchen for multiple users, supervised by knowledgeable persons) has been suggested, as well as means of making 'ready to eat' meals out of fresh seafood much like the frozen processing sector does with frozen seafood.

C. Ice Companies

Ice Sales in Gloucester, 1987-2002

For the past four years, there has been only one ice company in Gloucester – the Cape Pond Ice Company – to provision fishing vessels with ice and to provide a back-up supply of ice to fish handlers and fish processors (or a sole supply in those cases where handlers or processors do not have their own ice machines). Gloucester’s other ice facility, the Ice Division of the Gloucester Marine Railways, fell into disrepair in the 1990s and finally closed in 1999.

Since 1990, total fishing-related ice sales in Gloucester have fallen by two-thirds. This can be seen in figure 14, which shows the combined fishing-related ice sales of Cape Pond Ice and the Railways Ice Division for the years 1987-2002 (the years for which data is available). In 1990, 22,780 tons of ice were sold, while, in 2000, 7052 tons were sold. Since 2000, the figure for total fishing-related ice sales in Gloucester has remained steady at just above 7500 tons/year.

Moreover, were data available for an earlier 10-year period (1977-1987), they would show an even steeper decline in total fishing-related ice sales. That earlier decade saw the highest landings in Gloucester in the ‘modern’, post-Magnuson era. In 1981, for example, total landings in Gloucester were 1.4 times greater than they were in 1990, and total groundfish landings were 2.3 times greater than they were in 1990 (see figures 2 and 3).

This precipitous decline in fishing-related ice sales has had dramatic effects on both ice companies in Gloucester. In the case of the Marine Railways Ice Division, as indicated, its machinery fell into disrepair and it went out of business. The disrepair was a function of a lack of investment in maintenance and repair of the machinery; an employee of the Railways stated, “I was embarrassed to serve ice [towards the end] – 50 percent of the time it would be a failure.” In the case of Cape Pond Ice Company, the business has had to diversify away from fishing-related ice sales in order to survive and to be able to continue to provide ice for fishing related uses.

Cape Pond Ice Company

Cape Pond Ice has been in business in Gloucester since 1848. It is a small, privately held business that has had only three sets of owners (all three of which have been families) in its 155-year history. The current owners, members of the Memhard family, bought the business (a majority of the shares) in 1983, and they have owned and operated the business for the past 20 years. Scott Memhard, the company’s president

and an owner of the company is a long time director of, and currently president of, the Cape Ann Chamber of Commerce; a director of the Cape Ann Commercial Fishermen's Loan Fund (since 1985); and a board member of the Gloucester Fisheries Commission (since 1986). He is also past director and past president of the New England Ice Association; a incorporator of the Cape Ann Savings Bank, and past board chair of the Unitarian Universalist Church in Gloucester.

Cape Pond Ice has supplied ice to fishing vessels and to fish handler/processors from its inception in 1848. It was the first company in Gloucester to supply boats and processors with ice, as, prior to that, fish had been cured with salt or brine. Cape Pond has had competitors in Gloucester over its many years but none since 1999, when the Railways closed its Ice Division. Since 1999, Cape Pond Ice has been the sole source of supply for vessels, and the sole source of 'back-up' supply for processors. (Most fish processors and handlers have their own ice-making machines, and they buy ice from outside only when they need more than their own machines can make or when their machines break down.)

The current Cape Pond Ice plant, which is located on the waterfront, was 'state of the art' in 1948. It consisted originally of two 150-ton/day block icemakers (for a total capacity of 300 tons/day). In the 1980s and 1990s, the company spent over two million dollars maintaining, repairing, and modernizing the plant: The company replaced the original cork-lined ice warehouse with a re-insulating refrigeration warehouse; added a 50 ton/day turbo nugget ice-maker to the original two 150 ton/day block ice-makers; maintained the two block ice-makers (replacing compressors, condensers, and other parts); and repaired or replaced roofs and wharves.

The company leveraged itself in 1992 to add the modern 50-ton/day turbo nugget icemaker. The company made this major investment to ensure redundancy in the facility's ice-making capability. Redundancy in ice-making plants is important because if the ice machine breaks down, boats cannot go fishing. (Moreover, Cape Pond serves as a back-up supply of ice to processors and handlers when their own ice machines break down.) For some years after the 50 ton/day ice maker was added to the facility, Cape Pond Ice had a 350 ton/day capacity (the two original 150 ton/day block ice makers and the new 50 ton/day turbo nugget ice makers). Recently, however, one of the original 150 ton/day block ice makers broke down, and despite its spending \$30-40,000 in an attempt to fix the machine, the company was not able to repair it. The company's investment in the modern, turbo 50-ton/day icemaker, therefore, was prescient if expensive. Today, only the existence of the new icemaker ensures the necessary redundancy in the (now) 200-ton/day ice plant. This focus on maintaining the machines and providing for redundancy has paid off, it should be noted, as the Cape Pond Ice plant has never broken down in the 20 years of its current ownership. The importance of ice plant maintenance was underscored in the month of October 2003 when the sole ice plant on the waterfront

in Portland, Maine, broke down. Several Portland vessels called Cape Pond Ice to ensure the availability of ice and then steamed to Gloucester to pick up ice to go fishing.

Cape Pond's fishing related ice sales have followed the pattern of the general decline of ice sales in the city (reviewed above) and the associated decline in landings. Over the past 20 years, Cape Pond Ice's fishing-related ice sales (sales to vessels and processors) have declined from a high of nearly 18,000 tons in 1984 to a low of just under 5000 tons in 1997. (See figure 15). In six of the nine years since Amendment 5 went into effect in 1994, Cape Pond's fishing related ice sales were between 7000-7500 tons/years. The exceptions were in 1997 (when Amendment 7 went into effect and fishing related ice sales fell to just below 5000 tons/year) and in 1998 and 1999 when Cape Pond Ice sold ice to large herring vessels recently arrived in Gloucester. In those two years, the company's fishing related ice sales increased to 11,462 tons (1998) and 9,960 tons (1999). In 2000, these herring vessels changed over to a refrigerated seawater chilling system, and as a result no longer needed ice. In 2000, 2001, and 2002 – years, it should be noted, when Cape Pond Ice has been the sole provider of ice to vessels and sole back-up ice supply for processors and handlers – the company's fishing related ice sales have been 7052 tons (2000), 7633 tons (2001), and 7583 tons (2002). See figure 15.

In order to stay in business, Cape Pond Ice has diversified its ice business to provide ice for non-fishing related uses. During the 'Big Dig' in Boston, the company sold ice to cool concrete pours on the Third Harbor Tunnel and the Central Artery. It provides ice to chill produce and poultry; it sells packaged ice, ice sculptures and shot luges; it sells dry ice for multiple uses, including special effects in locally made films; and, since 1998 when the movie *The Perfect Storm* sent the company's name out into the wider world, it has been selling logo T shirts, sweatshirts, and caps. Sales for fishing-related uses of ice accounted for 77 percent of the business in 1984, but have accounted for only 30-40 percent of the business since 1997. In 2002, fishing-related sales accounted for 36 per cent of the business. See figure 16, which shows the percent of Cape Pond's business from fishing-related ice sales from 1984-2002.

Despite these efforts to diversify, Cape Pond Ice has had to defer maintenance, cut back on staff, and defer salary payments. The continued low sales for fishing-related uses and the instability of the non-fishing related uses (concrete related sales fell by a half from 2001 to 2002 as the need diminished for ice to cool concrete pours in the 'Big Dig') have made these cost-cutting and cost-deferring measures necessary. The company has high maintenance costs (the machinery must be maintained year-round even though its principal use is in the summer months). The two major inputs in making ice – water and electricity – have both increased in cost by 75 percent over the past four years. And, like other waterfront businesses, the ice company has high insurance costs (rates went up throughout the waterfront after 9/11). As a result, costs that can be deferred – even if they really should not be – have been deferred. The wharves, for example, have not been repaired for two years running, while usually they are repaired every year.

In 2002, the six-foot by twenty-foot ‘Now Hiring’ banner that the company fixes to its building during the annual hiring season was fixed to the building, but this time it read ‘Now Firing.’ Two years ago, the number of year-round employees was seven; this past year it dropped to five (a president; a plant manager; a service manager; a maintenance mechanic; and a general helper). Of these five, two were cut to part-time; a sixth, a driver, went from ‘part time’ to ‘on call.’ In the summer, when the bulk of the ice company’s business takes place, the number of employees fluctuates between 15-25; last summer it was 19. Despite these difficulties, there are long-term relationships between the company and its employees; one young man, for example, has worked at the company for eight years, all through college and then after college.

The capacity of Cape Pond Ice’s machines – even at 200 tons/day – is more than is needed for the fishery at present. Scott Memhard remarked: “We don’t have those days when the offshore dragger was pulling up, taking 20 tons of ice, and going off for 10, 15, 20 days, coming back, maybe taking a day or two off, and then going back out and doing it again. That’s like an ancient dream.” Cape Pond has sufficient capacity to provide ice to an expanded fishery in the future, provided it can continue to maintain its wharves, its machines, and its skilled employee base.

D. Haul-out and Repair Facilities

There are two facilities for haul-outs and repairs of fishing vessels over 40 feet: the Gloucester Marine Railways and Rose’s Marine. In addition, there are three other facilities that principally serve recreational vessels but which can and sometimes do service small (40 ft and under) commercial vessels (Cape Ann Marina, Brown’s Marina, and Beacon Marine).

The Gloucester Marine Railways

The Gloucester Marine Railways was started by a group of five fishermen in 1953 to provide haul-out facilities for their vessels and other vessel services (fuel and ice). The five fishermen bought an existing facility and in time the Railways occupied two key sites on the Gloucester harbor; one large site at the end of Rocky Neck and another, centrally located site on Harbor Cove. The facilities provided maintenance, repair, and haul-outs; settlement services; a place to buy fuel; and a place to buy ice.

Today, after two bankruptcies in the 1990s, the Railways occupies only one of the two sites (the Rocky Neck site); it has closed its ice division (its machine having fallen into disrepair in the late 1990s); and it no longer offers settlement services. Of its fuel division sales in the past year, the Railways manager stated: “Fuel is definitely down . . . we’re not selling fuel like we used to. That’s been a straight line . . .if there’s any little

ping in it, it's just because fuel costs two dollars a gallon." The repair division has done well, however, and this is in no small part due to, in the Railways' manager's words, "jobs completely unrelated to the fishing industry." She elaborated: "We would not be here if we had to rely on the fishing industry alone." The non-fishing related jobs are repairs and haul-outs of tugboats and marine equipment (a pipeline surveyor, for example). The tugboat work in particular has been very important to the Railways: "We're becoming Towboat Central." The Railways' manager explained in full candor the effect of this change in focus. Addressing fishermen, she said:

"Now the good news is [due to the tugboat work] we are there. The bad news is you're almost second-class citizens to me right now, you know. You're not the... you know, where is the bread and butter? I mean, I can't, I'll take this month long job and somebody who needs something is going to be in there first, until we can get to them. We will consider you kind of a priority, but we're not sending somebody down who's been there for a month spending 60 – 70,000 dollars for something that's going to cost 2000. So, you know, even though that facility is there for you, it's not quite there for you like it used to be, I would say."

There is a widely shared view that the current absence of large vessels in the Gloucester fleet accounts for the Railway's necessary change in focus away from the fishing industry. The larger (> 70 ft) vessels now largely absent from the Gloucester fleet are the ones that can afford haul-outs every year (or can't afford not to get them) and are the type of vessel for which the original five fishermen created the Railways in the 1950s. The Railways does service some large vessels, today, it should be noted, including a few large purse seiners from Cape May who come regularly to Gloucester and have work done at the Railways while they are in the city.

Two final points about the Railways, both of which illustrate trends in Gloucester, concern the Railways' second site, at Harbor Cove. The site was sold in connection with the second bankruptcy reorganization in the 1990s. The absence of the second site makes it difficult for the Railways to perform its own maintenance even as it performs maintenance on vessels: "I would say we are not doing our maintenance because you can't put the Railway down, because you can't afford to put it down, because you can't stop working. Otherwise you don't have enough money." The Railways' manager described the pace of the Railways' maintenance work: "We are creeping along, I would say . . . creeping." The absence of the second site, to which work could be shifted, has exacerbated the maintenance problem. In 1999, the movie *The Perfect Storm* was filmed at the Railways' Harbor Cove site and, later in 1999, the Harbor Cove site was sold to a non-profit organization that has since established a Maritime Heritage Center at the site.

Rose Marine

At Rose Marine, the second haul-out business, things are both similar and different. They are similar in that the business was started several decades ago (in the 1960s) by a group of eight fishermen (but now it is owned principally by members of the family of one of those fishermen); in that the business has succeeded by diversifying away from fishing; and in that to the extent that it does serve the fishing industry it serves a far flung industry throughout the New England region. Rose's is different from the Railways, however, in the ways in which it has diversified, and, to some extent, in the services it offers.

In addition to hauling out and repairing vessels, Rose's sells machine parts and does machine work, and it sells fuel for vessels and for home heating. It also rents waterfront space to a whale watching business (and has done so for 12 years); rents dockage to vessels that buy fuel at the facility, stores pleasure boats in the winter, and, recently, has begun selling snowplows. Rose's manager opined that if the company had relied exclusively on fishing business, it would have disappeared "long ago." Its sales region for machine parts is the whole of New England. Twelve years ago, sales were local (walk-ins), but now more than 50 percent of sales are made to customers outside of Gloucester. Rose's manager estimates that 30 percent of Rose's business depends on the fishing industry, whereas ten years ago 75 percent of its business depended on the fishing industry.

Finally, Rose's manager offered a graphic example of the reliance of people in the fishing industry throughout the region on Rose's: He described someone in Ellsworth (Maine) calling to locate a machine part, and then jumping in his car at midnight to drive down and pick it up in the morning. The same tale was used to illustrate that the fishing industry in Gloucester has no idea how difficult it is in other harbors that have lost their infrastructure.

E. Fueling Facilities

There are four fueling facilities (Felicia's, Rose's, the Gloucester Display Auction, and the Gloucester Marine Railways), two fuel truck services that service small vessels from the State Pier (paying an annual fee to the Pier to do so) (Cape Ann Fuel and Atlantic Discount Fuel), and two latent shoreside facilities (Fishermen's Wharf and Neptune Marine, formerly FBI Wharf). Only one of the fueling facilities (Rose Marine) has a fuel barge.

F. Gear and Supply Shops

There are a handful of gear shops, with each one specializing in a particular gear type: there is a full service bottom trawl gear shop (although it does not assemble bottom trawl nets and there is no facility in town that does), B& N Fishing Gear; there is a gillnet hanging service, Homeward Bound Twine; there is a new mid-water trawl gear shop separate from but associated with the large mid-water trawl herring vessels newly in Gloucester, Swan Net; and there are three lobster/gillnet/recreational gear shops (Winchesters, Coastal Marine, and New England Marine).

G. Mooring Space

“There is never enough mooring space.” This has become even more the case in recent history: DAS restrictions keep vessels tied up at port, and more vessels are ‘home’ at one time than has been the case before. Moreover, some families have addressed DAS limitations by buying additional boats (with their associated multi-species permits), and they keep one or more vessels in port while they fish another.

Some shoreside facilities that had offered mooring space free of charge to vessels that used their services began to charge those vessels for the use of mooring space in the summer of 2002. (Others, however, such as the Gloucester Marine Railways, have been charging all along for mooring space). As vessels fished less, they used the shoreside services less, causing the shoreside businesses to attempt to recoup some of their losses by charging for mooring space.

The Jodrey State Pier has 54 berths; all are occupied and there are 21 vessels on a waiting list for berths. Of the 54, about 50% are Gloucester vessels, while 50% are from elsewhere, from as close as Beverly and as far as New Bedford. The Pier requires that vessels berthed there be commercial fishing vessels, but does not require that they be used 100% for commercial fishing. Some fishermen have begun to run charters ‘on the side’ to supplement their commercial fishing, and these vessels have been allowed to stay at the State Pier, on the condition that their principal use is for commercial fishing. The State Pier charges \$5.50 a foot for the berths (in 2000, the price was raised from \$5 a foot).

As indicated on the list of dockage facilities in Appendix A, the industry has and needs a variety of types of mooring spaces: long-term dockside, long-term nesting, temporary (for visiting vessels); and transient (for offloading fish and taking on supplies).

H. Intangibles: Markets, Organizations, and Visions

The panel had the following comments on some of the ‘intangibles’ required to support the fishing industry, and how well these needs are being met:

Markets for fish: When landings are down due to regulatory restrictions, market share can be lost, and a loss of market share can translate into lower prices for fish, even when supply is low (when one would normally expect prices to go up). Market share lost to other sources of protein (chicken, soybeans, etc) is lost forever. Market share that *can* be regained (such as that lost to imported fish) can only be regained by offering product at very low prices (‘low balling’ the competition), and when fish dealers have to offer low prices, they buy from fishermen at very low prices.

Financing: Every business has its own financial ‘nut’ to crack: This ‘nut’ has three components: mortgage payments; maintenance costs (many of which are being deferred now); and basic overhead costs. Low interest loans would help the first of these (refinancing or consolidation of mortgages at low interest rates); working capital (also at low interest rates) would help the second and third.

The Cape Ann Commercial Fishermen’s Loan Fund, a revolving loan fund, has been an important source of loan funds for fishermen since the 1970s. It makes loans to fishermen unable to obtain loans from conventional lending sources but who nonetheless are good credit risks; it has provided loans for gear, maintenance, vessel upgrades, etc. In a few instances, it has loaned money to fishermen for development of shoreside facilities owned and operated by fishermen. The Loan Fund has been working to update its policies and loan conditions (for example, it is in the midst of deciding whether it should collateralize fishing permits) but it is also struggling to stay alive. A number of factors have contributed to its current difficulties.

Shoreside Revolving Loan Fund: In the mid-90s, a shoreside revolving loan fund was created to make low interest loans to shoreside businesses supporting the fishing industry. This loan fund was not successful in lending out its money (\$580,000 of \$750,000 was not loaned out) and the money not loaned out (the \$580,000) was removed from the Fund and given to the Massachusetts Finance Development Agency’s Seafood Loan Program.

Fishing industry organization(s) – In a time when the fishing industry and its infrastructure are threatened it is critical that members of the industry participate in organizations representing their interests, ideas, and visions for the future. There are such organizations but membership is not what it should be.

A voice for the city in the fishery management process: With the Gloucester Fisheries Commission out of operation, there is no voice for the city participating in the

management process, at the Council meetings and even more important at the Committee meetings ‘where the real work gets done.’

A vision for the harbor: “What I don’t see is a, clear concise vision of this harbor, from our city fathers, as to: do they want to consolidate this [fishing] business into one particular corner of the harbor, or do they want to keep the existing character the way it is and have [it] spread around the harbor . . .”

Positive public relations: “We need some kind of PR to get people interested to stay in the industry. It’s hard to do that right now when all you hear is the sensationalist press that nobody’s making any money, the fish are going away, the government’s on top of us.”

Clear lines of communication between the city / industry and decision-makers: The city and the industry need to be able to communicate with the state, regional, and federal decision-makers whose decisions affect the community and the industry. This includes decision- makers on the Fishery Management Council, in the Department of Commerce (the Economic Development Administration, the National Marine Fisheries Service, the Secretary himself).

Fishing industry health plan. Health insurance for people in the fishing industry is critical, and many people were unable to find or afford coverage before the creation of the Massachusetts Fishermen’s Health Plan in the mid-1990s. The Plan covers 1800 people in the Massachusetts fishing industry, many of who had no coverage at all prior to joining the MFP plan. Studies have shown that the plan saves the state money because it decreases the number of uninsured people in the state.

IV. Some Characteristics of the Shoreside Support Businesses

The shoreside infrastructure and the commercial fishing businesses are interdependent, to a point: A fisherman put it this way: “We need the auction, we need the ice company, we need the suppliers. Without them, we are nothing.” Shoreside business representatives, on the other hand, said repeatedly that their troubles would be reduced if only the fishermen had more days-at-sea to fish. As one put it: “I can only survive a couple more years if we don’t get an increase in days.” Moreover, it was claimed that the shoreside and harvesting sectors understand each other’s business challenges; a shoreside owner stated: “A boat knows what my headaches are going to be. I know what your headaches are. They’re the same.” There is, however, a profound exception to this truism: as demonstrated in the discussion of particular businesses above, some shoreside business are diversifying away from commercial fishing (the ice company cooling concrete, the railways servicing tugs, and so on), and to the extent this diversification takes place it works to break the interdependence of boats and the

shoreside facilities that serve them. It leads to a situation in which the dependence runs in one direction (from boat to shoreside) and not the other way around.

Nearly all the shoreside businesses providing support to commercial fishing (especially in the groundfish sector) are small, family-owned and operated businesses that have been on the waterfront for decades. Many of these businesses were started by former fishermen or members of fishing families who chose to stay in the industry but to work on land rather than at sea. These families derive enormous satisfaction from their participation in the industry. The Gloucester Seafood Display Auction ('the Auction') is family owned and run, and is an outgrowth of that family's earlier decades-old fish buying and processing business, Star Fisheries. Cape Pond Ice has been owned and run by three successive families in its 150-year history; the current owner has owned and run the business since 1982. Felicia's Oil, a fuel business, is a 47-year old family business; the son and grandsons of the man who started the business in 1956 run it today. It is located in the west end of the harbor, across from 'the fort' where the family lived for many years and where the founder's son was born. Most – but not all – of the groundfish buyers/processors located on the Gloucester waterfront are family businesses (e.g., Ocean Crest, John B Wright, Capt. Joe and Sons). The two facilities that provide vessel maintenance and repair services – the Gloucester Marine Railways and Rose Marine – were both started by groups of fishermen, the former in 1953 and the latter in the 1960s. The Railways is now owned by the descendants of those initial fishermen, while Rose Marine is now owned principally, and operated by, members of the Rose family.

Like small fishing businesses, these small, family-owned shoreside businesses reinvest in their businesses, and invest their own personal assets in their companies. When fishermen make money, they invest it in their vessels. A vessel owner described the process: “[People] have got to realize we’re not a corporation that once we make a profit we don’t want to spend it. We have to, we have no choice. [You have] to change a main wire . . . fix your doors . . . change twine on your net, ground cables, your electronics fry out on you . . .there are] breakdowns on the engine, pumps, everything.” The point, he stressed, is that money made by fishermen goes directly into the shoreside businesses that support commercial fishing. Similarly, shoreside businesses reinvest in their businesses whenever there is an opportunity to make a return on the investment. This is partly because many shoreside businesses are family businesses with long histories on the waterfront: “These are all pretty much family businesses, still, the ones that are left on the waterfront, that are used to re-investing anything and everything into their business.” .” Moreover, shoreside business owners have deferred payments to themselves in lean months in order to make payroll and other costs, and have mortgaged personal assets (homes) to secure business loans.

Many of the shoreside support businesses rely on volume in order to be profitable, and volume is way down. Fish and fishing businesses remain in many

respects volume businesses, despite the gains in producing a quality fishery, rather than a quantity fishery. Volume is important to the auction, the ice plant, and the gillnet hanging business, among others. This is a double problem for those businesses – like the ice plant – that must maintain their high volume capacity even when volume is low.

Gear suppliers are operating at ‘pathetic’ margins: Gear suppliers are operating at ‘pathetic’ margins and there is no volume to make up for it. One gear business owner said that he would give his business another two years and if it didn’t improve he would give it up. He explained that he had taken losses two of the last three years and he referred to his inventory grimly as his ‘souvenirs’. A second gear shop owner said he was within months of closing his business, and he explained the lengths he has gone to prop up his gear business: “I go lobstering to pay my payroll so that I can hang nets for guys to keep fishing. And that’s stupidity on my part.”

Shoreside businesses and vessels have deferred maintenance of their structures and vessels. Vessels and shoreside businesses are holding off on making expenditures for maintenance on their vessels and wharves. One of the many bad effects of deferred maintenance is that it leads to the need to spend large sums in order to make up for having deferred maintenance right at a time when monies should probably not be invested. Another bad effect is the increased risk to safety: A fisherman explained that deferred maintenance on fishing vessels “is big on a lot of our minds” because it “can have severe safety implications.” “A minor mechanical breakdown can lead to a sinking that leads to a disaster.

Costs are up for shoreside businesses (insurance, utilities): Insurance rates for shoreside businesses are increasing sharply and insurance companies are requiring improvements to shoreside properties: A shoreside fuel business just had its insurance rates raised 100 percent. It was also required by its insurance company to make \$15,000 worth of improvements to its piers. A shoreside building owner, whose building houses fish businesses but is at present only partly occupied, was just visited by the insurance company and given 30 days to install \$10,000 worth of improvements in the building (electric exit signs, etc.). Mass Electric rates have risen by 26%.

V. Gloucester’s Shoreside Infrastructure Today

Until recently, Gloucester was a ‘full service’ port for the commercial fishing industry and a ‘hub’ port for the commercial fishing industry in the region. Gloucester has been one of six commercial fishing ‘hubs’ in New England, supporting the industry not only within its own borders but also in various ‘spoke’ communities. (One of Gloucester ‘spoke’ communities, for example, is Portsmouth, NH.) Other hubs are or have been Rockland, Portland, Boston, New Bedford, and Point Judith; of these Rockland and Boston have ceased to be hubs. Gloucester faces a similar

danger. Having only one or two businesses in each of the critical infrastructure areas, it stands to lose its status as a ‘hub’ if the businesses in any one of these critical areas disappear: “When you lose any one vital facility, you’re no longer a hub. And when that happens, I would predict, you’ll lose most of your boats that are mobile.” “A lot of times we are down to one of these key pieces of infrastructure [and] if that disappears that can be the end of your harbor.”

For each of the critical elements of Gloucester’s infrastructure, there are only one or two businesses. Competition among shoreside support businesses is largely a thing of the past. As described, there is one ice plant (Cape Pond Ice) and one principal locale to sell groundfish (the Gloucester Display Auction). There are two businesses providing marine repairs and space for haul-outs (Gloucester Marine Railways and Rose’s Marine), three places to buy fuel (Felicia’s, Rose’s, and the Auction), and a handful of gear shops (B & N Fishing Gear, New England Marine & Industrial, and Winchester Fishing Company). In looking at Gloucester’s infrastructure, “what you want to study is presence or absence”: “There used to be competition Now most of that competition is gone. . . . What’s left now, you’re down to the core. It’s not competition any more; it’s presence absence. And so the next step is absence.” There is no question, under current conditions, of trying to increase competition in any of the critical infrastructure areas: “[If] we start with competition now, it’s going to close businesses. You know, half a loaf for both of them, they’re both out of business.” By the same token, competition in these critical areas (and others) will return “all by itself if there is a market for it.”

Some elements of shoreside infrastructure are already missing from Gloucester. As described, fresh fish processing in the city is much diminished. There is no trawl net shop. Fishermen are in short supply, especially new fishermen to enter the industry and young captains to run boats. Various different types of skilled labor (welders, electricians) are absent; even lumpers and other dockside workers are in short supply.

The number of large (> 70 ft) vessels in Gloucester has declined sharply, and this is due in part to the insufficiency of shoreside services for these vessels. The number of ‘real offshore boats’ operating out of Gloucester now has sunk to 9. The owner of a large vessel elaborated on his decision to relocate his large vessel from Gloucester to New Bedford: Eighteen months ago, he removed a 100-ft vessel from Gloucester to New Bedford, and in so doing took business away from local suppliers (the shoreside facilities that offloaded the boat, the fueling facilities, the ice plant, the gear shop, the settlement agent and others) and the 9 crew members who ran the boat (7 crew and 2 alternating captains). He estimates that the removal of the boat removed ‘many hundreds of thousands of dollars’ from the city annually. He described his decision and the reasons for it: “It’s a Gloucester boat, it’s got a Gloucester permit. I hated to do it. But I had no choice for the survival of the boat. I couldn’t get welders; I couldn’t get electricians. . . . If I needed a welder I had to go outside [to bring a welder up from Westport, MA] . . . it’s a

hundred-mile drive: it cost me 300 dollars to get a welder here and he hadn't even started to do anything yet. Electrician? Forget that: you have to go to New Bedford, you don't even bother trying in Gloucester. . . . If you want to get a generator, you have to go to New Bedford. . . . I couldn't get my crew, and I couldn't get laborers to unload the boat. . . . So for any one of those reasons and all those reasons, I took a boat out of Gloucester that generated a lot of money in this town.”

Throughout the 1990s and early 2000s, there was both public and private investment in the commercial fishing infrastructure, including in the New England groundfish sector. Much of the public investment in Gloucester's commercial fishing infrastructure has been on the Jodrey State Pier. The 1990s saw substantial changes to the state pier and these were the results of planning efforts initiated in the 1980s. In 1982, the Commonwealth of Massachusetts took over the management of the state pier from the citywide association that had managed the pier since 1938 when it first opened. Part of the reason for this transfer of management, controversial at the time, was to facilitate re-investment in the state pier, which was in substantial disrepair. The state (through the Mass Development Finance Agency) undertook a complete renovation of the pier, in three phases, for a total cost of 20 million dollars. Phase one, completed in 1993, saw the demolition of old buildings, the clean-up of diesel fuel contamination, the installation of industrial grade utilities (water, sewer, telephone duct, electrical duct), the dredging of the harbor on the south side of the pier, and, finally, the construction of dockage (45 berths, later expanded to 54 berths) on the south side of the pier. Prior to 1993, when the construction of dockage was completed, the state pier had not provided dockage. Phase two of the redevelopment, completed in 1996, involved the demolition of the old stalls buildings, and the demolition and reconstruction of the wharves on the north side of the pier. Phase three of the redevelopment, completed in 2000 and financed by a combination of public and private investment, was the build-out of new stalls buildings on the north side of the pier.

Other recent public investment in the harbor, on a more modest scale, includes the development of a harbor plan in 1999; studies of harbor dredging needs (dredging has not taken place, however, due to controversies over the disposal of contaminated dredge material); a study of harbor lines (specifying how far out into the water private owners may build piers or floats); the removal of 5 or 6 derelict vessels that had sunk into the harbor; and the repair of seawalls. The harbor plan functions as a designated port area master plan, and, as such, enabled Gloucester to apply for and receive state funds (under the 1996 Seaport Bond Bill) for these harbor-related projects.

Among the private investments made on the waterfront in recent years are the following:

- The Gloucester Seafood Display Auction, described above.
- Cape Seafoods, also described above.

- Pigeon Cove/ Whole Foods, described above. Pigeon Cove/Whole Foods recently expanded its fish-processing center at the head of the harbor to a 17,000 sq. ft facility, and would like to expand further.
- Fishermen’s Wharf. This was a wharf owned by a group of fishermen and their descendants, which suffered damage in a fire and which incurred substantial costs in rebuilding. The wharves were substantially repaired but promised loans were not forthcoming because of difficulties with the Economic Development Agency. Two local families, partners in a construction business, one also a fisherman and a member of a long time Gloucester fishing families, bought the property. The new owners are using the site for dockage and parking and plan to use it to support the fishery in the future when groundfish stocks are rebuilt.

Despite these recent investments, Gloucester’s inner harbor is underutilized. Panel members offered these comments:

– *The waterfront has many dilapidated and vacant properties.* “Gloucester harbor looks pretty sad right now: the number of vacant parcels of property, dilapidated pieces of real estate, things that are not . . . in use, they’re not earning their keep.”

– Shoreside building owners have empty units in their properties and are being required to reduce rents in order to hold onto the tenants they do have. One 33,000 square foot building has not been fully occupied since 1998-99; at present it is 65% occupied and the owner recently reduced the rent of its fish processor tenant by 37% in order to persuade the tenant not to relocate to Lynn.

-- *Persons who are not part of the commercial fishing industry are poised to take over waterfront properties and dock space and have a good deal of money to do so.* An example given was of an old pier likely to be sold to someone who will tear down the pier and the building, “put the limits of the zoning ordinances in, then . . . just sit back and wait for the zoning laws to change.”

Gloucester’s inner harbor is vulnerable to zoning changes. Throughout Gloucester’s history, the inner harbor has been committed to the commercial fishing industry: “Throughout [the city’s] history, the inner harbor has been devoted substantially to the fishing industry.”¹⁸ This use of the harbor by the fishing industry is protected by several types and layers of statutes and regulations. Since 1927, the city of Gloucester has zoned much of the inner harbor for “marine industrial” use. In 1978, much of the inner harbor was determined to be a “Designated Port Area” under state law. While they differ in important particulars, both the city zoning rules and the state designated

¹⁸ David G. Terkla and Jack Wiggin, “Gloucester Waterfront Study: Land Use and Economics” (Appendix 5 of the Special Resource Study for Gloucester, Massachusetts) (1994), p. iii.

port area determination require that the inner harbor be put to marine industrial uses. Under both the city's and the state's regimes, the set of uses considered as 'marine industrial' includes commercial fishing but includes other maritime related industry as well. In addition to the city's zoning rules and the state's designated port area requirements, the shorefront area of the inner harbor is also subject to state law governing the use of tidelands, including tidelands filled in since 1857. As the shorefront area of the inner harbor has been determined to be a filled-in area, it is subject to this law, which requires that such areas be used for water-dependent uses (but not necessarily industrial ones) or for "a proper public purpose."¹⁹

Of these three levels of law, the first two (city zoning, and the state designated port area determination and regulations) are based on the port being used for marine industrial uses, and so could change if the port can no longer support marine industrial uses. For Gloucester, marine industrial use has always meant the commercial fishing industry and not other types of marine industry. Moreover, given certain characteristics of Gloucester's harbor (its configuration and its depth of water) as well as Gloucester's location at the end of route 128, it is unlikely that other types of marine industrial uses will be well suited to Gloucester. All this adds up to the fact that, in the absence of a commercial fishing industry in Gloucester, the pressure to remove the city's and state's legal protections for marine industrial use of the harbor will become very high. And, if these protections were to be removed, it would be unlikely in the extreme that they, or something like them, could be re-created, no matter how many fish are available for sustainable harvesting off the coast of Gloucester.

VI. A Vision for the Port of Gloucester

This grim, inexorable decline is NOT what the Gloucester panel would like to see in Gloucester, nor is it a future that panel members believe is necessary. Instead, panel members believe that Gloucester can remain committed to the fishing industry. All share the view that the Gloucester needs to maintain a diverse fleet of small (<40 ft), medium (40-70'), and large (>70') vessels.

The small and medium day and 2-3 day boats fishing in the inshore and the larger vessels fishing 5-7 days offshore complement each other. The smaller vessels have helped create the 'quality' groundfishery for which Gloucester is now known and in so doing have helped raise the price for all fish sold in Gloucester. Moreover, the small and medium boats have developed practices for maintaining the quality of fish that the larger offshore boats are also starting to use. In addition, the smaller vessels provide much of

¹⁹ See Terkla and Wiggin, "Gloucester Waterfront Study" (1994), pp. 34-53. See also Gloucester Harbor Plan Committee, *Gloucester Harbor Plan* (1999), p. 9.

the supply of groundfish in the summer months (except during the two months of rolling closures) when they are not kept home by bad weather.

For their part, the larger, offshore vessels keep the market going in the winter time when they tend to use their DAS (prices are higher; the smaller boats are out less; and the bigger boats are equipped to go out in the harsh winter months). A year-round supply of groundfish is essential to maintaining the markets for groundfish and only the small, medium, and large boats working together can provide that year-round supply. In addition, the larger boats demand more shoreside services (more fuel, more ice, more work in haul-outs and repairs) and thus help to support the shoreside services needed by all the boats.

APPENDIX A:
GLOUCESTER COMMUNITY PANEL PARTICIPANTS
&
INFRASTRUCTURE PROJECT INTERVIEWEES

David Bergeron, Massachusetts Fishermen's Partnership
Corrado Buccheri, B & N Fishing Gear
Maria Churchill, Ocean Crest
Joe Ciaramitaro, F/V Virginia Surf
Laurence Ciulla, Gloucester Seafood Display Auction
Rose Ciulla, Gloucester Seafood Display Auction
Bill Crossen, F/V Odessa
Dave Ellenton, Cape Seafoods, Inc
Vito Giacalone, F/V Jenny G
David Goethel, F/V Ellen Diane
Viking Gustafson, Gloucester Marine Railways
David P. Jackson, F/V Jeopardy
Greg Ketchen, Gloucester Harbor Plan Implementation Coordinator
Don King, Homeward Board Twine
Joe Maccarone, Jodrey State Pier
Grace Maceri, Gloucester Marine Railways
Dave Marciano, F/V Angelica Joseph
Scott Memhard, Cape Pond Ice Company
John B Nicastro, Felicia Oil
Jackie Odell, Northeast Seafood Coalition
Jerry O'Neill, Swan Net & Cape Seafoods
Rosalie Parisi, All Accounts
Sam Parisi, Pier 7
Steve Parkes, Pigeon Cove/ Whole Foods
Nino Randazza, F/V Skimmer
Frank Rose, Rose Marine
Clark Sandler, F/V Sea Farmer
Marc Sandler, Sandler & Laramie
Angela Sanfilippo, Gloucester Fishermen's Wives Association
Joe Scola, F/V Dolores Louise
Chris Sherman, F/V Lady Jane
Russell Sherman, F/V Lady Jane
Brian Tarr, Cape Ann Commercial Fishermen's Loan Fund
Paul Vitale, F/V Angela & Rose

Sarah Robinson, Harvard University (Ph.D. candidate), Gloucester Panel Coordinator

NOTE: In addition, many other people on the Gloucester waterfront graciously answered questions during informal surveys of waterfront activity conducted by coordinator Sarah Robinson and panel member Chris Sherman.

**APPENDIX B:
A List of the Businesses, Structures, and Space Comprising Gloucester's
Commercial Fishing Infrastructure in 2003**

FRESH FISH/SHELLFISH BUYERS AND PROCESSORS

Groundfish

Auction

- Gloucester Seafood Display Auction

Buyer/processors based in Gloucester or with a Gloucester facility

- Pigeon Cove/ Whole Foods
- Steve Connolly (based in Boston but with a large Gloucester facility)
- Ocean Crest (also a wholesaler)

Small buyer/ processors based in Gloucester or with a Gloucester facility; they buy from other buyers or direct from boats but not at the Auction:

- Cherry Street Market (Based in Danvers; rents space at John B Wright)
- Old Squaw (rents space at John B Wright facility)
- Brian Fulford (rents space at John B Wright facility)
- Fish George and the Fillet Seafoods (rents space at NE Marine Resources)
- Frank's Fresh Fish
- J Turner Seafoods
- Capt. Vito's Seafood (mostly or all retail)
- Sasquatch Smokehouse

Wholesale buyers/brokers based in Gloucester (they buy at the Auction or from other buyers)

- John B Wright (used to be a processor, has a Gloucester facility which it now rents to small processors)
- Sea Coast Overland Association
- A B Seafoods Inc
- Nova Seafood Ltd.
- Capt. Vince
- Cape Ann Seafoods
- Others

Buyers and/or processors from outside Gloucester who buy fish in Gloucester (most but not all buy at the Auction):

- Legal Seafoods (Boston-based)
- North Coast (Boston-based)

- Captain Marden's (Wellesley-based)
- Sousa Seafood (Boston-based)
- Pier Fish Co (Boston & New Bedford-based)
- Great Eastern Seafood (Boston-based)
- Atlantic Sea Pride
- Sea Fresh
- New England Marine Resources (buys non-groundfish species)
- Fish on Wheels
- Cozy Harbor Seafoods (Portland-based)
- Channel Fish Processing Co.
- South Pier
- Agger
- Pier 7 (headquarters are in Boston)

Offloading/packing facilities (they handle the fish but do not buy it)

- Gloucester Seafood Display Auction
- Capt. Vince

Lobsters

Buyers

- Capt. Joe & Sons
- Capt. Vince
- Mortillaro's
- International Lobster (also monkfish)
- Island Lobster Ltd.
- Rockport Lobster Co.
- Pigeon Cove Lobster Company
- Pier 7 (based in Boston)
- Capt. Vito

Other Species

Buyer/ processors

- Cape Seafoods (herring, mackerel)
- New England Marine Resources (hagfish, monkfish, tuna, and others)
- Intershell (scallops, clams, sea urchins, and others)
- Zeus Packing (whiting – specialty market)
- Atlantic Koam Trading (located at D & B Bait) (hagfish)
- Sasquatch Smokehouse (one-person operation; smokes what he catches)

Buyers/ brokers

- FWF Inc (tuna)

- DFC International (tuna) – facility recently closed down, out of compliance
- Cape Ann Tuna
- Cape Ann Quality Bluefin
- Aram (herring)
- D & B Bait (herring)
- Fuji Food (sea urchins)
- Maguro America (sea urchins, tuna)

Offloading/ handling facilities

- Americold – Rogers Street (for frozen hagfish)
- Americold – E Gloucester (for frozen hagfish)

ICE

Ice companies

- Cape Pond Ice Company

Offloading/ processing facilities that make ice for their own use

- Gloucester Seafood Display Auction
- Intershell
- New England Marine Resources
- John B Wright
- Steve Connolly
- Pigeon Cove/ Whole Foods
- Cape Seafoods

FUEL

Facilities on the waterfront:

- Felicia's Oil
- Rose Marine (has a fuel barge, the only one in the port)
- Gloucester Seafood Display Auction
- Gloucester Marine Railways

Oil trucks only

- Cape Ann Fuel (sells to smaller vessels)
- Atlantic Discount Fuel

Latent shoreside fuel facilities

- Fishermen's Wharf
- Neptune Marine (formerly FBI Wharf)

FACILITIES TO HAUL OUT AND REPAIR FISHING VESSELS:

Principal facilities:

- Gloucester Marine Railways
- Rose Marine

Other facilities:

- Cape Ann Marina (occasional, usually small vessels)
- Brown's Marina (for vessels under 40 ft)
- Beacon Marine (for vessels under 40 ft)

MOORING SPACE

Long-term (dockside or nesting)

- Jodrey State Fish Pier (54 berths) (\$5.50/ft)
- Town landing (St Peter's Square)
- Gloucester House Restaurant
- I4C2 parcel (\$3.75/ft)
- Gloucester Seafood Display Auction
- Rose Marine (4 vessels) (free in return for use of Rose's services)
- Felicia's Oil (10-12 vessels) (free in return for use of FO's services)
- Gloucester Marine Railways (20 vessels) (fee is charged)
- Fishermen's Wharf (12 vessels) (fee is charged)
- Capt. Joe's
- Atlantic Koam (at D & B Bait)
- Others?

Temporary (for visiting vessels)

- Jodrey State Fish Pier
- Rose's Marine
- Cape Ann Marina
- Gloucester Marine Railways
- Americold (Rogers St & E Gloucester)
- Gorton's
- Gloucester Seafood Display Auction

Transient (for offloading fish and unloading gear and ice)

- Cape Pond Ice
- Gloucester Seafood Display Auction
- Americold – Rogers St & E Gloucester
- Pigeon Cove/ Whole Foods
- Ocean Crest

Transient (for dockside repair):

[none at present: potential exists at Gloucester Marine Railways & Rose's]

GEAR AND SUPPLY SHOPS

- B & N Fishing Gear (full service bottom trawl gear)
- New England Marine Industrial (lobster, gillnet, some bottom trawl gear)
- Swan Net (mid-water trawl gear and potential for bottom trawl gear)
- Coastal Marine (lobster and gillnet)
- Winchester's (lobster and sport fishing)
- Homeward Bound (gillnets and gillnet hanging service)
- Nelsons (jackets, clothing, boots)
- Seatronics (marine electronics)

FOOD AND SUNDRIES

- Stop & Shop
- Shaw's
- White Hen Pantry (day boats)
- Scalifano's
- Virgilio's

OPEN SPACE FOR WORKING ON GEAR

- State fish pier (available free of charge for people berthed there, and available at \$60/ day for people not berthed there; in either case space must be reserved in advance)
- Felicia's Oil (available, free of charge, for people berthed there)
- Fishermen's Wharf?
- Gloucester Marine Railways (open space and enclosed space)
- Site of the old drive-in movie theatre in West Gloucester
- Fishermen's homes (their yards)

**A Study of Gloucester's Commercial Fishing Infrastructure:
Interim Report**

APPENDIX C:

Figures 1-16:

Gloucester: Groundfish Revenues as Percent of Total Annual Revenues, 1975-2002

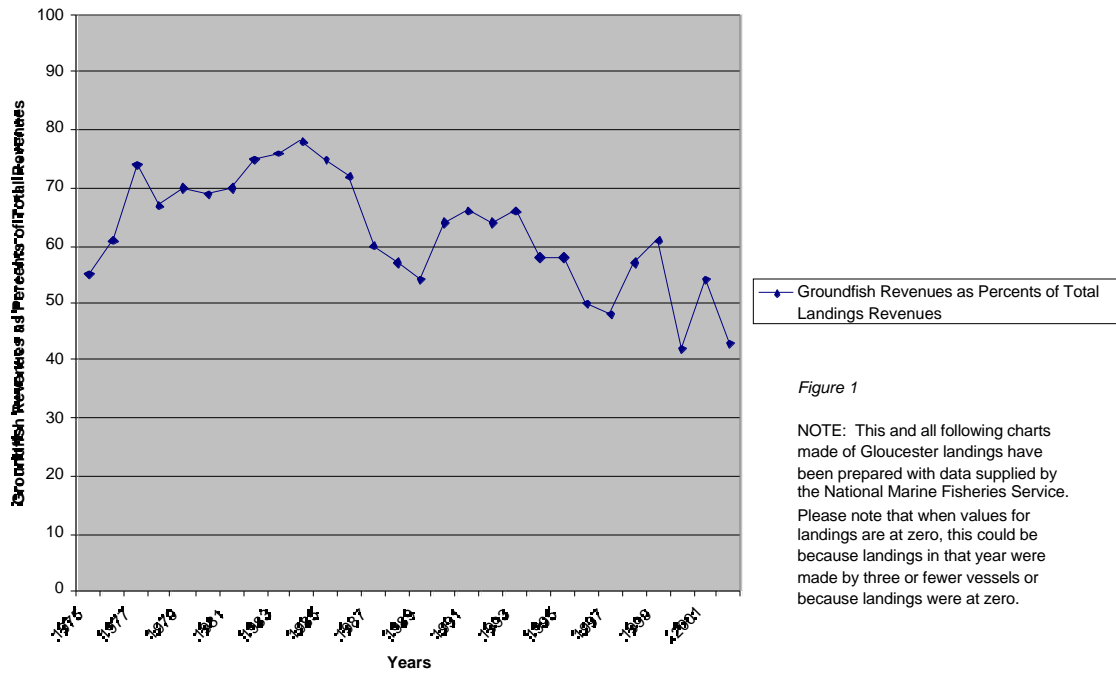


Figure 1

NOTE: This and all following charts made of Gloucester landings have been prepared with data supplied by the National Marine Fisheries Service. Please note that when values for landings are at zero, this could be because landings in that year were made by three or fewer vessels or because landings were at zero.

Gloucester: Total Landings, 1975-2002

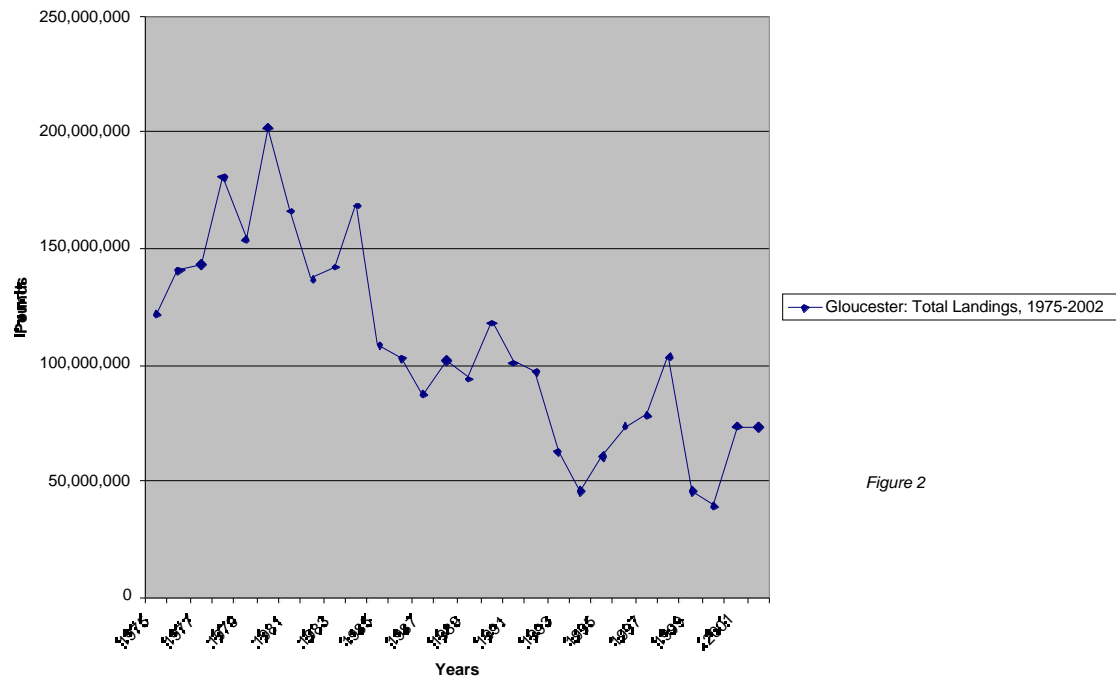


Figure 2

Gloucester: Groundfish Landings, 1975-2002

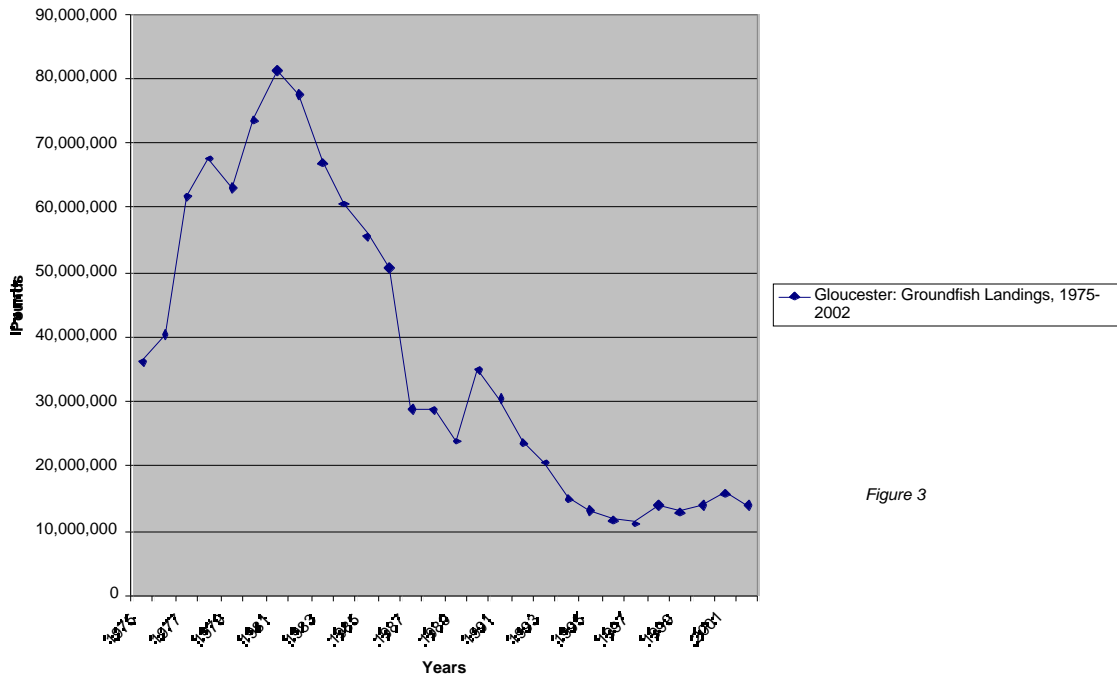


Figure 3

Gloucester: Hagfish Landings, 1975-2002

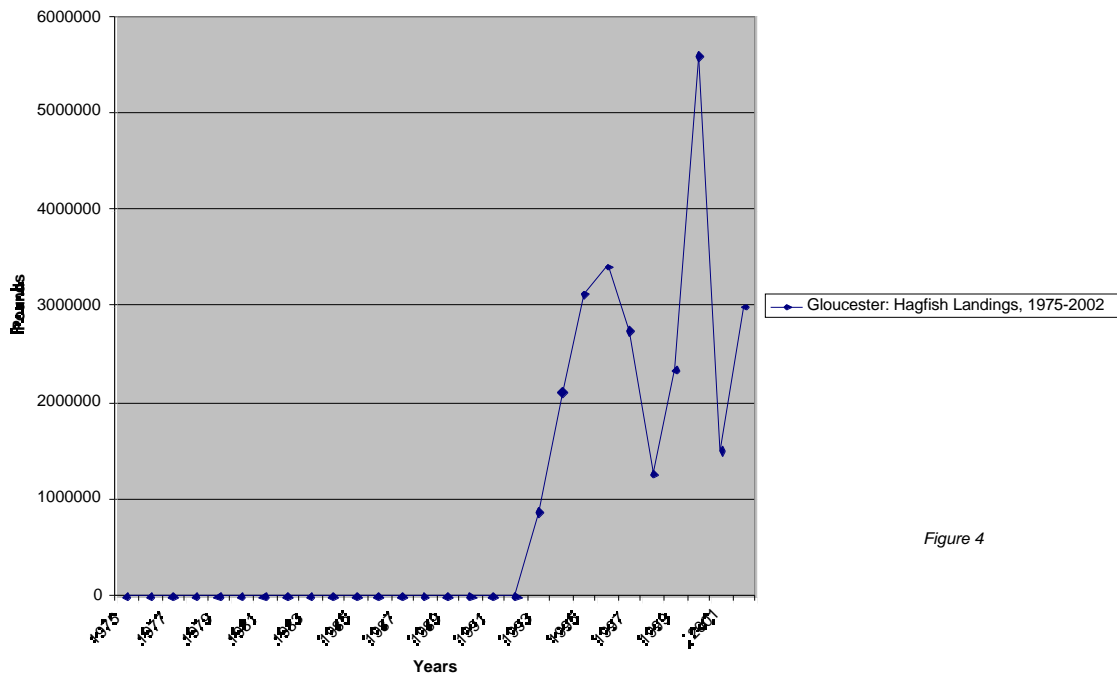


Figure 4

Gloucester: Atlantic Herring and Menhaden Landings, 1975-2002

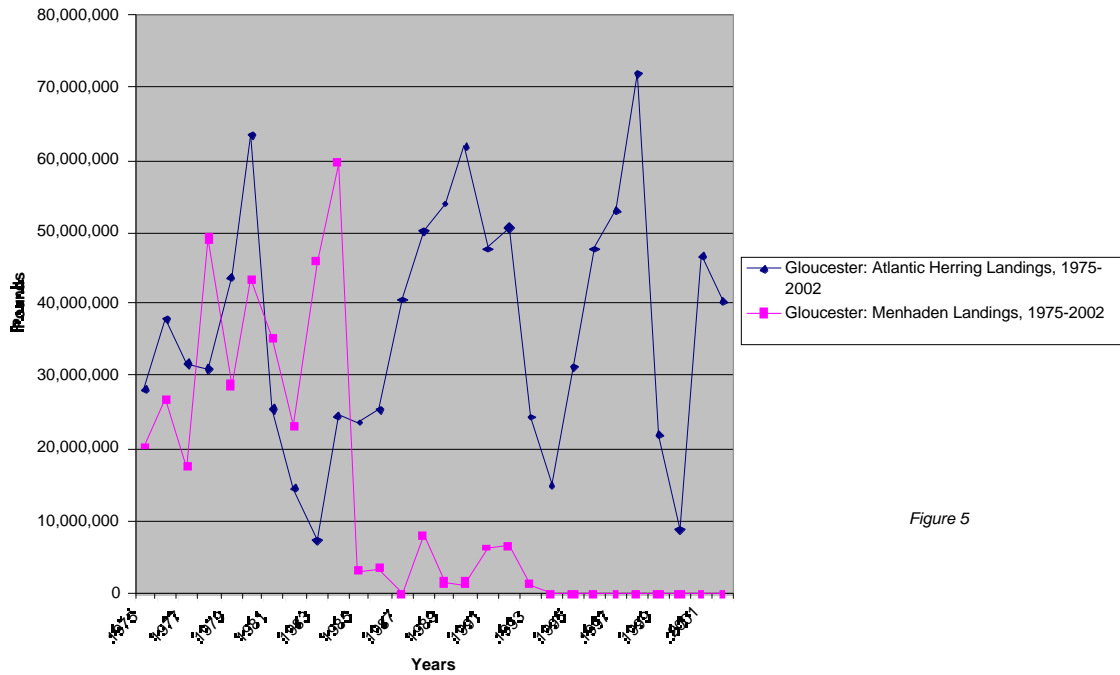


Figure 5

Gloucester: Dogfish Landings, 1975-2002

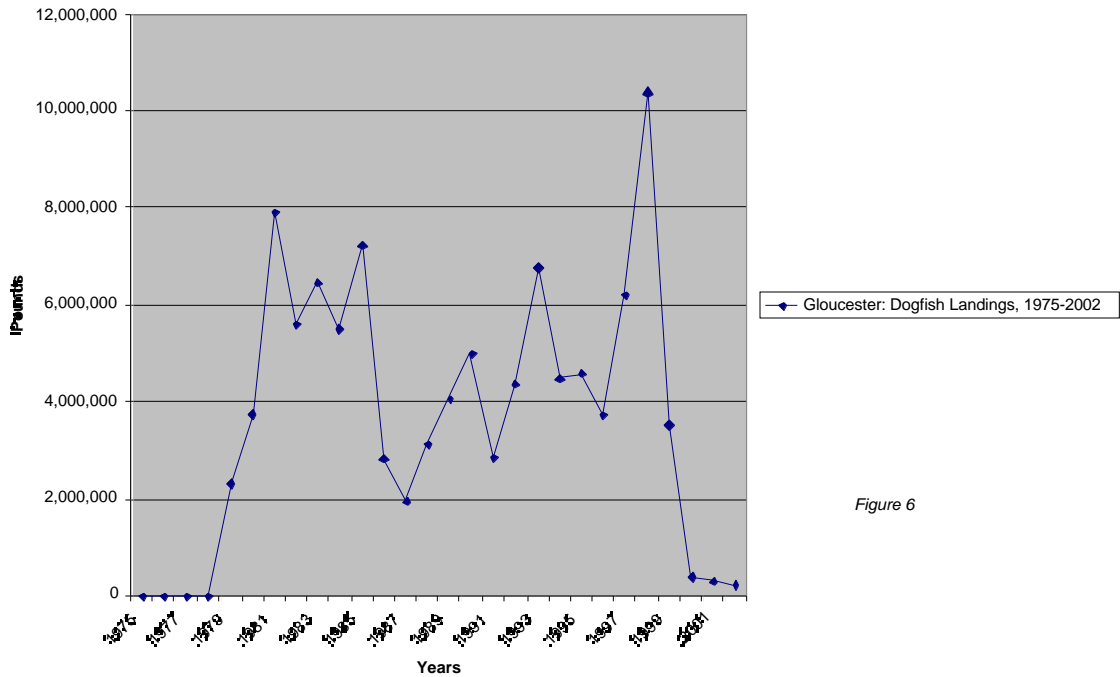


Figure 6

Gloucester: Atlantic Mackerel Landings, 1975-2002

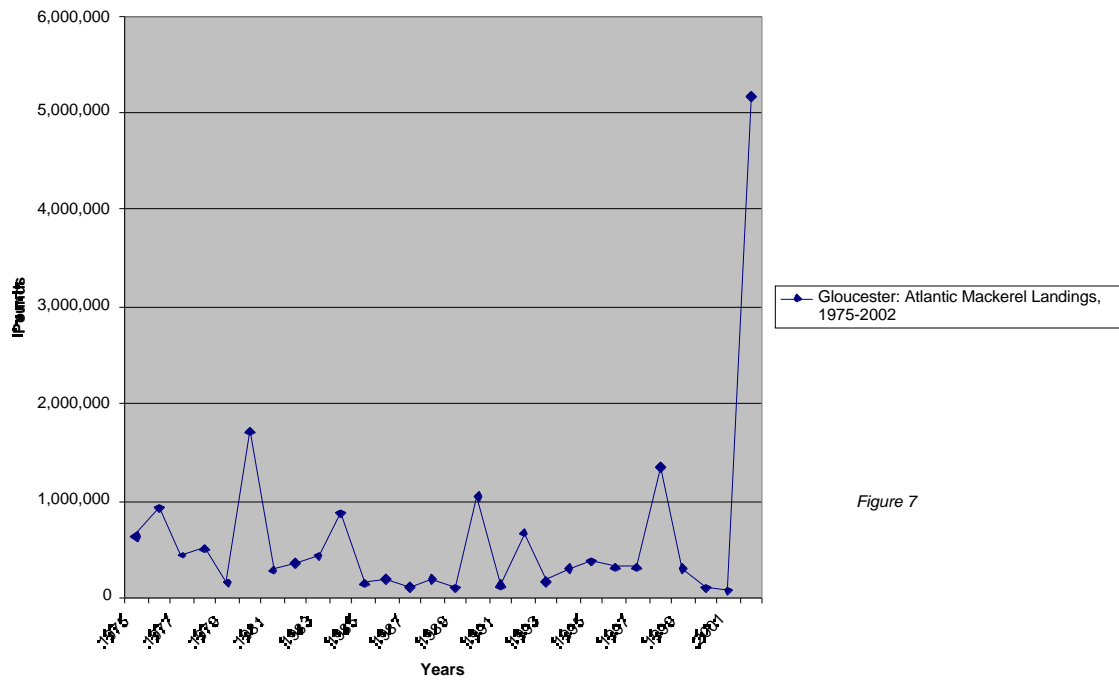


Figure 7

Gloucester: Lobster Landings, 1975-2002

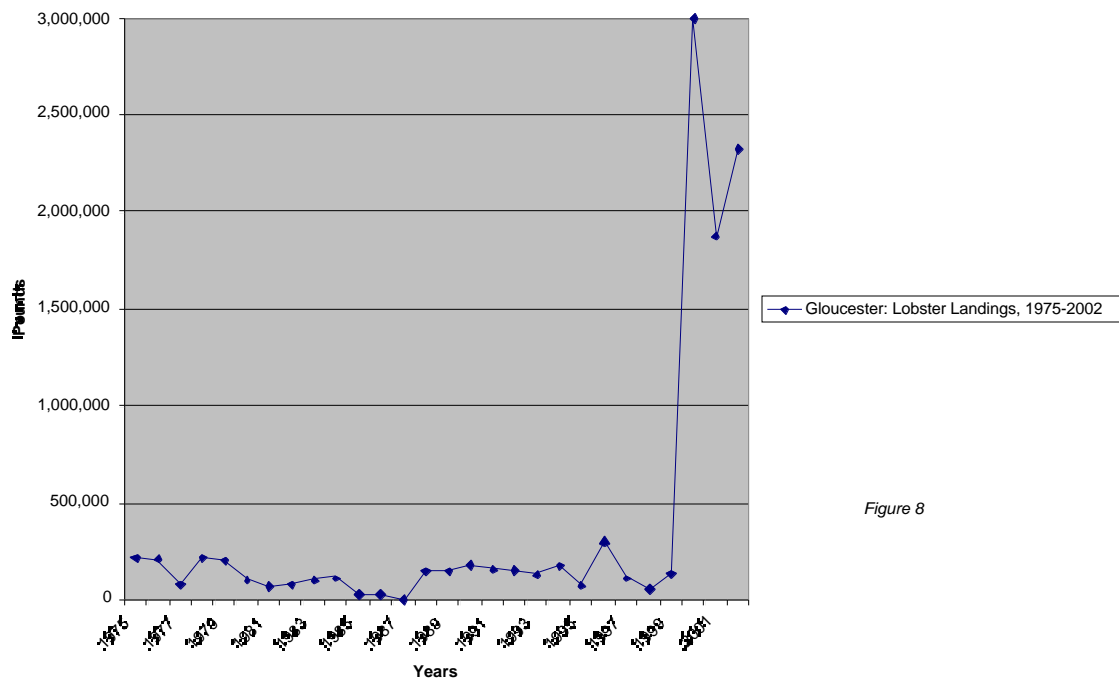


Figure 8

Gloucester: Silver Hake Landings, 1975-2002

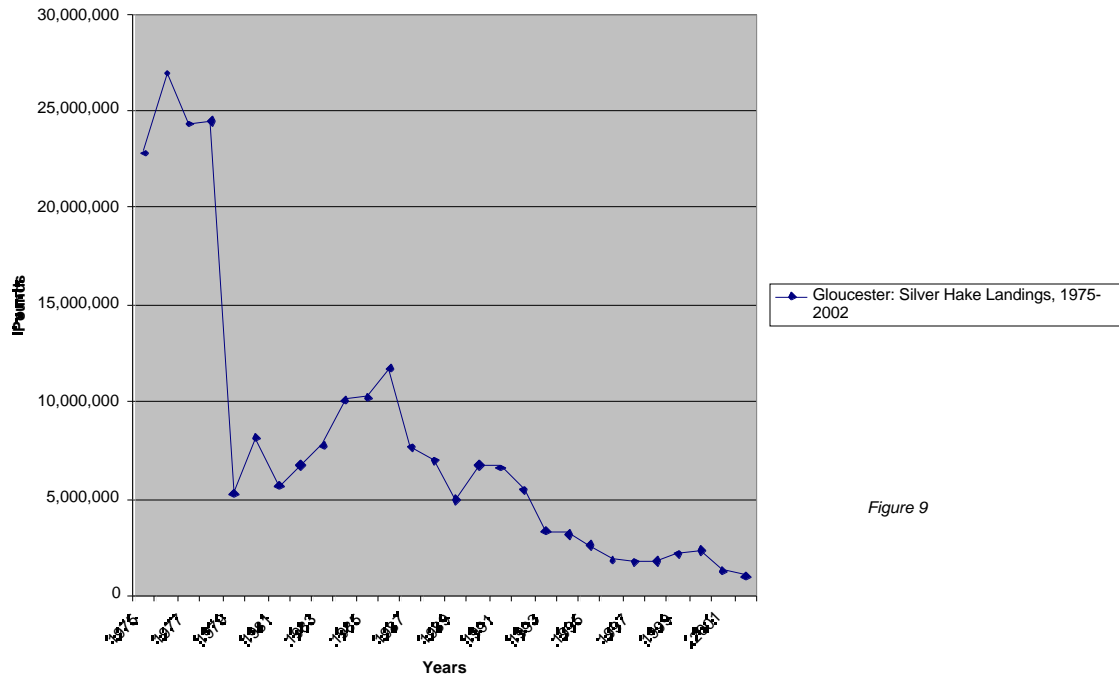


Figure 9

Gloucester: Monkfish Landings, 1975-2002

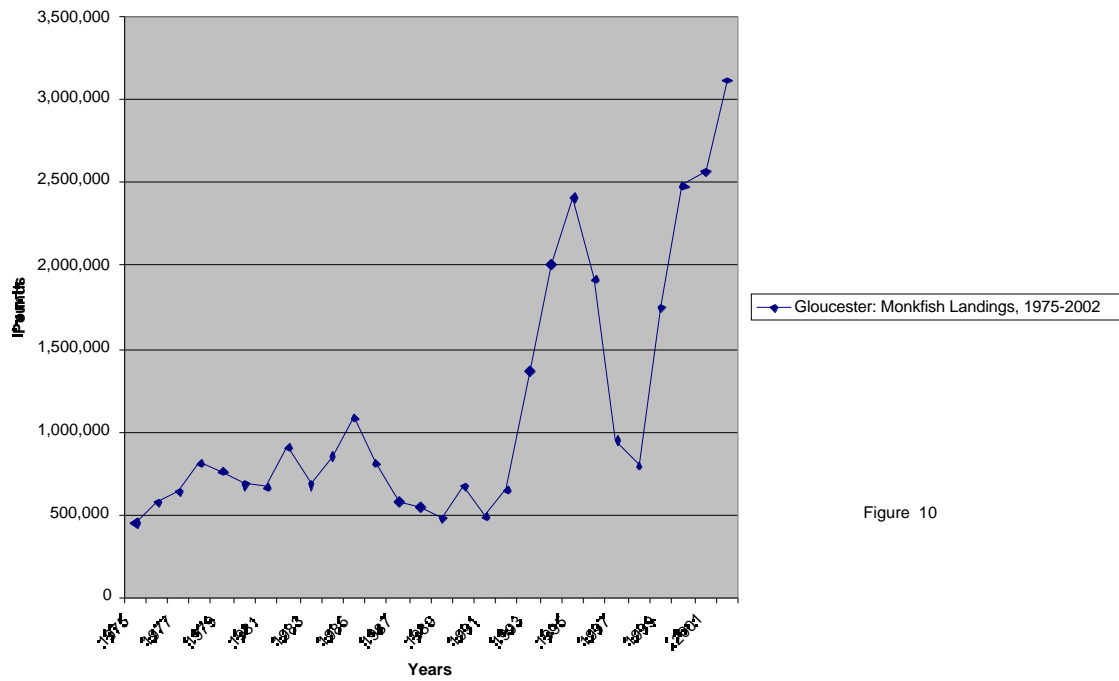


Figure 10

Gloucester: Scallop Landings, 1975-2002

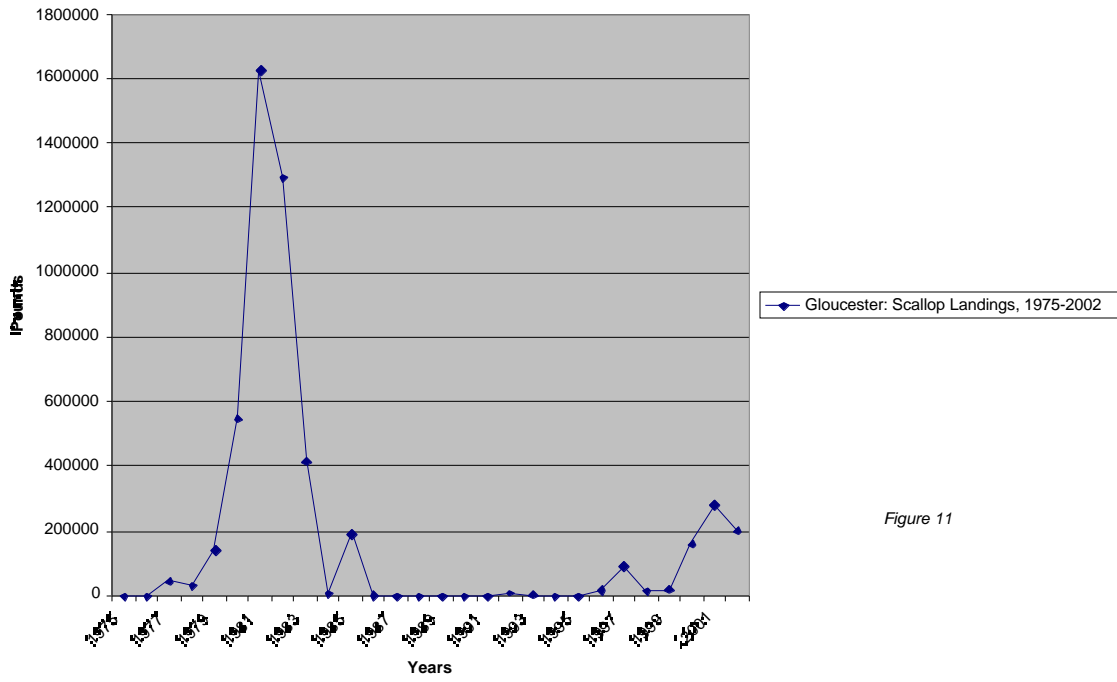


Figure 11

Gloucester: Shrimp Landings, 1975-2002

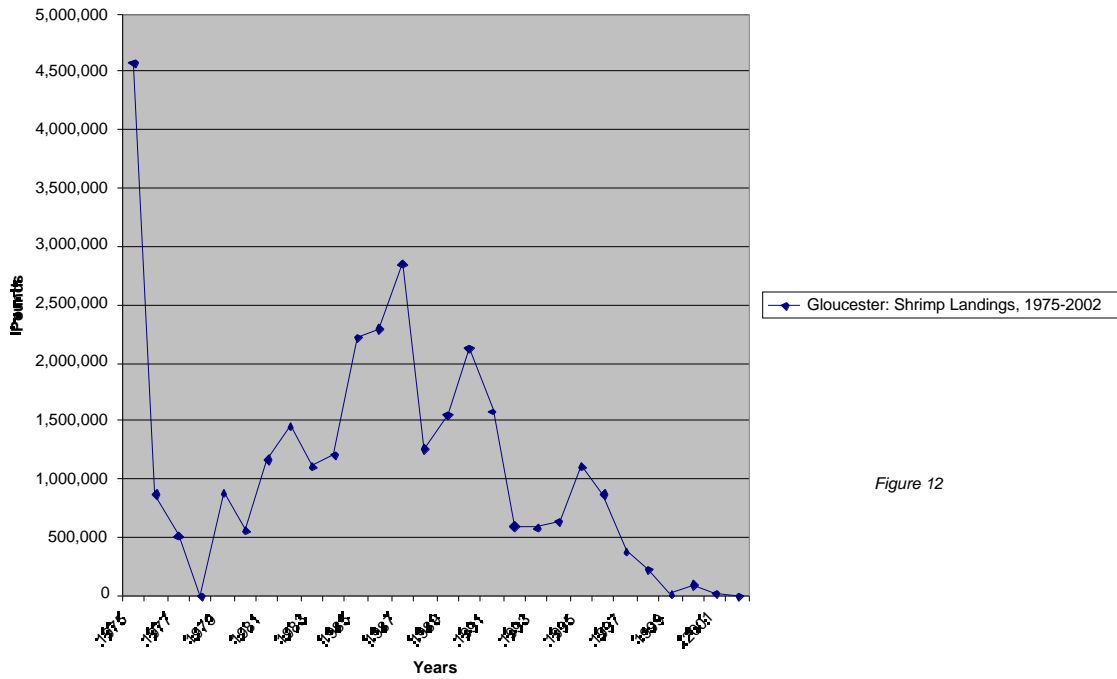


Figure 12

Gloucester: Swordfish Landings, 1975-2002

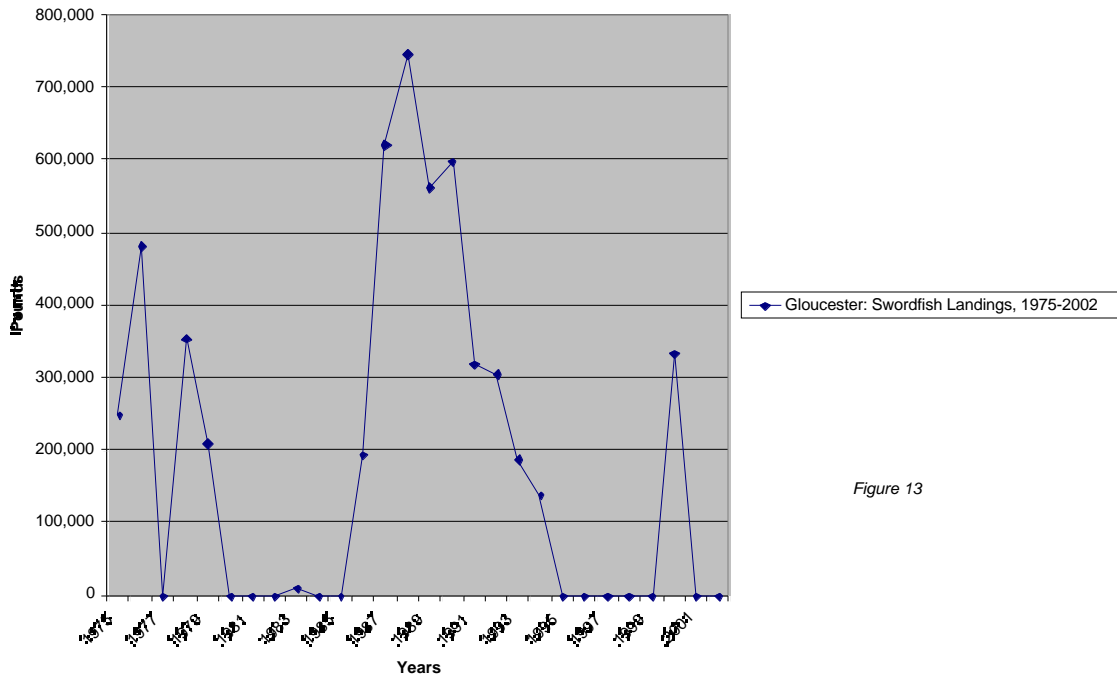


Figure 13

Tons of Ice Sold for Fishing and Processing by Gloucester's Two Ice Companies (Cape Pond Ice and Gloucester Marine Railways Ice Division), 1987-2002

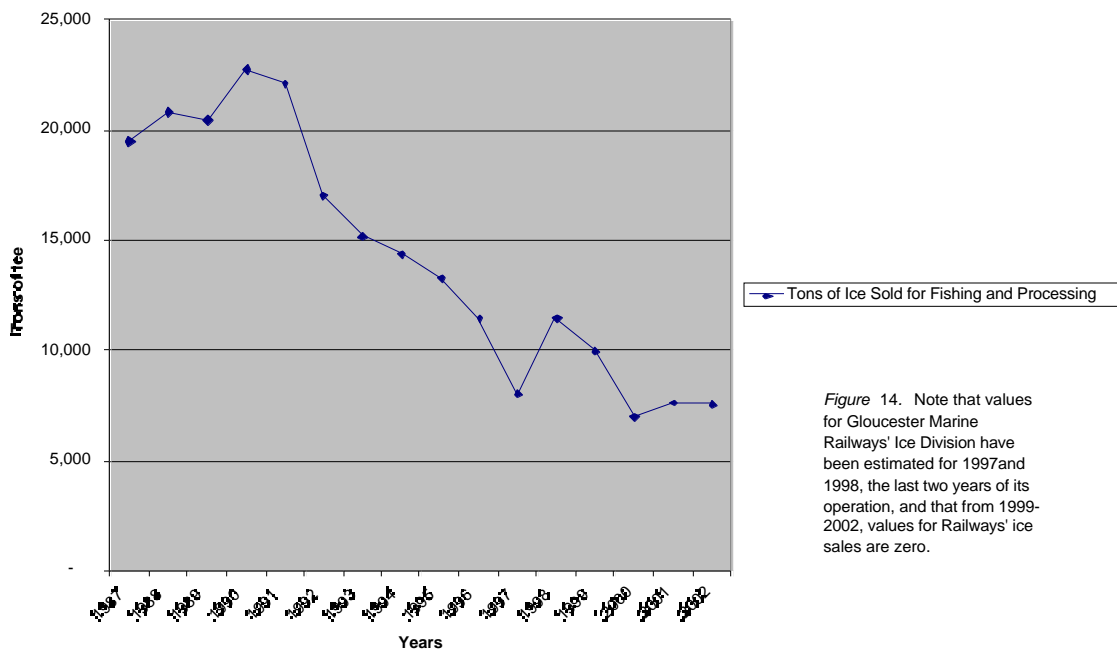


Figure 14. Note that values for Gloucester Marine Railways' Ice Division have been estimated for 1997 and 1998, the last two years of its operation, and that from 1999-2002, values for Railways' ice sales are zero.

Cape Pond Ice: Tons of Ice Sold to Vessels and Processors, 1984-2002

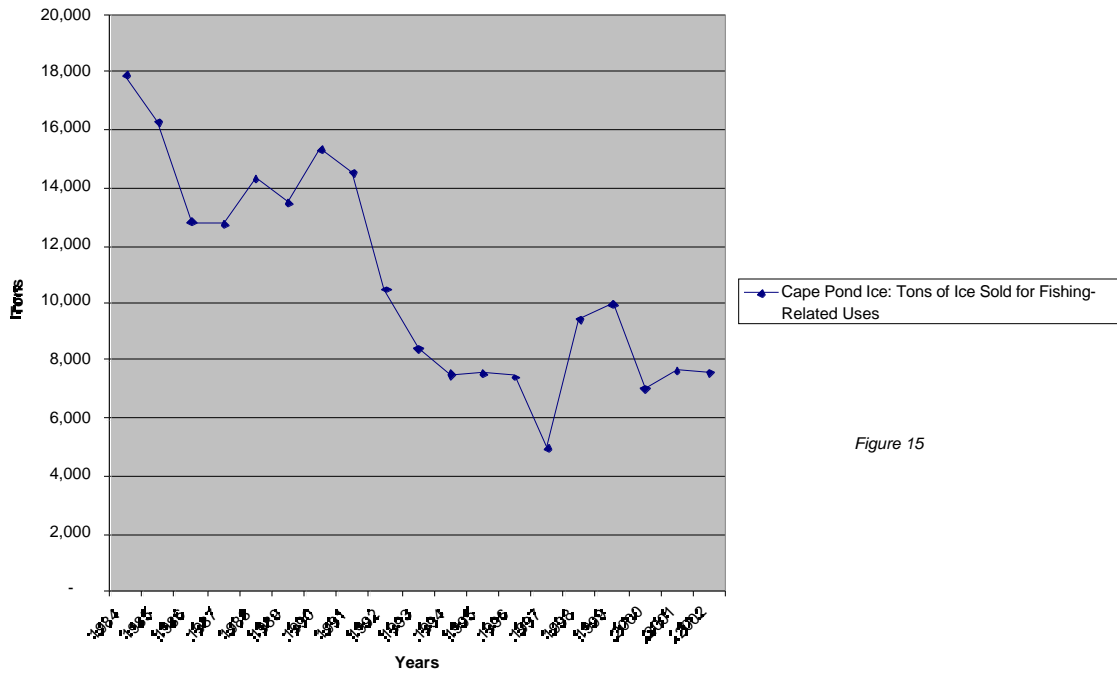


Figure 15

Cape Pond Ice Company: Percent of Business Related to Fish, 1984-2002

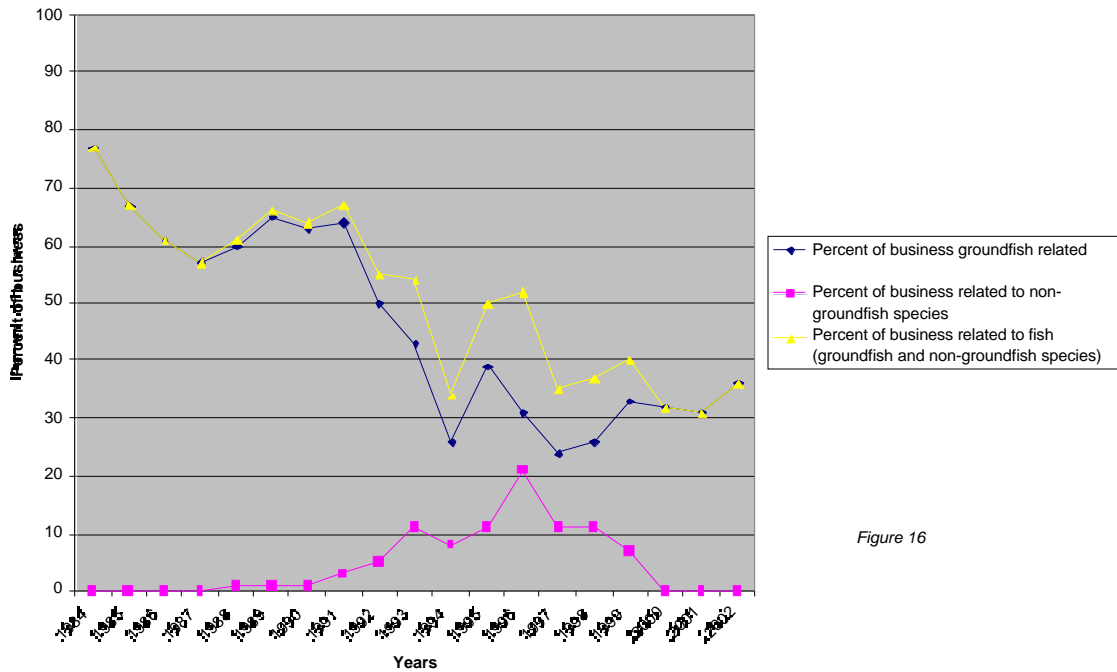


Figure 16

V. Portland's Comments on Amendment 13

By the Portland Community Panel
Massachusetts Fishermen's Partnership Community Panel Project

Jennifer F. Brewer, Maine Panels Coordinator

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Introduction: Complexity and Mixed Methods

A Portland panel was convened in October 2002 with funding from Saltonstall-Kennedy. A separate panel was convened in Jonesport in January of 2002 with funding from Northeast Consortium. Partly because of project staffing changes, and partly because of diverse priorities among project participants in different communities, the present document primarily reflects findings from the Portland portion of the Community Panels project.

Datasets

The analysis below relies primarily on the following sources:

- 1) One focus group in Portland including 7 individuals. Their range of experience included: four fishing boat owners, two shoreside business owners or managers, four members of fishing industry organizations, and two staff or advisory committee members of fisheries related agencies or public projects.
- 2) 20 standardized survey interviews in and around Portland, conducted with boat owners, boat captains, crewmembers, and owners and managers of shoreside businesses.
- 3) Eleven key informant interviews in and around Portland, conducted with boat owners, fishing family members, and owners and managers of shoreside businesses.
- 4) Four key informant interviews elsewhere in the state, conducted with boat owners, crew, and an economist.
- 5) A statewide mail survey to commercial marine harvest license holders.
- 6) Participant observation at one Council meeting, two Maine DMR A13 informational meetings, three buyback informational meetings, and three industry organization meetings.
- 7) Six meetings with Community Panels project Principal Investigators and Field Coordinators.
- 8) Review of published materials, including regulatory, academic, and gray literatures. These include the "Draft Amendment 13 to the Northeast Multispecies Fishery Management Plan" prepared by Council and NEFSC staff, the "Social Impacts Assessment for Framework 36 to the Northeast Multispecies Fisheries Management Plan" prepared by Council staff, a report on "The Effects of Reduced Groundfish Landings on New England Fresh Fish Processors" prepared by Dr. Daniel Georgianna et al. for NMFS, the "DMR Ground Fish Regulation Impact Survey" published by Market Decisions for Maine DMR, "Economic Impacts of Maine's Fisheries" prepared by Dr.

Jim Wilson for Maine DMR, and "Preserving Commercial Fishing Access: A Study of Working Waterfronts in 25 Maine Communities" prepared by Coastal Enterprises staff.

9) Data collected in downeast Maine is used as background information to the present document. This included four focus groups in Jonesport. These involved nine individuals in total. Their range of relevant experience included: two fishing boat owners, one part time crew member, a fisherman's wife, two shoreside business owners, one school administrator, one natural scientist and community development worker, one minister, four current or previous town officers, five members of fishing industry organizations, and four prior fisheries management staff and/or advisory committee members. Downeast sources also included eight key informant interviews in Jonesport and Stonington, conducted with boat owners, shoreside business owners, fishing family members, town officers, and former fisheries management agency staff.

10) Additional data collection external to the primary goals of the current project but providing essential background information. This includes over 70 interviews, 37 survey responses, and attendance at over two dozen public meetings concerning the management of New England fisheries. These data collection efforts were originally directed toward completion of the Maine Panel Coordinator's doctoral dissertation and other contract work, initiated prior to her involvement in the Panels project.

Caveats

Despite reliance on careful data collection and analysis, we concede that it can be difficult to distinguish between impacts of a particular regulatory change, impacts of previous regulatory changes, and impacts induced by other factors. Most real world events, unlike the theoretical models of those events, are embedded in causal chains that are multiple and interlinked. As in any field science (as distinguished from laboratory sciences), it is virtually impossible to isolate a single phenomenon and its driving causes. For that reason, the present document can merely hope to suggest ongoing directions of socioeconomic change, and their likely relationship to the regulatory alternatives under consideration.²⁰

Further, our study was driven by collaboratively identified research priorities, as per the parameters of our funding sources. This document integrates standards of proof identified by social scientists and standards of policy relevance identified by members of fishing

²⁰ The most honest of economists and natural scientists make similar caveats about their more quantitative, purportedly predictive and causally specific models. They concede that the clearest models are the most abstracted from reality, incorporating the greatest number of assumptions (substantiated or not) about factors external to available datasets. Although such models offer convenient quantitative thresholds for decision-makers, they may or may not be accurate with respect to existing human or ecological systems.

communities.²¹ Admittedly, we were able to contact only a limited number of people in a limited number of Maine's fishing communities. We cannot claim that the topics outlined here are necessarily the most urgent or pressing for every harvester or community in the state. They are, however, issues that have arisen with sufficient frequency and detail during the span of our study to enable some informed comment.

Field Techniques

Our field and analytical techniques emphasize qualitative over quantitative methods. This provides a deliberate contrast to the almost exclusively quantitative analyses provided in the A13 analysis of economic impacts. We do include descriptive statistical analysis of data from three distinct field surveys, one of which is part of the Community Panels project, and two of which are not. Key informant interviews and focus groups constitute our primary field techniques, however. Like any tools, these have specific strengths and weaknesses.

Strengths of qualitative techniques compared to quantitative ones include the following:

- Access to “insider” information that is normally not accessible through quantitative methods. This includes nuanced information about personal attitudes and opinions that may be held by a significant portion of the population, but are difficult to quantify or are not often revealed to investigators from outside the community. It also includes information held by small numbers of individuals with broad or otherwise unique perspectives, compared to the population as a whole.
- Flexibility to adapt and reframe research questions repeatedly, continually refining the details of field research design in response to new information.
- Critical consideration of contextual information to enable greater accuracy in the interpretation of both quantitative and qualitative information.
- Depending on project goals, community members can be actively involved in developing research questions and protocols.
- Researchers' false assumptions can be identified and circumvented. Data collection can be tailored to individual informants' varied levels of policy knowledge, literacy, topical interest, etc.

²¹ Data collection techniques in the two primary field sites were not identical. They were influenced by the background and resources of two different research teams, and the interests of two demographically and geographically different communities.

- Can provide greater depth of knowledge about a topic. Complex causal relations among multiple variables can be explored.
- Informants' attitudes can be considered in their empirical (real world) context, acknowledging that these are inherently complex and situational.

Drawbacks to qualitative research include the following:

- Sample sizes are often small.
- Time and effort is required to build the professional relationships necessary to solicit useful information from informants.
- Obtaining representative coverage of a diverse population requires informed consideration of population subgroups. Without concerted efforts to solicit minority perspectives during data collection, analysis may represent these insufficiently. Conversely, vocal or otherwise influential minorities can skew representation. Melding qualitative and quantitative methods can help.
- Analysis must continually balance informant perceptions with broader and more distanced perspectives. Prior interviewer and analyst familiarity with the research topic can help.
- Collected data can be extensive, and difficult to categorize, standardize and structure during analysis.

With these considerations in mind, we selected key informants for interviews and focus groups who:

- Are long standing and respected members of fishing communities.
- Have some awareness of fisheries management issues.
- Are involved in their communities in ways additional to the harvest of marine resources, such as local government or other positions with public responsibility.
- Have an interest in the long-term sustainability of their coastal communities.
- Expressed an interest in participating.

Ideally, with more resources, quantitative methods would be used to further confirm and quantify the findings reported here, increasing the replicability of research outcomes.

The audience for this document includes not only voting members of the Northeast Fisheries Management Council, but also other actors engaged in other policy decision making arenas, including government, industry, and non-profit sectors. To some extent our aim here is to broaden, organize and clarify the range of public opinion on Amendment 13 (A13), presenting material that might be useful not only for Council decision making, but also for the many other actors who will shape public policy in the aftermath of A13.

Departing Vessels, Declining Infrastructure and Markets in Portland

The survival of fishing industry infrastructure is a major concern in many ports, and one that is not adequately investigated by existing documents on anticipated A13 impacts. Cuts in fishing effort will not merely cause proportional cuts in profits to shoreside businesses. Rather, they are likely to trigger larger scale and cascading effects that may very well include permanent losses of working waterfront. This is partly due to the already precarious position of some shoreside businesses in changing real estate markets and food production networks. Anticipated emigration of some groundfishing vessels to more southerly ports following A13 would comprise another significant causal variable, potentially tipping the balance toward a more rapid elimination of fishing related waterfront use.

Possible Departures

Some interviewees estimate that over 20 vessels will move from Portland to Massachusetts immediately following the implementation of A13. Even in August of 2002, a random survey commissioned by Maine DMR found that over a third of the state's vessels and shoreside businesses were thinking about relocating. Of those considering relocation, over a third of each sector was considering a move to Massachusetts. 18% of vessels and 29% of shoreside businesses were considering a move to another Maine port. Others mentioned Alaska, Virginia, Florida and other locales. Among vessels over 70' in length, 72% were considering relocation (Market Decisions 2002). Of course, to consider moving is not to commit to moving, but such actions become more likely as implementation of A13's preferred alternatives nears.

Virtually everyone agrees that the scale of emigration is uncertain, but few on the Portland waterfront doubt that there will be departures. Particularly since some of Maine's largest boats may be among the first to leave, Maine's seafood markets and, potentially, infrastructure are likely to witness severe negative impacts.²² Many Portland based

¹ One factor limiting vessel emigration from Maine may be the lack of sufficient dockage or moorings in more southerly ports.

vessels already land a significant amount of product in Massachusetts. A few also base some portion of their shoreside operations out of Massachusetts. These firms do so because: 1) Less time is spent steaming to and from Georges Bank and other grounds from Massachusetts compared to Maine. 2) Lobsters caught as bycatch can be landed in Massachusetts. 3) Crew residing in Massachusetts are eligible for group health insurance and state unemployment. Although these factors do precede A13, all become more salient in industry decision making as profits decline due to regulatory reductions in fishing effort. Even if immediate accounting losses are followed by profits a couple years later, this does not mean that profits will accrue to all boats. It does not mean that actual economic outcomes will comprise net benefits.

Despite the anticipated vessel departures, many shoreside businesses and processors wish to remain in business in their present locations and will make an effort to do so. Some, however, are likely to fail or move. Forty percent of the state's shoreside businesses rely on groundfish for 60% or more of their business (Market Decisions 2002). Larger vessels supply markets during the stormiest seasons, enabling fairly constant product streams. They complement smaller boats that can make quick trips on short notice, particularly when demand is high. With any significant number of large vessel departures, a cascade of impacts emerges and endpoints become highly uncertain. If product flows fall too low to maintain Portland's display auction and markets for fresh processed product, "value added" activities could cease and dockside prices could drop statewide.

The Portland Fish Exchange and Related Markets

The Portland Fish Exchange (PFE) has anchored Maine's groundfishery and markets since its opening. Harvesters and shoreside interests recount that its display auction raised ex-vessel prices region wide, and raised standards of fairness and honesty in market relations. It even became a model for display auctions elsewhere in New England. At present, the auction offers buyers a relatively steady stream of quality product. It offers vessels reliable sales agreements and prompt payments. As a result, it has attracted boats, buyers, and processors from Maine and elsewhere in New England. It now handles up to 90% of the state's groundfish, some landed directly and some trucked from midcoast and downeast Maine.

The auction is now calculating anticipated impacts of vessel departures. Some believe it can remain open while handling greatly reduced volumes. Others believe the cascade of impacts induced by A13 will force it to close. If one assumes that groundfish stock assessments will continue to improve, and some fishing restrictions will be lifted, the auction may be able to cover its costs in the interim, through staff cuts, salary reductions, and support from the City of Portland, which owns the Exchange and its property.

Such a hopeful assessment, however, assumes that buyers will continue to attend the auction despite greatly reduced product availability. This is a major assumption that may very well prove false. Processors need certain volumes of product to stay in business. Some may choose to remain in Portland, trucking in fish from more southerly ports. Others may leave. Buyers from outside Maine are less likely to maintain auction seats, or to contract with the local buyers who presently represent them. Such departures of processors and buyers would affect not only Maine's groundfish markets, but also markets for the other species unloaded in Portland for local processing or sale through the auction. One of the non-groundfish products most commonly relied upon by Maine processors is northern shrimp. Shrimp stocks are particularly prone to short term ecological and geographic shifts, and corresponding regulatory changes. This species cannot provide the kind of economic stability necessary to sustain processing capacity. With the departure of processors primarily reliant on groundfish, Maine's dockside shrimp prices could plummet. The same could occur for other species now processed in the same facilities as groundfish.

Some processors also fear that A13 could induce larger scale changes in groundfish markets, with long term repercussions. The fresh fish market is central to New England's ability to maintain a market niche for groundfish species in the face of global competition. Key customers include supermarkets and restaurants, both of which markets have seen increased consolidation and vertical integration in recent years. Such firms vastly prefer products for which they can anticipate reliable deliveries and project solid quarterly profits. Should the cascading impacts of A13 cause interruptions in New England groundfish supplies, or should wholesalers supplying supermarkets and restaurants anticipate market interruptions (with or without empirical evidence), they could shift to other species. Once lost, markets can be hard to re-establish. Producers must often undercut market prices to woo back buyers who have developed new relationships with other firms.

Cascading Impacts on Industry Clusters and Networks

In addition to the auction, Portland serves as an industry cluster, or hub, for Maine fisheries in general. In 2002, 40% of the state's groundfish vessel owners reported landing most regularly in Portland. Over a third reported landing most regularly in a number of smaller midcoast ports, most of which truck product to the Exchange (Market Decisions 2002). The Exchange also handles high volumes of northern shrimp, as well as smaller volumes of other species. Portland is the home of several additional shoreside businesses crucial to the industry. These include gear supply, fuel, ice, trucking, cold storage, vessel maintenance, haul out facilities, engine sales and repair, electronics sales and repair, and others. Some of these support services are also available elsewhere on Maine's coast. Many, however, are not, or cannot accommodate boats over a certain size. Their situation compounded by this year's decline in lobster landings, some shoreside businesses in the Portland area will have difficulty staying in business after A13.

The closing of such businesses has significance far beyond that of lost profits and jobs. Dramatic changes in Maine's development patterns and real estate markets wield powerful pressures on Maine's marine industries. Shoreline property is increasingly at a premium. It often yields most immediate profits to owners when developed for luxury residences, retail, recreation, and tourism. Fishing can be a lucrative business, but waterfront property fallen into disuse and disrepair is vulnerable to turnover. With few fisheries open to young people due to entry barriers and accelerating regulatory uncertainties, fishing dependent families are aging. Multiple heirs often wish to sell shorefront properties and divide the inheritance. Once lost, working waterfronts are unlikely to be regained (Sheehan and Cowperthwaite 2002).

Although the PFE provided a boon to the industry in many ways, it also reduced the number of profit making fish buyers in southern Maine. With this, incentives fell for shorefront property owners to maintain a diversity of wharfage facilities, dockage, parking, and other kinds of access for marine harvesters. Thanks to creative and focused zoning, Portland still has a commercially viable waterfront, supplying most of the needs of a diverse fishing fleet. The number of businesses offering any particular service or product, however, is very limited. As suggested in A13 comments offered by Community Panel project participants in Gloucester, at least one business in each of several categories is needed to sustain a local industry cluster. Anticipated impacts of A13 throw doubt and concern on the survival of the industry's remaining core.

Although infrastructure data collected by this project has focused on Portland, the rest of the coast is experiencing related phenomena. Boats relying on Portland's auction and shoreside businesses range as far as midcoast and downeast Maine. If the auction closes, vessels unable to move south, or electing to remain in Maine, will have to establish relationships with new dealers and buyers. Prior to the opening of the PFE, this entailed trucking product out of state, to buyers in more urban areas of the northeastern US and Canada. Prices paid by distant buyers can be unreliable. Sellers have little protection from firms that turn trucks away upon arrival, or accept delivery but default on payment. Less incentive exists to deliver a fresh, quality product, and prices are correspondingly lower.

Crew, Safety, and Human Capital in Portland Harbor²³

While documentation of regulatory impacts on individual vessel owners is not extensive, documentation of regulatory impacts on crewmembers is virtually absent from the public record. Even in the academic arena, this industry group receives very little attention. Crewmembers rarely offer public comment on proposed regulations. They can expect

²³ This section incorporates contributions from project participant Gina LeDuc Kuntz. Some but not all of these conclusions may apply to other parts of the state.

even fewer rewards than can boat owners from engagement with public decision making processes. With more limited resources of financial capital, formal education, and social networks upon which to draw, they find it harder to command public attention, and more difficult to wield political leverage.

As the fishing fleet changes and contracts in response to increasing regulatory restrictions, crewmembers bear significant impacts. They are among the individuals most likely to be displaced by regulatory effort reductions. Although the uncertainties posed by industry adaptation to A13 make it difficult to predict the precise nature and scope of change within the crew labor pool, the kinds of changes observed in this sector over recent years are likely to be exacerbated by Amendment 13.

Fewer Sites and Less Flexibility

Reduced numbers of crew positions is an obvious impact of reduced days at sea and reduced numbers of fishing vessels. Even some crewmembers with a steady employment history on a single vessel report having difficulty getting enough sea time to maintain a livable income. Some vessels now operate with fewer crewmembers per trip in order to keep individual trip shares high enough to attract quality employees. Others shift a single crew between two boats.

Many crewmembers that formerly changed vessels fairly frequently now find it difficult to find a position at all. Those who have good sites tend to keep them. Those who have less profitable sites find it difficult to switch to more successful vessels. Because sites are harder to obtain, crewmembers are more directly dependent on individual skippers and owners. At least one source reports that whereas crew were formerly more collegial and familiar with one another, having taken trips aboard several vessels and working alongside a number of different crew members, they now compete for limited sites and are less likely to form the informal socio-economic networks that help define an occupational identity. They have less room to negotiate better pay or working conditions. They are less able to turn down trips for reasons of personal health, family commitments, or perceived danger. They are less able to leave groundfishing temporarily to do other fishing or non-fishing work with the expectation of being able to return to groundfishing. As some vessels maximize profits by fishing grounds farther from home and landing catch in more distant ports, crewmembers have less leverage with which to protest these longer periods away from home and family. Domestic relationships, already subject to extended absences in the best of times, are likely to be further attenuated, increasing levels of stress and instability among all family members.

Less Upward Mobility

In the past, crewing aboard a groundfish vessel offered a training ground for future skippers and boat owners, both in groundfish and other fisheries. Reliable and attentive

groundfishing crew found opportunities to learn the skills necessary to become captains. Even many lobster fishermen who mainly fish inshore, took at least a trip or two on an offshore vessel in their youth.

For many vessels today, each allocated multispecies day at sea must yield a profit in order for the operation to survive. Few mistakes can be made on each trip. Skippers must be highly knowledgeable and skilled in order to maximize time on the clock. With these pressures, less experienced crew are unlikely to be given the opportunity to skipper vessels for fear they might return with a less full hold than would a more seasoned captain. Further, experienced captains are unlikely to give up a trip, needing as many days at sea as possible to maintain their incomes.

As days at sea decline, so will crew incomes. Crew are less likely than in the past to have opportunity to captain a boat owned by someone else. Many have insufficient funds or credit histories to purchase their own boats with multispecies permits. One who might obtain sufficient funds to purchase a smaller vessel suitable for lobstering or urchining may be unable to acquire the necessary licenses or permits to enter those or other fisheries, due to limited entry rules that require proof of previous licensure and/or landings. Although they may have harvested and landed many tons of fish, these individuals face considerable obstacles should they wish to obtain fishing rights of their own.

Fewer Reliable Crew Available

Lowered career expectations in terms of income, advancement and learning opportunities in turn affect the quality of the pool of crewmembers available for hire. Many vessel owners report that good crew are hard to find. Those crew members who were reliable and experienced enough to make a good living on others' groundfishing boats are likely to have left the groundfishery to run their own boats (particularly lobstering) or seek other employment. Few non-fishing jobs allow former crewmembers sufficient flexibility to continue to groundfish on a part time basis. Fishing is such dangerous and physically demanding work that few boat owners or captains wish to take on green crewmembers.

Local Knowledge

Many crewmembers have multi-generational ties to fishing communities, learning to fish from family members and neighbors. Portland area interviews suggest that perhaps three quarters of groundfishing crewmembers come from fishing families and learned to fish from close relatives. This proportion may be higher in other parts of the state. The knowledge passed on from one generation to the next comprises more than just technological familiarity, such as navigation and gear handling. It also includes ecological subjects such as fish behavior, benthic structure, oceanographic movements, atmospheric observations, and trophic relationships among marine species.

To lose large numbers of traditionally trained fishermen, whether crew or boat owners, is to lose a significant store of cultural capital in local ecological knowledge. Collaborative research initiatives have only begun to launch meaningful information exchanges between marine scientists and harvesters. Losing harvesters' unique orientation toward marine resources, with their awareness of the complexity of human interactions with the marine environment, represents a significant social loss. With crew members' average age close to 50, few young people are entering the groundfishery. Most ambitious young fishermen in Maine now focus primarily on lobster. In part this can be attributed to some years of record lobster landings, but increasingly daunting economic and regulatory barriers to groundfishery entry also prevent interested young people from devoting the time to acquire groundfishing knowledge and skills as either boat owners or crew.

Limited Employment Alternatives

Some crewmembers have done little or no other paid work. Although most crew positions require considerable skills, these are not easily transferred to jobs on land, or even to non-fishing marine jobs. Many of the crewmembers remaining in the groundfish industry are those who have no attractive employment alternatives. It is likely that many would have difficulty adjusting to full time shore life. Many find it easier to adapt to shifts in weather and fish migrations than to adapt to the routine and hierarchical relationships of most entry level shore jobs. Few shore jobs pay as well or are as tolerant of personal eccentricities, as fishing. Despite the erratic work schedules, extreme physical demands, and economic uncertainties, many crewmembers identify closely with their chosen occupation.

Safety

Quantitative and qualitative data sources offer mixed information regarding vessel and crew safety. Some sources indicate that mandated safety equipment, and increased monitoring by Coast Guard and Marine Patrol, have improved vessel safety. Other sources indicate that regulations have had negative safety impacts. Decreases in vessel and crew safety have obvious social costs. Any increased risk of death at sea represents the most grievous loss to crewmembers, their families, and their communities. Moreover, rarely do crewmembers receive health insurance, disability, or workers compensation from the vessels they work aboard, due to their status as independent contractors. Many have no life or health insurance and must pay all medical costs out of pocket. In addition, rescue operations to vessels in distress present high costs to all taxpayers.

Some of the safety concerns identified by project participants include the following:

- 1) Because vessel owners cannot count on future profits, few new boats are being purchased and repairs are being delayed. The result is an older, more decrepit fleet. This is a serious safety concern in the harsh and unpredictable marine environment.
- 2) Boats are going out with fewer crew to reduce per trip costs. Fewer hands on deck means fewer resources to handle any potential emergency, whether it concern snarled gear, mechanical failure, or navigational tasks.
- 3) Fewer available crewmembers, particularly fewer young adults, can mean more crew fatigue and increased probability of human error.
- 4) Less experienced crew means greater risk of dangerous mistakes.
- 5) The need to maximize profit from each allocated day at sea means more trips taken at times when market prices are up due to bad weather that would normally keep most vessels at home. The result is more winter fishing and greater vulnerability of vessels and crew to “natural” disasters. Human error increases as well under extreme weather conditions.

Cumulative Impacts: Declining Fleet Diversity and Flexibility

At present, Maine finds itself on the geographic margins of New England’s groundfishery. This was not always the case, as virtually all Maine harbors were once supported by numerous and diversified groundfishing vessels (O’Leary 1996; Wilson 1999). Particularly since the 1984 implementation of the Hague Line, however, Maine based vessels operate with the handicap of greater distance from both the largest concentration of groundfish within US waters (on Georges Bank), and greater distance from major urban markets and transportation networks (which extend south and west from Boston).

Maine’s Adaptive Fleet

Partly because of market and transport obstacles, Maine’s inshore fisheries have been dominated for over a century by a flexible and diversified fleet of small to medium sized vessels. Further, diversified livelihood strategies have characterized northern New England households since colonial times (Vickers 1994; O’Leary 1996). Switching fishing effort among a variety of species in annual or multi-year cycles may make harvesters more aware of interspecies and habitat relationships.

One element of the Community Panels project included a survey mailed to a random sample of Maine 2002 commercial marine harvest license holders (including commercial lobster, crab, shrimp, scallop, urchin, general commercial fishing, shellfish, mussel, quahog, elver, worm and seaweed licensees with Maine mailing addresses) suggests that

one third of Maine's licensees have groundfishing experience.²⁴ Extrapolated to the state's entire population of roughly 10,000 marine harvest licensees, this would comprise over 3,000 individuals. We can assume that these numbers under-sample an additional population of current and former crewmembers, who may have no boats or licenses of their own, but who work or have worked in the groundfishery. It also omits former groundfishermen who have left fishing altogether. Accounting for these groups would further raise the numbers of Maine harvesters who have groundfishing experience but who currently have little hope of ever obtaining groundfish permits.

According to a random telephone survey commissioned by Maine DMR, of the vessel owners holding active groundfish permits in 2002, over two thirds also had income from other fisheries or marine activities. Of those, 51% had income from lobster, 27% from shrimp, 12% from scallops, 9% from urchins, 4% from tuna, 3% from herring, and 11% from other species. Among hired captains and crew, 38% had income from other fisheries or marine activities. Of those, 63% had income from lobster, 38% from shrimp, 25% from scallops, and 13% from tuna (Market Decisions 2002).

Correspondingly, our mail survey suggests that Maine license holders with groundfishing experience have participated in an average of over 5 New England fisheries (including lobster, crab, shrimp, urchin, groundfish, scallop, tuna, herring, whiting, mackerel, pogie, clam, worm, winkle and others). Maine license holders in general have participated in an average of 4 New England fisheries. Removing the roughly half of licensees who have participated in only one fishery (comprising either lobster or worms in this sample), the remaining licensees have participated in an average of over 6 New England fisheries. This suggests that there are two common marine harvest strategies in Maine – one specialized and one diversified. A separate survey mailed to a random sample of 2001 commercial lobster licensees (funded by a National Science Foundation Dissertation Grant) showed that population to have participated in an average of three fisheries²⁵, with 31% having groundfish experience²⁶ (Brewer Forthcoming).

²⁴ N = 12. At a confidence level of 90% (commonly accepted in social science analyses), the confidence interval is +/- 26%. Standard error is 14%. Duplicate names due to multiple permit holdings were deleted from the total population before random sampling. Time constraints prevented additional sampling. Reliability is substantially increased, however, through corroboration by two additional sets of independent survey data.

²⁵ N = 29. At a confidence level of 90%, the confidence interval is +/- .57. Standard error is .33. This analysis combines lobster with crab, and all groundfish species, as single fisheries. Separating lobster from crab, or separating distinct groundfish species, would result in higher diversity statistics.

²⁶ N = 29. At a confidence level of 90%, the confidence interval is +/- 14%. Standard error is 9%.

Regulated Away From Diversity

In recent years, a series of regulatory measures have encouraged boats to depart from a diversified flexible strategy, favoring single fishery operations that target groundfish or other species. Depending on the vessel size and gear and species involved, flexible, inter-species strategies can include switching target species during a single fishing trip, depending on immediately available stocks. In Maine, however, inter-species switches often require dockside gear changes and travel to different fishing grounds. For example, targeted harvests of groundfish, shrimp, lobster, urchins, scallops, tuna and herring all require very different gear and spatial strategies. For this reason, Maine harvesters often make their inter-species switches on seasonal or annual bases. In years when good shrimp catches and markets are anticipated, boats will gear up with shrimp trawls or traps to make the most of the limited winter shrimping season. In years when lobsters are plentiful, boats will remove trawls and set traps for summer, fall, and, more recently, winter. Some drag or dive for scallops when those are plentiful. In years when migrating tuna come close by, boats take on reels and spears. During the urchin boom, boats took on divers. They harvested herring when they could be caught inshore with stop or purse seines (or historically with beach seines and weirs). Until recent years when groundfish stocks declined and permits and DAS became severely restricted, many boats geared up with trawls or gillnets (or tub trawls in previous decades) for seasonal groundfishing. A number of other species round out the diversity of seasonal and multi-year cycles.

Such flexible switching strategies traditionally have allowed day boats and others to adjust their individual business plans to changing ecological and socioeconomic circumstances with relative ease. Like diversified farming practices, the ecological and economic burdens and risks are distributed more widely than in single-fishery fleets. Should a single fishery experience stock declines, or normal inter-annual fluctuations, harvesters can accommodate the ecological change by shifting to other species, easing stress on both fish stocks and harvester's own communities.

By contrast, higher operating costs, and more specialized technological adaptations in vessel and gear design, constrain such flexibility in many larger vessels. Operators wholly dependent on groundfishing consider the DAS allocation that considered the landing of a single pound of groundfish sufficient to qualify for minimum DAS to be inequitable. Trip boats point out that their longer steam time and other expenses use considerably greater resources than those used by smaller, inshore vessels. The fact that they cannot easily shift to alternative species leaves them particularly vulnerable.

The increasingly single-species approach to US fisheries management contrasts unfavorably with the adaptive strategies of existing flexible fleets. Single species driven regulatory frameworks work against diversified vessels by using single fishery landings histories to allocate fishing effort on a per vessel basis in the form of quotas or days at

sea. This has been a chronic problem for Maine harvesters. Many harvesters complain that they are increasingly “boxed in” to one or two fisheries.

Years used as baselines for the allocation of groundfish permits and DAS were years when lobstering was good, shrimping was good, and groundfishing was poor. There were also years when inshore porpoise closures prevented some small boats from groundfishing inshore, and when groundfishermen were actively encouraged by biologists and regulators to shift effort to other species in order to conserve depressed groundfish stocks. For these reasons, and others documented above, many Maine boats with decades of historical groundfish participation were eliminated from the groundfishery when their permits became latent, or their DAS were cut below useful levels.

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VI. New Bedford's Comments on Amendment 13

By the New Bedford Community Panel
Massachusetts Fishermen's Partnership Community Panel Project

Presented at the Fairhaven Public Hearing

My name is Jim Kendall, and I am the owner of New Bedford Seafood Consulting, and I have been an advocate for the commercial fishing industry for the last 10 years. I am a former president of the Massachusetts Fishermen's Partnership, and I am currently a member of the Massachusetts Fishermen's Partnership board of directors and the executive committee. I am also a former member of the NEFMC, and I was a commercial fisherman for 34 years out of the port of New Bedford. I have been participating on the New Bedford Community Panel since its inception.

When we testify about the damaging social and economic impacts of each new regulation, there are some who say, "*you said when the last set of regulations were imposed that you would be put out of business; but you are still here!*" What is not made clear in the DSEIS is the cumulative effect of all the regulations. What uninformed observers do not see is that many, many people have been put out of business. For example, nearly 200 New Bedford fishing vessels are gone. Roughly 1000 crew sites were lost. They represent nearly 200 small businesses that are gone, and mostly forgotten by many of those ashore. Simply because when they are lost they disappear; they are generally sunk or destroyed. You won't find them looking like boarded-up businesses in a blighted neighborhood, but make no mistake about it, that's what they are. We are becoming a blighted neighborhood! Over fifty shoreside businesses that directly supported fishing in the Greater New Bedford Fishing Community e.g., fuel suppliers, ship chandlers, lumpers, welders, carpenters, ice houses, gear suppliers, electronics, processors, fish cutters, etc., and employed about 1300 people are no longer in business. Most times when they are lost, they are overtaken by speculators who are just waiting in line in order to gain a foothold on our valuable and irreplaceable shore-side properties and sites. Like Gloucester, New Bedford is close to the tipping point; there is little redundancy in the shoreside services available to the industry. When the essential services are no longer available, what will the industry do? When the young people no longer look to the fishing industry as an opportunity to earn a decent wage, and live a valued lifestyle, what will they do? What will the industry do? What will our nation do? We will buy our fish from those nations that are not as well managed, regulated, and enforced as we are.

Insurance costs are skyrocketing, increasing anywhere from 15% to 50%, when you are able to find a provider. (For those unfamiliar with the cost of vessel insurance, you should know that the increases are \$15,000 and up.) Losses in the stock market have made insurance companies limit coverage to only the most secure investments. It doesn't matter that vessels are tied to the dock for months, the insurance companies' rates reflect

their income needs. Vessels no longer have the option of purchasing less expensive “port risk insurance” when the vessels is tied to the docks for extended periods of time, which is often the case because of the restrictions on “Days at Sea” (total number of days a vessel is allowed to fish each year). So, even though the insurance companies enjoy less risk because the boats are spending less time at sea, where it’s more dangerous; they are charging considerably more for insurance protection! Maintenance and repair costs have also been going up, driven up in part by the loss of shoreside infrastructure and the demand for the remaining services by the recreational or yachting industries.

But, the prices of fish are lower than ever. Lemon sole was selling for 6 to 8 cents per pound this summer! One reason the prices are lower is because there are so few processors left in the city. At least 30 processors have disappeared in the decade since Amendment 5 was implemented (see attached list). Another reason is that the mechanical cutters in the existing plants can’t handle the abundance of large sized flounders that are being landed and there is a shortage of skilled cutters. (The sheer abundance of these very large flounders is another sign of the health, and rebuilding of many of the Georges stocks.) And of course, fish is also being trucked in from Canada where the industry is subsidized.

It is true that New Bedford was ranked number one in revenue from fish landings again this year. Most of that value however is attributable to the scallop landings, and their high dollar value. (The 2002 landing value for New Bedford was 169 million dollars, but the Atlantic sea scallop accounted for nearly 100 million dollars of that value.) There also is additional revenue from clam, lobster, and now thanks to the “NORPEL” pelagic plant in New Bedford, herring landings. It is apparent from the increasing debt, bankruptcies, etc. that the groundfish revenues are not returning to the wide range of vessels and businesses that have made up New Bedford’s valuable industry. Before the Council moves forward, an analysis on the micro-scale should be undertaken to understand where the money is going and why so few are benefiting.

Thank you for the opportunity to enter these factual comments into the public hearing document.

James M. (Jim) Kendall
New Bedford Seafood Consulting
Massachusetts Fishermen’s Partnership
New Bedford Community Panel

Appendix: List of companies lost to New Bedford since 1994.

Fishing Related Companies that have gone out of business since 1994				
Company Name	City	State	Zip	Employee's
Acushnet Fish Corp.	Fairhaven	MA	02719	0
Sea View Fish Corp.	New Bedford	MA	02740	100
Night View	New Bedford	MA	02740	35
Safe Harbor	New Bedford	MA	02740	50
Harbor Fish	New Bedford	MA	02710	50
Pilgrim Fish Co.	New Bedford	MA	02740	50
M& B Fish Co.	New Bedford	MA	02740	6
Double T Fish Co.	New Bedford	MA		10
Golden Eye Fish	New Bedford	MA		100
Parrissi Fish Inc.	New Bedford	MA	02740	50
River Side Fish	New Bedford	MA	02740	30
Ell Vee Dee Fish Co.	New Bedford	MA	02740	40
Cape Way Fish	New Bedford	MA	02740	40
Atlantic Coast. Fish Co.	New Bedford	MA	02740	45
Multifoods LTD	New Bedford	MA	02740	40
Love Grove Fish	New Bedford	MA	02740	40
BaySide Fish	New Bedford	MA	02740	50
Salty Cod Fish	New Bedford	MA	02740	10
Teddy's Seafoods	New Bedford	MA	02740	60
LE Lobster	New Bedford	MA	02740	10
Ocean Obsessions	New Bedford	MA	02740	10
Cape Quality Seafood	New Bedford	MA	02740	40
RCC Seafoods	New Bedford	MA	02740	25
Imperial Fillet	New Bedford	MA	02740	25
D Fillet	New Bedford	MA	02740	40
U.S. Fresh	New Bedford	MA	02740	40
Channel Seafoods	New Bedford	MA	02740	30
D&G Seafoods	New Bedford	MA	02740	6
Allied Engineering Corp.	New Bedford	MA	02740	5
New Bedford Seafood Co-op	New Bedford	MA	02740	24
New Bedford Seafood Co-op	New Bedford	MA	02740	32
Big Turk's Seafood	Mattapoisett	MA		4
Lootto's Fish	Fall River	MA		5
Lobster Pond	Fairhaven	MA		6

Norlantic Inc.	Fairhaven	MA		35
Hathaway Ice	Fairhaven	MA		10
Hathaway Machine Shop	Fairhaven	MA		40
A1 Seafood Co.	New Bedford	MA	02740	25
A&J Fisheries	New Bedford	MA	02740	9
Beck's Fish Market	So. Dartmouth	MA	02748	7
Bradley & Halliwell	New Bedford	MA	02744	9
Buzzards Bay Marine Supply	New Bedford	MA		4
C&P Machine & Welding	New Bedford	MA		5
Dave's Seafood	New Bedford	MA	02740	3
Neptune Insurance Co	New Bedford	MA	02740	5
F& S Fisheries Inc.	New Bedford	MA	02740	7
F C Foods	New Bedford	MA	02740	5
Franco & Sons	New Bedford	MA	02740	4
Franklin Hatch Co	Fairhaven	MA		6
M & J Seafood	Fairhaven	MA		5
Norstar Foods Inc.	New Bedford	MA	02740	4
Offshore Mariners Assoc.	New Bedford	MA	02740	2

VII. Methodology

Madeleine Hall-Arber and Bonnie McCay

Introduction

The primary objective for this project is to develop a community-based process for gathering and assessing social science data relevant to the fishing industry.

We want to

- ground-truth an academic product intended as a baseline study
- identify what communities consider important
- locate new data sources
- offer communities the opportunity to define themselves and articulate their values.

Community-based panels are reviewing, adding to, and creating socio-economic profiles for their communities. Equally important, our project is beginning to provide fisheries managers with information that will enable them to more accurately anticipate social impacts. The communities selected for this project are Beals Island/Jonesport and Portland (Maine), Gloucester, South Shore and New Bedford (Massachusetts) and Pt. Judith, Rhode Island. These six were purposively chosen as representative of the variety of characteristics of the fishing industry in the region including inshore/offshore, large/small, urban/rural, fish/shellfish, mobile/fixed gear, auction/entrepreneur-dealer, etc.

Despite good intentions and legal requisites,²⁷ fisheries managers often find it difficult to weigh and/or incorporate social data in the analysis of management options. Sometimes this is simply due to an absence of data, but other times it is due to doubts about the reliability of the data that has been offered. This essay addresses the question of the reliability of the Panels Project data by describing a selection of the classic methods used by academic researchers in the social sciences, identifying the strengths and weaknesses of each, and noting which methods are being used by the project.

Representativeness

A bedrock principle of social science is that research results must represent the population being described. However, each of the social science disciplines of anthropology, sociology, cultural geography and economics has favorite methods for obtaining representative results. While each method has positive attributes, there are also potential sources of error in their representativeness.

²⁷ E.g. National Standard 8

The Panels Project adopted the approach to representativeness known as the “snowball” method, or networking through key individuals. This approach is appropriate because the project is founded on the principle of participatory and collaborative research, whereby some members of the community are themselves researchers.

The “*snowball*” method relies on interviewing key individuals who then introduce the researcher to, or at least offer contact information about, others in the community who are knowledgeable and willing to be interviewed or participate in the research. Although this method is a non-random way of selecting people to interview, it is often the most effective method for identifying a variety of people in a fishing community. The proliferation of meetings in fisheries management, competition among shoreside businesses, the long work days involved in fishing, the sheer volume of demands for data (e.g., log books), and anxiety about negative impacts of data collection, make it difficult to find volunteers via random sampling. Thus the “snowball” method is appropriate given the realities of working within fishing communities, where scheduling of visits for interviews is particularly difficult.

The “snowball” method is also appropriate in situations—such as most U.S. fisheries—where there are few available datasets and other conditions necessary for the better known and more demanding approach to representativeness: random sampling. Most people consider *random samples* the most appropriate way to select a portion of a population that will properly reflect the characteristics of the whole. The U.S. Census, for example, sends their long form to a random sample of one in six people. When the attributes of interest are widely distributed in the whole population, such a sample is probably a good representation of the whole. However, when the attribute of interest is found only among a small percentage of the whole population, the chance of randomly selecting a sufficiently large number of people with that attribute to make inferences about the whole is unlikely. For this reason, the Census data on fishing as an occupation is not a reliable indicator for either the total numbers of fishermen, or specific characteristics elicited by the Census’s long form.

One technique used to counter the problems associated with purely random samples is to use a “stratified” sample. This allows the researcher to choose a set of characteristics or “strata” from which the sample will be drawn. For fisheries social scientists interested in revenues, strata might include gear types, boat sizes or engine horsepower, and landing port, for example. Within each stratum, a sample is randomly selected. The choice of appropriate strata, however, is not necessarily obvious. Age, ethnicity, or education might also be significant, particularly if the topic of interest is employment rather than simply revenue.

Furthermore, because each characteristic must be considered with respect to each of the others, the numbers of strata can multiply exponentially. In the example of revenues,

there might be 5 gear types (trawler, gillnet, longline, dredge, pot), three ranges of boat sizes (small, medium and large) and 6 ports of interest resulting in 90 strata! Depending on how many people fit each strata, the researcher may or may not have samples that are representative of the whole population. When the Atlantic Coast Cooperative Statistics Program (ACCSP) designed a pilot program to study summer flounder, a variety of pertinent strata were identified. As the project progressed, however, and individuals dropped out of the study, the strata had to be collapsed to retain representativeness, albeit at a broader rather than detailed level.

Quota samples bear some similarity to stratified random samples. Again certain characteristics are identified as pertinent and the proportion of each characteristic that is represented in the population as a whole is estimated (or known), and the sample is specifically designed to reflect that proportion. So, if the sample size is 500 vessels, 20% of which should be from Portland, and the Portland fleet has 5% large trawlers, 10% medium trawlers and 3% small trawlers, 18 vessels should be studied in detail. The sample thus chosen will theoretically be representative of geographical area (i.e., port) and gear type and vessel size. However, the small size of the sample makes it virtually impossible to be sure that any other characteristic is representative. Random selection of the small sample, though, can help reduce error.

Both of these research designs require “a *sampling frame*, a list of the people that are available to be selected. But that list is almost never, in fact, compiled for the purposes of academic research.”²⁸ This is particularly true in fisheries research. National Marine Fisheries Service’s permit file has a fairly complete list of vessel owners, but since owners may be a corporation rather than an individual, even this list is not entirely reliable as a sampling frame for owners. Nowhere is there a reliable list of crewmembers. Nor is there a definitive list of fishing ports or fishing communities.

In addition, a bias can be introduced by the decisions of individuals to, or not to, participate. And, bias can be introduced by methods used to contact those being interviewed. In addition, characteristics used to set boundaries (gender is often used in social science) may or may not retain differences over time. Also individuals may change over time, so what have been considered relevant differences may disappear.

²⁸ Frank Bechhofer and Lindsay Paterson, *Principles of Research Design in the Social Sciences*. London: Routledge, 2000, pg. 37

Starting the snowball with an Advisory panel

The first step for the Panels Projects was to form an advisory panel of thoughtful and experienced fishing industry stakeholders. The projects relied on recommendations from fishing organizations in Maine, New Hampshire, Rhode Island, and Massachusetts to help us form the advisory panel.

The panel was asked to identify the kinds of people who would be representative of the fisheries and communities involved in fisheries-dependent communities of New England and then asked to identify individuals who would fit the categories articulated for the six communities in New England.

Once the selection of participants in the research, or at least the method to be used for selection, is known, decisions about the way data is to be obtained must be addressed. The Panels Project is drawing on a variety of techniques ranging from semi-structured interviews to focus groups to participant observation. As mentioned above, an overriding concern for the project, however, is that the approaches used for data collection and analysis are participatory.

Participatory approach

In participatory research, members of the community or other group being studied participate in aspects of the research—ideally, everything from study design to data collection and analysis. One of the arguments for participatory research is that “An outside researcher may be unlikely, or even unable, to collect the in-depth, inside data that a community member volunteer can elicit.”²⁹ In other words, community members may have both in-depth knowledge that improves the research and also better access to others in the community who have such knowledge. Indeed, the research process can be a learning process for both community members and outside researchers. Constructivist theory “point[s] to the powerful learning that can occur if people are engaged in a process that creates or constructs knowledge.”³⁰

There are also practical considerations. Through participatory research, community members are more likely to care about the results, especially if they become involved at every level of the study, helping develop the questions, collecting the data and analyzing the results.³¹ In addition, through participatory research, community expertise and social

²⁹ Richard Krueger and Jean King. 1998. *Involving Community Members in Focus Groups*. London: Sage Publications, p.5

³⁰ Ibid, p.7

³¹ Richard Krueger and Jean King. 1998. *Involving Community Members in Focus Groups*. London: Sage Publications, p.6

capital can be created: some gain sufficient confidence to continue research over time. Other benefits of a participatory approach include the fact that a variety of viewpoints are represented insuring credibility and relevance to the community. Furthermore, participation by community members usually helps generates support for the recommendations.

The negative aspect of a participatory approach can be summarized in one word: “time.” A collaborative research process takes much more time than do other forms of research. Identifying and recruiting the participants, finding a variety of talents and sufficient commitment to the study can be daunting and time consuming, even when it is possible to provide funds to compensate participants for their time and travel, as in this case.

Appointing Coordinators

Because of the time constraints, The Panels Project eventually hired coordinators for each panel. The coordinators are not necessarily members of the place-based communities involved, but they are knowledgeable about the industry and able and willing to devote time to scheduling and rescheduling meetings, discussing, debating, and facilitating meetings. The coordinators also find additional key community members who can help with the different forms of data collection.

Forming the panels

When 10 to 12 individuals had agreed to participate as panel members in each community, an orientation/training workshop was held to introduce them to the existing data on their communities and industry.³² The need for long-term data collection was explained. The panels were offered the opportunity to identify what issues or data they considered most significant and worthy of recording. They were also asked which methods of data collection they would prefer.

- Each of the panels argued strongly that the most important outcome of the Panels Project must be the collection of data that is considered credible and reliable by fisheries managers and others. No one was interested in devoting time to a project that would result in more papers on a shelf. There was acute awareness that representations of the local communities would mean very little unless they were done in ways that fit into regional and national criteria for legitimacy in the fisheries management decision-making processes. Therefore the participatory nature of the project was re-directed: Although a goal was to offer communities the opportunity to define themselves and articulate their values, the community members themselves were more concerned about the values and definitions of the

³² *New England's Fishing Communities* by Madeleine Hall-Arber, Chris Dyer, John Poggie, James McNally and Renee Gagne. 2001. Cambridge, MA: MIT Sea Grant College Program.

larger socio-political system, hoping through this project to find ways to influence an agenda driven by outside legislation and political processes.

Data Collection Methods

The Panels Project has focused on semi-structured key informant interviews as a major source of data. Interviewees are purposively selected through the “snowball method,” based on recommendations of key respondents, to be representative of boat owners, crew and shoreside business owners. Before interviews begin, the researchers explain the project, goals, how data will be used, how it will be stored, confidentiality, and notes that the respondent does not have to answer any questions they did not wish to, following the federal government protocol set up for the Protection of Human Subjects.

Structured Interviews

Structured interviews in a survey are the most commonly used method in sociology and, to a lesser extent, anthropology. One advantage of structured interviews is that the responses to factual questions can often be analyzed to show how representative the sample is of the whole. A disadvantage is that the researcher has already decided on the questions, the order they should be asked and in some cases, what the choices are for answers.

Moreover, “when one asks people questions in an interview situation, it is a particular kind of social encounter with its own interactional rules.”³³ Whereas the information gathered might be readily summed up in numbers on a spreadsheet and statistically analyzed, that information has been shaped by how the interviewers designed the questions, how they were asked, and how the respondent interpreted them in a particular social situation—the interview. This may or may not provide information that is deemed credible and helpful by the community and by fishery managers. (A parallel problem is reliance on public hearings for information about the social and economic impacts of fisheries management regulations: the structure and culture of the public hearing situation strongly influences what is said, heard, and deemed worth acting upon).

Key respondent interviews (semi-structured)

The Panels Project is using a more open or ethnographic approach to interviewing. While protocols have been developed to collect information that can be systematically analyzed, there is room for the introduction of other questions and topics. The factual questions may be the same, but

³³ Ibid, p. 96

often the conversation extends beyond the specific questions included in the protocol. These often “provide[s] detailed personal accounts about unique experiences of particular people.”³⁴ Permission to record is also requested so that such details may be accurately recorded.

In order to address the need for accurate economic data in commercial fisheries, our project developed a protocol in consultation with settlement agents (accountants who specialize in maintaining the books for commercial fishing businesses) and an economist familiar with the fishing industry. The settlement agents then selected a group of vessels typical of large, medium and small trawlers and/or gillnetters and recorded their fixed and variable costs at several year intervals.

Participant observation (fieldwork)

In each of the six communities we selected for this project, at least one member of the team –principal investigator or coordinator—lives nearby and/or spends significant time in the community observing and participating in community life. This helps establish rapport and encourages those being observed to continue their daily routine as though being unobserved. The researcher, however, is sufficiently apart from the daily routine to be able to record and analyze what is observed. This is the fieldwork method of participant observation.

Anthropology has traditionally relied on participant observation to understand the population being studied. This method allows the researcher to gain “experiential knowledge...more directly, more naturally and in a less mediated way than does an interview programme or survey.”³⁵ Because the researcher is actively engaged in the community and follows the patterns of the daily lives of some portion of the population, the information generated reflects what the portion of the population actually does, rather than just what they say. In addition, the fieldworker can double-check the representativeness of interviewees selected via the “snowball” method and make appropriate additions; enhance the participatory nature of the research by helping to articulate local concerns and ideas; and give feedback to the overall project about how it is perceived and faring in diverse communities.

Researchers conducting fieldwork do run the risk of losing their objectivity when closely participating in and observing a community. The Panels Project has addressed this problem by ensuring that the researchers meet

³⁴ Morgan, p33

³⁵ Ibid. p. 95

regularly as a group to discuss methods and results. Comparison and contrast with the other panels helps researchers retain a neutral perspective.

Focus groups

Focus groups base their results on a “purposive sample” of participants who are likely to be knowledgeable about the subject under consideration. The goal of the researcher is to create an open, non-threatening environment for a meeting of people with shared interests who will respond to specific questions guided by a moderator. The research team selects the topic and who will attend. As “research-created situations,” focus groups are very different from participant observation.³⁶ Nevertheless, the flow of discussion can be quite flexible and open-ended, generating information of great ethnographic and sociological value. Participants compare their opinions, observations and experiences with each other and this synergy can generate new questions or ideas.

Focus groups are excellent for identifying critical issues and raising awareness of the complexity surrounding specific topics. They may be used to form consensus within the specific group represented. However, the results of focus groups may or may not be appropriately generalized to the broader population.

The Panels Project has used the general approach of focus groups for topical discussions of critical importance to the community. Meetings in Gloucester on infrastructure were the closest to formal focus group meetings. Other communities have met to discuss economic needs in the face of Judge Kessler’s ruling on groundfish management in New England and are currently meeting to focus on potential impacts of Amendment 13 to the Multispecies Fisheries Management Plan. Because the Project complements the focus group approach with interviews and participant observation, some of the data collected in the focus groups may be generalized.

Analysis

The panels will be asked to discuss how managers should use or weigh the gathered data. Each of the coordinators will be looking for patterns, trends or themes that are characteristic of the communities they have been focused on. We anticipate that interpretation of the data will be an iterative process involving panel participants, coordinators and the principal investigators.

³⁶ David Morgan. *The Focus Group Guidebook*. Thousand Oaks: Sage Publications, 1998, p. 31

The Panels Project offers communities the opportunity to clarify their long-term goals and objectives, participate in collaborative decision-making, and work towards the sustainability of their communities.

Guidance from professionals

Two of the principal investigators have their doctorates in anthropology and have spent many years studying the fishing industry. In addition, the investigators have consulted with an economist to facilitate analysis of the economic data that is being collected.

Their role is to provide outsiders' perspectives, provide crosscutting ties across the six sites of the project, offer technical expertise and specialized skills, organize and coordinate the on-going work.