

A Summary of Views Presented during  
the New England Regional Roundtable

**Improving  
Federal Fisheries Management  
in the  
New England Region**

The H. John Heinz III Center  
for Science, Economics and the Environment

August 2000

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## **BACKGROUND**

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### **ABOUT THE HEINZ CENTER**

Founded in 1995 to carry on the work of Senator John Heinz, The H. John Heinz III Center for Science, Economics and the Environment is a nonpartisan, nonprofit institution dedicated to improving the scientific and economic foundation for environmental policy through multisectoral collaboration. Focusing on issues that are likely to confront policymakers within two to five years, the Center fosters collaboration among industry, environmental organizations, academia, and government in each of its program areas and projects. It uses the best scientific and economic analyses to develop viable options for solving problems, and its findings and recommendations are widely disseminated to public and private sector decision makers, the scientific community, and the public.

### **ABOUT THE MANAGING U.S. MARINE FISHERIES PROGRAM**

Initiated in March 1998, The Heinz Center's Managing U.S. Marine Fisheries program seeks to increase the effectiveness of U.S. fisheries management. A primary goal of the program is to identify present concerns and possible courses of action for key decisionmakers, especially as Congress considers amendments to the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA).

In addition to numerous documents and reports, the program has produced the book *Fishing Grounds: Defining a New Era for American Fisheries Management*, which is available through Island Press. Susan Hanna, Professor of Marine Economics at Oregon State University, led the program with support from Assistant Manager Heather Blough. Four senior advisors—Captain R. Barry Fisher of Midwater Trawlers Cooperative, D. Douglas Hopkins of Environmental Defense, Dr. Andrew A. Rosenberg of the National Marine Fisheries Service, and Professor Michael Orbach of Duke University—provided oversight to the program.

### **ABOUT THE REGIONAL ROUNDTABLE SERIES**

The Heinz Center hosted eight roundtable meetings in the federal fishery management council regions between July and October 1999. The purpose of the meetings was to identify problems the councils have encountered in implementing the 1996 amendments to the MSFCMA and to solicit input on how fisheries management can be made more effective in the regions. The original intent was to focus on improvements to the system that could be made through congressional reauthorization. Participants also offered many ideas about administrative actions that the National Marine Fisheries Service (NMFS) and the regional fishery management councils could take to make the system work better.

The roundtable meetings were limited to a small number of participants to keep the discussion focused and productive. They were attended by industry members, environmentalists, fishery managers and scientists that participate in the fishery management system at the regional level. Assistance in identifying qualified participants was provided by council directors and leadership of the Marine Fish Conservation Network. Participants were familiar with the full range of issues facing their region, but practical limitations did not allow for representation from every fishery, gear type, or other specific interest group.

The booklet *Reauthorizing the Magnuson-Stevens Fishery Conservation and Management Act: A Handbook and Discussion Guide for Regional Fishery Management Councils*, produced during the first phase of The Heinz Center's Managing U.S. Marine Fisheries program, provided background for the regional roundtable discussions.

Each roundtable lasted two days and was guided by a similar agenda. The first day was devoted to discussing the implementation of four mandates added to the MSFCMA in 1996, including: (1) end overfishing and rebuild overfished stocks; (2) minimize bycatch; (3) identify and protect essential fish habitat; and (4) minimize adverse economic impacts to fishing communities. The second day's discussions were focused on identifying how the fisheries management system can be improved. They too were divided into four segments, including (1) background conditions; (2) decisionmaking; (3) management implementation and administration; and (4) "new" management tools.

## **ABOUT THE REGIONAL ROUNDTABLE REPORTS**

Each roundtable discussion was recorded and transcribed by a professional reporting service. We then produced summary minutes from each transcript, which participants reviewed for accuracy. We incorporated these materials into a report for each region, which summarizes the discussions and outlines the participants' recommendations.

The Heinz Center's goal for the reports was to capture as much information as possible about federal fishery management problems and potential solutions in the various regions. Throughout the roundtable discussions, the knowledgeable and diverse participants identified many specific concerns and options for improving federal fisheries management. We did not attempt to evaluate, prioritize, or forge consensus on the issues and recommendations that were raised. We did, however, note areas of strong agreement or dissent. Although participants did not necessarily characterize proposed actions as most appropriate for Congress, NMFS, or the councils, we did so in the final reports in the interest of making the information more useful.

In addition to the regional reports, we produced a national summary, *Improving Federal Fisheries Management: A National Report*, which synthesizes information derived from the regional roundtable series. The handbook, regional and national reports, and other documents stemming from The Center's fisheries program are available online at [www.heinzctr.org](http://www.heinzctr.org).

This report was prepared by Susan Hanna and Heather Blough. It summarizes views presented during the New England Regional Roundtable held July 27-28, 1999 in Boston, Massachusetts.

## **ROUNDTABLE PARTICIPANTS**

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### **DISCUSSANTS**

Jennifer Atkinson	Conservation Law Foundation
Sonja Fordham	Center for Marine Conservation
Thomas Hill	Member, New England Fishery Management Council; recreational fishing expert
Doug Hopkins	Environmental Defense; member, New England Fishery Management Council
Paul Howard	Executive Director, New England Fishery Management Council
Ilene M. Kaplan	Union College and Woods Hole Oceanographic Institution
Patricia A. Kurkul	Regional Administrator, Northeast Region, National Marine Fisheries Service
George LaPointe	Maine Department of Marine Resources; member, New England Fishery Management Council
Russell A. Sherman	Gulf of Maine Fishermen's Alliance
Mark Simonitsch	North Atlantic Marine Alliance
Michael Sissenwine	Director, Northeast Fisheries Science Center, National Marine Fisheries Service
Willis M. Spear, Jr.	Small boat fisherman, Maine
Jon G. Sutinen	University of Rhode Island
Richard Taylor	Member, Advisory Panel, New England Fishery Management Council; scallops, aquaculture, habitat

**FACILITATOR:** Susan Hanna

**ASSISTANT:** Heather Blough

**RECORDER:** Paul Wallace

## EXECUTIVE SUMMARY

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The New England Fishery Management Council manages fisheries in federal waters off the coasts of Maine, New Hampshire, Massachusetts, Rhode Island, and Connecticut. There are 29 stocks under its direct authority, and it shares management of an additional 9 stocks with the Mid-Atlantic Council. The Council is tasked with implementing new fisheries management provisions added to the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) through the Sustainable Fisheries Act (SFA) of 1996. These relate to ending overfishing, minimizing bycatch, identifying and protecting essential fish habitat, and minimizing adverse impacts to fishing communities.

The Heinz Center convened a roundtable July 27-28, 1999, in Boston, Massachusetts, to identify problems the New England Council is experiencing in implementing these new provisions and to solicit recommendations to improve fisheries management in the region. Participants included members of industry, environmental organizations, academia, and government agencies.

Roundtable participants recognized the following as primary problems the New England Council faces in meeting the new provisions:

- difficulty dealing with the social costs of implementation;
- inadequate data and information;
- inadequate flexibility in implementation;
- inadequate funding and time;
- lack of a forcing mechanism to reduce fishing capacity;
- difficulty dealing with bycatch in multispecies fisheries;
- inadequate education and outreach;
- confusion over the objectives of the essential fish habitat provision;
- difficulty balancing rebuilding objectives with the mandate to mitigate adverse impacts on fishing communities;
- confusion about how to deal with tradeoffs associated with protecting essential fish habitat from the adverse impacts of fishing gear; and
- disagreement over the intent of the communities provision.

The participants offered the following general recommendations for change:

- recognize and fully fund the enormous demands of implementing the SFA;
- provide assistance to move beyond past management failures;
- provide managers with timely and understandable scientific information;
- improve the social science information base;

- characterize capacity and fishing effort; and
- monitor bycatch and discards.

The two-day discussions that led to the identification of these problems and recommendations are summarized in the following pages. A more comprehensive list of detailed actions that could be taken by Congress, the National Marine Fisheries Service (NMFS), and the New England Council to improve fisheries management in the region appears at the back of this report.

## **THE NEW ENGLAND REGIONAL CONTEXT**

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The New England Fishery Management Council manages fisheries in federal waters off the coasts of Maine, New Hampshire, Massachusetts, Rhode Island, and Connecticut. The Council has 17 voting members—6 from state fishery management agencies and NMFS, and 11 public members appointed by the Secretary of Commerce.

The New England region includes diverse cultures, economies, ecosystems, fisheries, and urban and rural areas. Differences in management philosophies, target species, gear types, vessel size, fishing patterns, port cultures, ethnicities, and language make fishery management a challenge, and have prevented the development of simple, effective regional management approaches.

There has been a historical view that fishery management is not necessarily a good thing, and there has been a failure to accept it on a strategic level. As a result, regional arguments over strategic goals, management tactics, and management tools are ongoing. There is the tendency to find reasons why something will not work, rather than assess the strengths and weaknesses of different positions. Further, industry participation in management is at a low level, creating a disconnect between people on the docks and the Council. Establishing a framework that includes strategic goals and standards will be difficult because of these impediments.

There was a failure to manage effectively from the beginning of the council system. The implementation of the MSFCMA began with New England groundfish populations depleted from heavy foreign fishing. Fishing mortality should have been reduced, but instead it was expanded. Soft goals were established and never met, and “budget” overruns in fishing mortality were ignored. Overall, the need to come to terms with limits was avoided, with severe consequences. New England has gambled and lost with groundfish.

The life histories of New England fish populations allow relatively fast rebuilding once protections are in place. But there appear to be no widely accepted solutions that simultaneously meet MSFCMA goals and avoid short-term negative impacts on communities. Fisheries are particularly important to community employment in rural areas, such as Maine.

The fishing industry is coping with a social and economic crisis brought about by regulatory changes. Formerly underutilized species are now considered fully exploited. Options for flexibility once available to fishermen, such as switching among fisheries or fishing areas, are closed because of limited-access provisions or restrictive management measures. The ability to diversify is particularly important to the fleets of small boats—there are as many as 800 in the Gulf of Maine alone. Fishermen are worried about loss of income and about losses to the shoreside industries that fisheries support. All of this puts pressure on the management system.

The ports of Gloucester and New Bedford, Massachusetts, are the highest producing in the region. In 1998, the greatest volume of fish—107 million pounds—was landed at Gloucester, and the highest-valued fish—\$94 million— was landed at New Bedford..<sup>1</sup>

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<sup>1</sup> NMFS. 1999. *Fisheries of the United States, 1998*. Current Fishery Statistics No. 9800, U.S. Department of Commerce, National Oceanic and Atmospheric Administration.

# **IMPLEMENTING PROVISIONS OF THE 1996 SUSTAINABLE FISHERIES ACT**

# **IMPLEMENTING PROVISIONS OF THE 1996 SUSTAINABLE FISHERIES ACT**

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The 1996 SFA added new provisions to the Magnuson-Stevens Fishery Conservation and Management Act. Four of these provisions contain significant new requirements for the New England Fishery Management Council. These relate to overfishing, bycatch, habitat, and communities. Participants' views on challenges the region faces in implementing these provisions are summarized below.

## **1. OVERFISHING/REBUILDING**

### **Background**

The overfishing/rebuilding provision requires that fishery management plans contain measurement criteria for overfishing, actions to prevent overfishing, and plans to rebuild overfished stocks. The MSFCMA defines both "overfishing" and "overfished" as "a rate or level of fishing mortality that jeopardizes the capacity of a fishery to produce the maximum sustainable yield on a continuing basis" (16 U.S.C. 1802(29)).

There are 29 stocks under the direct authority of the New England Council. Of these, 16 are overfished, 9 are not overfished, and 4 are of unknown status. These stocks are managed under the Atlantic Sea Scallop, Atlantic Salmon, American Lobster, Northeast Multispecies, and Atlantic Herring fishery management plans.<sup>2</sup>

The New England Council shares authority with the Mid-Atlantic Council for 9 additional stocks. Seven of these (all skates) are of unknown status and are not covered by fishery management plans. The 2 remaining stocks—monkfish and spiny dogfish—are managed under joint fishery management plans and are both overfished. The New England Council has lead management authority over monkfish; and the Mid-Atlantic Council has the lead over spiny dogfish<sup>3</sup>.

The overfishing amendment to the scallop plan has been submitted and approved for a 10-year rebuilding schedule. The monkfish and whiting amendments have been submitted, but not approved, for a 10-year rebuilding schedule. The herring fishery management plan is under development. The Council is behind in submitting the overfishing/rebuilding amendment to the plan that manages the multispecies groundfish fishery. Of all the amendments, this one has the largest amount of work involved. The Council is developing overfishing definitions at conservative levels and expects to submit a 10-year rebuilding plan in late fall 2000, as Amendment 13 to the multispecies plan.

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<sup>2</sup> NMFS. 1999. Report to Congress on the Status of Fisheries of the United States. October.

<sup>3</sup> Ibid.

## Implementation Issues

**Overfishing Definition:** Participants said the overfishing definition needs clarification, along with related aspects, such as the distinction between the reliability and the validity of statistical estimates.

**Social Costs of Overfishing:** There was agreement that the social costs of overfishing are profound in New England. Some participants said that the need to stay within a “budget” of fishing mortality has been ignored, and that costs are misrepresented in this process. It seemed to some participants that it is assumed that incurring short-term costs is worse than delaying costs, and the costs of doing nothing have been overlooked.

**Social and Economic Impacts of Rebuilding:** There is concern that the overfishing provision pays attention to biological rebuilding without considering the economic and social impacts of rebuilding. Participants questioned how do to get buy-in with such enormous short-term pain. They believe that more public outreach and education is needed to get industry buy-in to rebuilding, and that there needs to be more flexibility in rebuilding so that it does not cause social chaos.

**Implementation Schedule:** Participants noted that implementing the overfishing provision and developing a rebuilding schedule is a big issue that has required many adjustments and strained management resources, which are insufficient to meet the required pace. They said that one year is too short a period to develop a plan amendment, and they expressed concern that management is moving to a “lowest common denominator” style. Some participants believe it is more difficult for New England to meet the goals of this provision because of the poor condition of many groundfish stocks. They proposed that resources for implementation should be allocated to regions in accordance with their workload burden, and that councils should be allowed to give priority attention to the stocks in worst condition.

**Rebuilding Time Frame:** One question raised was: What is the appropriate time schedule for rebuilding? Some participants noted that the ability to predict beyond three years is limited, which makes a 10-year rebuilding schedule difficult. They added that 10 years is a short time in the context of the human impacts of rebuilding, which continue well beyond the 10-year period. On the other hand, some participants cautioned that relaxing overfishing standards or the rebuilding time frame may be a bad idea, since goals and deadlines are necessary to force action to take place. It was observed that when pain is shifted to the future, there is less accountability; an entire generation of New England managers and fishermen are no longer around to be accountable for the outcomes of regulations they argued for in the past.

The length of time for rebuilding can be debated, but for some participants the real questions relate to the goals and standards against which management performance is measured. Goals need to be clarified, and progress toward meeting them must be monitored. To achieve

accountability, the fishery management plan amendments have yearly adjustment schedules. Some participants noted that the Council is developing stock assessment and fishery evaluation reports to meet the adjustment cycle.

**Long-Term Management:** Looking ahead, participants expressed an interest and concern about New England being prepared to manage for success when stocks are eventually rebuilt. They recommended that reasonable expectations be created now, because it will be difficult to manage within conservation guidelines. They believe that the weakness of the rebuilding requirement is that there is no mechanism that forces rationalization to bring fishing power into balance with the resource. Without changing the incentives, overfishing will continue, and the eventual endangered species listings will have even more serious ramifications than rebuilding. For example, there has been some rebuilding success with scallops using closed areas, but nothing has reduced capacity.

**Research and Data Needs:** Participants said that research is needed on factors other than fishing that affect the condition and productivity of fish stocks—for example pollution in estuaries and interaction among species. The demands on the science are much greater when stocks are in poor condition and when there are significant economic and social costs to cutbacks. It was noted that communication with fishermen about these factors needs to be more effective. Some participants think that NMFS should continue to explore how best to improve the flow of scientific data and information between industry and scientists. One suggested approach would be to have more industry participation in the collection of data to help fishermen understand the importance of accurate catch data and its use in management. The agency previously began a series of meetings by approaching the industry and saying “let’s see what we can do to make things better.” That approach was thought to be effective and built a lot of trust.

Information needs are determined by the management objectives. Participants said there needs to be some forcing mechanism to make sure that management objectives are met, as well as monitoring of progress in meeting objectives.

## **2. BYCATCH**

### **Background**

The bycatch provision requires that fishery management plans establish standardized bycatch reporting methodology, as well as measures to minimize bycatch and bycatch mortality. The MSFCMA defines “bycatch” as “fish which are harvested in a fishery, but which are not sold or kept for personal use, [including] economic discards and regulatory discards.” The legislative definition excludes “fish released alive under a recreational catch and release fishery management program” (16 U.S.C. 1802(2)).

## Implementation Issues

**Intent:** Participants noted that the National Standard for bycatch is vague. Because it does not define what is meant by “minimizing bycatch,” it is not very operational. They also pointed out that the nature of the bycatch problem and its relative magnitude are not well defined. The different categories of bycatch—regulatory, economic, and prohibited species—reflect the fact that “bycatch” means different things in different places.

Bycatch can also be an issue of allocation. It was observed that bycatch has not been given a lot of attention in New England because managers have been focusing on target catch. Some participants said that the lack of specificity provides flexibility and an opportunity to define what has to be done, before it is defined for the Council. They recommended that rather than wait for proof that bycatch is a problem, the thinking on bycatch should be reversed so that the precautionary approach is applied.

**Overfishing:** It was noted that bycatch is only a problem if there is an allocation issue or a conservation issue. If the overfishing problem on target species is solved, participants believe that bycatch as a conservation issue is eliminated, and it becomes an allocation issue only.

**Multispecies Fisheries:** Some participants pointed out that part of the problem with reducing bycatch is the overlap between fisheries, and that multispecies fisheries also make the bycatch issue more complicated. A multispecies fishery with different mortality targets has difficult bycatch issues, especially when trip limits are low, like those for Gulf of Maine cod.

**Disposition of the Catch:** Full utilization was identified as an important option to consider because the real issue is discards, rather than bycatch. One suggested approach would be to limit target species catch by the allowable bycatch—for example, limiting the catch of scallops by the allowable yellowtail bycatch.

**Incentive-Based Approaches:** Participants pointed out that the flexibility in the bycatch National Standard might allow the use of different incentives to reduce bycatch. It was suggested that rather than requiring particular approaches to bycatch reduction, it would be more effective to define a bycatch goal and pay a representative group of fishermen to figure out how to achieve it.

**Gear Solutions:** Avoiding bycatch has more to do with how gear is used than with the type of gear used, according to some participants. Others noted that a complete effort to address discards would include a dedicated gear technology program, which NMFS does not have, although the agency does do some work in conservation engineering. A double Nordmore grate is being considered to protect small shrimp as well as groundfish. In contrast, bycatch is dealt with in the scup fishery by adjusting the total allowable catch, but it was acknowledged that this approach provides no incentive to reduce discards of incidentally caught scup in the squid fishery.

**Educational Needs:** Participants agreed that better outreach and education, as well as improvements in management legitimacy, would improve industry compliance with bycatch regulation. They added that information on how other fisheries and regions are addressing bycatch would help.

**Observer Programs:** It was noted that momentum is building in support of observer programs. Participants suggested that at-sea observers are probably the most viable long-term approach, even with the small-scale fisheries. Small boats can carry observers, as illustrated by the use of observers on small gillnetters in the Gulf of Maine to enforce the Marine Mammal Protection Act. Although the northeast observer program covers protected species only, some participants believe it provides an infrastructure that could be extended to fisheries bycatch. “Sentinel” fleets could serve as samples.

It was stated that observer programs cost more in New England because there are so many day trips. NMFS and the Council have both requested funding for a management-based observer program but have been unsuccessful. The MSFCMA is ambiguous about whether industry or the government should bear the cost of observers. Participants said that this issue needs resolution.

The Council has just established a subcommittee to look at experimental fisheries and research programs to catalog current and needed actions in gear technology and other research, however, no additional funding has been received for this activity.

A congressional appropriation could set up an observer program as it has in other areas, but it was noted that special appropriations come out of monies that would otherwise go to NMFS. Instead, some suggested that the focus should be on developing a national observer program. They contended that it should be national policy that fisheries management is based on high-quality data, especially if there is a desire to minimize the social and economic impacts of regulations. Some stated that the best approach would be to build observer programs from the ground up in each region. One proposal was for the councils to be given authority to charge fees for observer coverage, with the assurance that the funds will be spent in the same fishery from which fees are collected.

**Research and Data Needs:** The bycatch problem is a variant of the theme “we cannot manage what we do not know.” Participants agreed that improving the data on bycatch and discards is a high priority so managers can make better decisions about bycatch-reduction measures. They added that a comprehensive program designed to estimate bycatch and discards is needed.

### 3. ESSENTIAL FISH HABITAT

#### Background

The habitat provision of the 1996 SFA requires that fishery management plans describe and identify essential fish habitat, minimize fishing effects on habitat, and identify actions to encourage conservation and enhancement of habitat. The MSFCMA defines “essential fish habitat” as “those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity” (16 U.S.C. 1802(10)).

#### Implementation Issues

**Breadth of Designation:** The MSFCMA allows for a very broad designation of essential fish habitat. But participants noted that the definitions that were developed do not satisfy anyone and have left the councils open to substantial criticism. Often this has resulted in a flurry of lawsuits.

Understanding which objectives are appropriate for habitat protection is a problem, according to some participants. There are many possible objectives, ranging from pristine habitat to keeping habitat healthy enough to produce commercially valuable species. Some participants expressed concern about the broad application of broad definitions, and would be more comfortable if the MSFCMA provided certain criteria for habitat management, as opposed to directing NMFS and the councils to “minimize adverse effects to the extent practicable.”

**Habitat Areas of Particular Concern:** Participants noted that the Council is now concentrating on defining “habitat areas of particular concern.” The councils’ Technical and Habitat Committees developed four criteria to guide the definition of these areas: (1) the importance of the ecological function provided by the habitat; (2) the extent to which habitat is sensitive to human-induced environmental degradation; (3) the extent to which development activities are—or will be—putting stress on habitat; and (4) the rarity of habitat type.

Participants had some remaining questions related to what will be done about habitat areas of particular concern once they have been identified, such as what are the management implications now and in the future, and how will river management be affected? It was noted that fishermen fear that broad definitions of “essential fish habitat” will be detrimental to their operations, and they are concerned about the potential scale of application of habitat areas of particular concern. It was stated that many fishermen believe that each state should deal independently with the designation of essential fish habitat in state waters.

Some participants noted that the essential fish habitat provision is a manifestation of the precautionary approach, which forces people to think more systematically about their actions. In addition to environmental groups, some commercial groups and Council members are also pushing for greater protection of essential fish habitat.

**Fishing Impacts:** The Council’s essential fish habitat amendments noted which fishing gear would affect habitat, but not the extent of the effect. It was noted that gear changes habitat and that some species win and some lose from these changes—no one should expect the hook and the trawl to be more benign than the ax and the plow. Participants said that some people fear that this provision will be used to eventually eliminate fishing everywhere. But others believe that it could help fishermen become smarter about the gear that they use and encourage people to think more about the effects of land use on marine habitats.

Some participants pointed out that gear impacts are a difficult issue to assess because gears tend to be lumped together—some groups want to treat all trawl gear the same, or to treat dredge and trawl gear the same. They agreed that it is a difficult issue to deal with operationally and to make informed judgments about, that there are fears of domino effects of banning types of gear, and that there is a lot of rhetoric around this issue—for example, can trawling really be compared to clearcutting?

**Inadequate Resources:** Some participants believe that the people who framed the essential fish habitat agenda failed to recognize the huge amount of time, effort, and money it would take to define objectives and collect the necessary data. They noted that there was an expectation that habitat protection would be implemented immediately.

Some participants explained that the Council is frustrated because, despite good intentions and an open amendment development process, Council actions have been met with lawsuits. It is believed that some industry sectors are using the habitat issue to place themselves at an advantage at the expense of others, and that the environmental community has been discouraged by the lack of progress in examining the effects of fishing gear on habitat.

**Guidance about Use of Essential Fish Habitat:** It was suggested that the councils need guidelines to help them make tradeoffs and to prevent habitat issues from being used as allocation tools. Some said that the essential fish habitat provision prevents the councils from protecting habitat at all costs through use of the phrase “to the extent practicable.” But, it was noted that there has not been a systematic analysis by NMFS and the councils of what determines “practicable.” It is believed that until there is a more systematic approach, the councils and NMFS will be legally vulnerable.

**Marine Protected Areas:** Marine protected areas are broadly defined and can take many forms. There were many questions related to marine protected areas, closed areas, and essential fish habitat. For example, how do marine protected areas relate to existing closed areas? Where do they fit in with habitat areas of particular concern? What is the effect of closed areas on habitat?

**Research and Data Needs:** Participants noted that the lack of fundamental understanding of the scale of different types of habitat and the effect of different gear on habitat limit the development of operational definitions of “essential fish habitat.” They agreed that good data and information were produced in implementing this amendment, but there are disagreements about what to do and how to do it.

Some participants said that to date research has focused on gear disturbances to habitat, but relatively little work has been done on how gear affects the productive capacity of the ecosystem. Others said that closed areas offer valuable opportunities to assess the impacts on, and recovery rates of, habitat and that the opportunity to learn should be pursued.

There was agreement that the success of the habitat provision will depend on the availability of funds. The councils and NMFS need costly tools to implement the essential fish habitat provision, but the budgets allocated for habitat research are very small compared to the value of the resource.

#### **4. COMMUNITIES**

##### **Background**

The communities provision of the 1996 SFA requires that the effects of management measures on fishery participants, fishing communities, and fisheries in adjacent areas be assessed. The MSFCMA defines “fishing community” as “a community which is substantially dependent on or substantially engaged in the harvest or processing of fishery resources to meet social and economic needs, and includes fishing vessel owners, operators, and crew and United States fish processors that are based in such community” (16 U.S.C. 1802(16)).

The Council’s Social Science Advisory Committee has been developing a working definition of “community” and identifying the research needed to assess community status and include information on communities in Council decisionmaking. The discussion has not advanced very far, but the Committee’s formation is an important step forward.

##### **Implementation Issues**

**Intent of the Communities Provision:** There is some question as to whether the MSFCMA says that the people affected by regulations must be helped or that managers simply have to understand the impacts caused by their regulations. It is one thing to fully understand the economic and social impacts, but another thing to require that the government pay for the transition. Some participants think government should compensate people who are put out of work, but others do not see this as a responsibility of government.

The “sustained participation” of communities can also be thought of as communities participating in management. Participants noted that community participation in the management process needs to be improved. Some believe that experiments with co-management should be taking place. Others think that instead of setting up another process, community management within the council process could be strengthened. Yet another view is that there is already ample opportunity for people to participate in the Council on advisory committees and through public comment. It was noted that New England communities receive significant attention, as evidenced by the vessel buyback program.

Some participants suggested that perhaps the best thing that can be done for communities is to help them think about the future in a responsible and realistic way. For example, communities need to be thinking and planning for the long term, but instead they have tended to focus on short-term impacts. It was agreed that this behavior needs to change, or New England fisheries will continue to decline.

**Coordination of Socioeconomic Requirements:** Some participants believe the lack of focus on communities is part of the overall dissatisfaction about fishery management in New England. Others see coastal communities as an area of ongoing concern. It was noted that the National Environmental Protection Act, Executive Order 12866, and the Regulatory Flexibility Act already require looking at the human impacts of regulation. Although the communities provision has raised awareness about communities, some participants believe they would be better served if these legal requirements were consolidated into a single better-defined set.

**Potential Misuse of Communities Provision:** Participants noted that this provision has created the misperception among some that if a regulation has a negative impact it should not be implemented, and that regulations such as those required to rebuild fish stocks can be avoided. Some participants believe that the Council has been more concerned with the social and economic costs of rebuilding fisheries than with rebuilding itself and, as a result, the costs of taking partial measures to address problems have been greater than if the Council had addressed problems in full from the beginning. It was noted that concern about communities has often led to weaker regulations, but it is ultimately a disservice to communities to not rebuild the stocks, because overfished fisheries lead to serious economic hardship.

**Using Social Science:** Some participants said that the benefit of having more complete social science derives from the help that it can provide in allocation, rather than conservation actions. For example, it would have been helpful in understanding the disproportionate impacts on small boats of the recent cod restrictions. It is believed that social science research will provide the Council with information that is more objective than the information heard at public hearings and will give them a more solid basis against which to judge the merits of individual claims. Some observed that in the absence of ongoing social science research the Council has made skewed decisions by addressing social and economic issues very inefficiently and ineffectively.

**Mitigating Adverse Impacts:** The general perception is that the Council is supposed to do something to mitigate the impacts of fishery regulations, but participants noted that in fact it is limited in what it can do to address the adverse economic and social impacts associated with rebuilding declining stocks. The Council does not have the resources to mitigate, and such action may be beyond its purview. For example, some fishermen have specialized in the lobster fishery because it has been profitable in recent years, but what if it collapses? Will past permits to other fisheries be returned? Probably not, according to participants, because it is unlikely that another fishery would be able to absorb additional capacity.

The MSFCMA says nothing about dealing with the transition costs of rationalizing the fishery. Participants noted that the Act does not imply that communities must be taken care of at the expense of conservation; rather, it implies that when there are decision alternatives with similar conservation potential, the alternative that best promotes the sustained participation of communities should be chosen.

In a full assessment of impacts on communities, some participants said that the impacts of not rebuilding stocks should also be considered. Nothing stays the same, whether it is managed or not. Communities evolve and change over time, as in the cases of Newport and Boston. It was suggested that the need is to find the threshold of impact that requires compensation.

**Research and Data Needs:** Participants agreed that there is a large gap between the requirements of the law and the resources available to get the job done. Fishery management plans lack social and economic information—New England doesn't even have basic community profile information to understand the distribution of impacts. While participants concurred that social science should be a part of the “best scientific information available,” they noted that very little research has been done on the social and economic implications of regulations. They believe that strong support for increases in social science research funding is needed so that timely information is available for decisions.

It was noted that the Council's goal is to have information on social and economic impacts available at the same time as biological information. It wants to prevent unanticipated impacts like those of Amendments 5 & 7 to the Multispecies Plan, where cod regulations in the Gulf of Maine resulted in reallocation from one gear group to another.

It was suggested that the effect of regulations on humans should be understood just as much as the effect on biological populations. The Council needs much better data, but is not clear how it will fit social and economic information into the regular round of decisions. The Northeast Fisheries Science Center was the first of the NMFS science centers to have an economics branch and does have social science staff and data. But the New England Council is not adequately staffed in this area. It was noted that social science needs are recognized by NMFS and are a high priority for funding.

# **IMPROVING FISHERIES MANAGEMENT IN THE NEW ENGLAND REGION**

## IMPROVING FISHERIES MANAGEMENT IN THE NEW ENGLAND REGION

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Roundtable participants reviewed background conditions in the New England region's fisheries, existing decisionmaking and implementation processes, and possible new tools to identify administrative and legislative actions for improving fisheries management in the region.

### 1. BACKGROUND CONDITIONS

Present-day fisheries are a product of their management history. Regional roundtable participants identified the following background conditions as important factors influencing the current state of fisheries and fisheries management in the New England region. They also discussed how these conditions could be better addressed.

#### Capacity and Long-Term Management Goals

**Status:** Some participants noted that New England has failed to define long-term goals for fishing capacity or for people involved in the fisheries. Participants generally agreed that the region's fisheries are overcapitalized, but the extent of capacity has not been quantified. It was noted that although capacity management has been identified as a top priority, the Council has experienced trouble defining the term. It adopted two management objectives in the 1980s: (1) prevent recruitment overfishing; and (2) minimize regulation. Beyond this, participants said there has been no systematic strategic planning as to what type of fishing region New England should be. It was suggested that turnover in Council membership makes it difficult to define a stable long-term vision. It was also observed that people who have been fighting each other find it difficult to define what they have in common because they are trained to look for differences. It was generally agreed that New England needs to formally plan a transition process.

There is great variation within the region in the definition of the management problem and ideas about how to approach it. To create ownership of the long-term solutions, participants recognized that there needs to be good participation in the process, which has been difficult given the number of different perspectives on the purpose of management and how best to fulfill it. Some participants noted that attempts to discuss a long-term vision lead immediately to short-term allocation issues.

**Management and Change:** Some participants believe that the Council proceeds on the assumption that the purpose of management is to preserve the status quo. This is an impossible task and, in trying to satisfy various fishery participants, the Council loses focus by getting swept away into irresolvable areas. More pain has been caused by attempts to maintain the status quo than by change. It was suggested that the Council would be much more productive if it focused on maintaining high levels of fish abundance and allow the industry to adapt.

Participants provided some specific comments on this topic. They pointed out that the Council needs to determine the most effective way to enforce limits on fishing mortality. It should also have explicit discussions about allocation among different interests, rather than hide allocations behind the choice of management tool. And the tradeoff between higher overall profitability and lower employment levels should also be addressed.

**Buyback Programs:** Buyback programs have been implemented to reduce fishing capacity. Participants believe these programs need to be analyzed to understand their impacts on helping people to exit the fishery and controlling fishing mortality. For example, the pilot program has been analyzed and was found to have resulted in large short-term reductions in fishing power, but no long-term effects on overcapacity because it did not address latent capacity.

Some participants contended that there is a huge amount of latent capacity that will cause problems as the fish stocks rebuild, and that buying back latent permits is often the most cost-effective way to reduce capacity. They suggested that the Council could consider offering reduced, rather than no, compensation for a permit that has never been used. It could also buy back active permits only and retire others. It was recognized that a buyback program needs to offer people a way to leave the fishery with dignity. Many people have no desire to leave the fishery or to be retrained, but others would appreciate receiving clear signals about the type of help to expect.

Participants generally agreed that a buyback program must address the core problem of overcapacity in order to be successful. It was suggested that national guidelines would help to address key questions, such as whether vessels that have sold back permits are free to fish elsewhere.

**Absence of Rights:** Some participants said that the lack of a vision and the existence of overcapacity reflect the Council's inability to come to grips with the more basic question of rights. They asked how rights should be defined so that they provide the proper incentives and flexibility. Because rights can exist in different forms, it was generally agreed that the nature of the right and its ability to create the proper incentives toward conservation and a long-term perspective must be considered. People need to understand the function of rights and know that failure to address the allocation of rights will lead to continued social engineering. Participants said that the Council needs to stop avoiding basic decisions related to who has the right to fish and which types of rights will provide conservation incentives.

It was stated that legislative change to authorize the use of rights-based systems, such as individual fishing quotas, is also needed. Some participants believe that individual fishing quota programs will act as industry-funded buybacks in which those who will benefit from the reduced capacity bear the cost of reducing it. Others believe that buybacks without rights-based structures in place will just waste money in the long term. Some participants said that

adjustments in the law to encourage delegation of authority to lower levels could also be considered.

**Governance Standards:** It was suggested that the New England Council needs to establish overarching standards for good governance, because the Council currently makes decisions without a framework—a “let’s make a deal” style of management in which politics plays a far more important role than analysis. For example, the politics of the groundfish moratorium led the Council to give a groundfish permit to anyone who had landed one pound of groundfish. That decision, it was observed, was fundamentally disconnected from the decision to address overcapacity.

## **2. DECISIONMAKING**

Decisionmaking is a key component of the fishery management system. All biological, ecological, social, and economic conditions in the fisheries are influenced by decisions made at the regional and federal levels that form the basis of fishery management plans and amendments. The discussion that follows summarizes the challenges and opportunities to improving decisionmaking identified by participants.

### **Council Meeting Process**

Participants noted that the Council meeting process is a big problem in New England. Rules governing procedures and behavior are lacking. For example, the Council discusses items not on the agenda, the order of agenda items changes, no time limits are placed on public testimony, and public comment is taken throughout the discussion rather than in a separate comment period. Participants said that meetings are unruly, intimidation tactics are used, and people are afraid to testify.

Some participants believe that if the Council defined and prioritized objectives, its decisions would be easier and more consistent. Having more systematic analysis of an issue would also help Council members to be less vulnerable to the pressure of public comment. Participants noted that the Council is whipped back and forth by whatever issue they are discussing, and that sometimes these different perspectives cannot be resolved.

Some participants suggested that these problems are a necessary component of all contentious public decisions. Others countered that, although industry involvement in Council meetings is essential, it needs to be more constructive, and that poorly managed public input can prevent the Council from doing its job. They pointed out that the Council could improve its decisionmaking by ensuring that public comment is more focused, constructive, and limited. They added that running meetings more efficiently would help the Council to complete its agenda and meet its deadlines. Involving people in the process earlier would also help, since many feel that they are brought in after the fact, for the sake of appearances.

Some participants said that the authority of enforcement officers to protect those attending council meetings must be expanded. Others said that additional provisions under the MSFCMA are needed to protect both the integrity of meeting processes and people from threats and intimidation.

## **Public Testimony and Accountability**

Some participants said that the Council needs to demand a greater level of truth in testimony because a system based on public participation depends on honest information. Some believe that people lie to the Council in their public testimony. As a result, public testimony has a serious credibility problem that undermines the Council's ability to make good decisions. One suggested remedy would be to put people under oath at Council meetings. Swearing in prior to testifying is standard procedure in congressional and other public hearings. It was noted that being put under oath would likely create a different mindset among those addressing the Council.

While all participants agreed that the credibility of the entire process is at stake, not all agreed that providing public testimony under oath is the solution to the accountability problem. Honesty should be demanded throughout the process, because to do otherwise weakens the whole system. But as a practical matter, participants questioned how people could be held accountable for their statements, particularly since false testimony is sometimes given unintentionally. It was suggested that the best way to determine fact is to interact frequently with people, and learn who can be trusted and who cannot.

It was noted that another important part of the accountability problem is the lack of controls on logbook information. People fear that logbooks can be used against them—and they may in the short term. But, over the long term, providing honest information should help. It was recognized that managers need accurate information to make good decisions.

## **Anecdotal Information versus Social Science**

The Council is supposed to base decisions on the best available scientific information. While it is supposed to take testimony into account, participants said the Council should not elevate testimony above scientific data. Some believe that the Council's current dependence on anecdotal information leaves it vulnerable to unrepresentative information. They pointed out that policy should not be based on the testimony of one individual, and this problem would be reduced if there were a formal mechanism for the collection of socioeconomic data. At the same time, they recognized that industry is very reluctant to provide data, and sometimes the available data have no credibility.

## **Need for Public Information**

Participants said that the educational process needs to be strengthened. There is not enough education related to council requirements and processes, and no one bears the responsibility for education. It was stated that this problem is made worse by the fact that there has not been systematic interaction between the Council and the industry. Some of the issues require much more learning than can be achieved during committee meetings. Participants observed that most fishermen spend very little time on fishery management issues and cannot keep up with the information. They suggested that better use of public affairs departments would help.

## **Incentives**

It was noted that incentives are an important component of decisionmaking and behavior. Some participants stated that without serious reforms, the incentives embedded in the council system would keep it biased against conservation. Recommended reforms include defining rights, constructing a firewall between conservation and allocation, and creating fiscal discipline through such strategies as cost recovery. Some participants suggested that cost recovery would contribute toward more accountability and better decisionmaking. Others said that devolving authority to smaller advisory councils might have the same effect. Experimenting with different management forms was also considered to be useful because communities are different—some are more vested in making the fisheries last because they see the investment in people and relationships and community as an incentive to manage well.

## **Political End-Runs**

Some participants said that end-runs around Council decisions are a big problem in New England because the congressional delegation views fisheries as a constituent issue, rather than an economic or a resource issue. They said that statements of congressional staff at Council meetings are not about management issues, but about pleasing constituents. At the national level, this plays out as a destructive sum of regional parts because there are many connections between regional issues and national law.

Some participants noted that people have a tendency to take a short-term view and to decouple benefits from costs. There is no accountability and no protection against political interference. They observed that for 20 years, fishermen have pressured the Council not to implement management.

To minimize political interference with fishery management, some participants suggested asking members of Congress to recognize their own conflicts of interest and to pass a nonbinding resolution not to intervene in fishery management matters except at the national strategic level. A resolution would provide members an escape hatch when constituent pressure arises. But other participants noted that this depends on there being equity in council decisions. Congress is sometimes the only recourse for those who believe that the system has failed them.

## **Quantitative Limits on Catch**

Some participants said that Council performance would improve if it were required to establish total allowable catch quotas for all species under its jurisdiction and establish regulations to stay within these quotas. They noted that a quota is specific, and achieving it can be measured in real time, not six months after the fact. The logical outcome of enforcing quotas is that people find ways to slow the fishery down because they want to avoid a closure. The absence of a quota means that the target is continually overshot, which is corrosive of people's confidence and sense of accomplishment. Some participants believe that until total allowable catch quotas are used and enforced, all other issues are secondary. They asked why anyone would talk about allocation if they thought they could get around the total allowable quota, and asserted that the MSFCMA needs to force councils to have that discipline. They said this should be a standard requirement, and councils should be required to evaluate their progress in meeting that standard. Many believe that the New England Council has not had the discipline.

## **Council Management Performance**

On the positive side, participants noted that the New England Council has done a great deal in a very short amount of time. For 22 years it managed only scallops and groundfish. Recently it very quickly put together high-quality fishery management plans for herring, dogfish, monkfish and whiting.

### **3. MANAGEMENT IMPLEMENTATION AND ADMINISTRATION**

The implementation of management decisions is an important part of the fishery management process. Roundtable participants exchanged views on management implementation and identified problems with the current system and how the process could be improved. Their discussion is summarized below.

## **Resources Needed to Implement**

The Act requires that fishery management plans include an assessment of resources needed to implement them, but plans are approved even when the resource requirements cannot be met. It was noted that NMFS has no basis to disapprove a plan for this reason if it is not in direct conflict with a national standard. This removes an element of fiscal discipline between the Council and NMFS. NMFS analyzes the resources needed to implement each significant new piece of legislation—sometimes the agency is provided supplementary funding, sometimes not. Some participants believe that there has been no congressional response to the additional resource requirements related to implementing the SFA provisions of 1996.

## **Enforcement**

Participants said that the effectiveness of enforcement and its linkages to management need to be assessed. They observed that enforcement is the core of management—fishery regulations cannot be effective unless they are enforced. It was agreed that management alternatives should be assessed with respect to their ability to be enforced, and that managers should consider monitoring and evaluating enforcement, in terms of how to do it, where priorities lie, and how it can be most cost-effective.

The reporting process is dysfunctional, according to some participants. Agents report to NOAA headquarters rather than to NMFS Regional Administrators. Attorneys do not report to either the Regional Administrator or enforcement. Participants believe the process is too complicated and slow and, as a result, some flagrant violators remain fishing for a long time before permits can be revoked, undermining the whole system. It was suggested that the problem could be fixed by providing the Regional Administrator with the legal and enforcement staff needed to assign penalties—for example, to be able to use administrative fines like traffic tickets that can be paid or challenged.

Some participants who recognize that enforcement needs to be improved questioned whether it should be assessed at the regional level because of the risk of regional political influence. They believe that, although it is worth taking a more systematic look at how to make enforcement faster and more effective, due process is important.

It was noted that the size of fines is also a problem. Some of the penalties are so minimal that they are viewed as a cost of doing business. Violations of regulations are civil offenses, and preventing enforcement from doing its job and providing false statements to enforcement authorities are criminal offenses. Some participants believe that applying criminal penalties for regulation violation would strengthen regulations. However, one complication is that the burden of proof for civil violations (a preponderance of evidence) is different from that for criminal (beyond a reasonable doubt) violations. Another problem is that judges are not dedicated to fisheries administrative law, so they know very little about the issues and about which violations are relatively more severe.

It was noted that there are great differences among the regions in the degree of compliance with regulations. Compliance is helped by effective participation and by paying attention to distributive justice, which participants believe is one of the justifications for experimenting with more local participation. Although compliance is important, it was noted that management failure is not only due to a lack of compliance. For example, some participants stated that even with perfect compliance, some earlier management plans in New England would not have been adequate.

## **Accountability**

It was noted that a lack of accountability throughout the system has an important effect on management implementation. No one is responsible for a regulation or plan “from birth to death.” The Council depends on much information that it has no control over and it also makes decisions that pass on large responsibilities to others. None of the major players internalizes all the costs. Some believed this is a problem with the institutional framework of fisheries management throughout the United States.

## **Monitoring and Evaluation**

The effectiveness of regulations in New England is not evaluated and some participants believe that unintended consequences of management are common. It was pointed out that monitoring and evaluation should be done routinely by either NMFS or the Council, and that the lack of such oversight prevents long-term learning. It was noted that evaluation would provide a counter-argument to “scientists never know what they’re doing.”

## **Highly Migratory Species**

Some participants believe that the United States needs to be able to take more stringent measures than those specified in international agreements, but, this would require a change in the Act.

## **4. “NEW” MANAGEMENT TOOLS**

Several tools and approaches not traditionally used in fishery management have been receiving increased attention across the nation for their potential to address problems associated with traditional management, such as overfishing, overcapacity, bycatch, and habitat degradation. Roundtable participants discussed the regional application of each of the following fishery management tools and approaches.

## **Individual Fishing Quotas**

Participants said that individual fishing quotas are a well-documented tool. It was suggested that the moratorium on new programs is an example of a political end-run done for regional or special interests, with a national effect. Participants noted that the Council supports lifting the moratorium so that each region can decide independently if this tool is appropriate for its fisheries. If fees are required of individual fishing quotas, participants said the Council believes they should be regional and dedicated to the councils. It does not support the idea of attaching fees only to individual fishing quotas and not other management tools, because it biases the system against using them. On the other hand, participants acknowledged that there are good arguments for cost recovery from management that will create wealth, rather than give away public wealth for free.

It was noted that fear of consolidation—of fisheries going “corporate”—among some in New England creates a sentiment against lifting the moratorium on individual fishing quota programs. Those who share this concern indicate that these tools would probably be more acceptable if they were designed at the local, rather than council level. There is distrust among some participants that initial allocations will freeze people in the rankings. But there is also fear that rankings will be changed by buying out smaller producers.

## **Marine Protected Areas**

Participants stated that marine protected areas are only part of the traditional set of management tools—they are not sufficient in themselves. Some said they should be assessed as a tool for controlling fishing mortality, but that they are not really appropriate as a primary tool for reducing fishing mortality. It was recommended that Congress should not adversely react to the general idea of marine protected areas, but neither should it give special consideration in the MSFCMA to the use of these tools over others.

**Objectives:** Participants questioned what the ultimate goal for marine protected areas is. They stressed that the intent of a marine protected area needs to be clear, and expectations specific. It was suggested that these areas could be planned with the idea of “conservation equivalencies” in mind, as the Atlantic States Marine Fisheries Commission uses in other fishery regulations.

**Framework:** It was noted that the fishery ecosystem plans recommended in the recent Ecosystem Panel Report would require the development of much broader frameworks for management. These would be helpful for including all fisheries, looking at system-wide monitoring and dealing with spatial management, such as that provided by marine protected areas.

**Monitoring and Evaluation:** Participants believe that monitoring and evaluation will be important for marine protected areas. For example, they questioned what has been learned from the experience with groundfish closures on Georges Bank. They agreed that many aspects of the closures worked well, but this plan resulted in yet another political end-run around the process that had been set up to determine an overall strategy for scallop management.

**Siting:** If marine protected areas are sited near shore, participants said the community impacts associated with this action must be addressed. The effect of displacement on other fisheries was cited as another important consideration.

## **Incentive-Based Management**

Participants said that incentive-based management could be experimented with in a number of ways. Taxes could be used to alter the catch mix. Economic incentives could be developed to reduce bycatch. Even in trawl fisheries there is a fair amount of flexibility regarding catch composition. Setting up management experiments with authority delegated to small subgroups is another item recommended for consideration. One experiment would be to try managing New England fisheries through three committees that would function like three councils: (1) a Gulf of Maine committee; (2) a Georges Bank committee; and (3) a southern New England committee. The idea would be to give people stewardship over their own areas. It was observed that if councils had the authority to try other methods, they could generate new information about how management works best.



# **ACTIONS RECOMMENDED BY ROUNDTABLE PARTICIPANTS**

## **ACTIONS RECOMMENDED BY ROUNDTABLE PARTICIPANTS**

General recommendations offered by roundtable participants to assist the New England Council with implementation of the 1996 amendments to the MSFCMA and to improve the effectiveness of fisheries management in the New England region include:

- Continue the progress toward clarity and consistency made under the SFA.
- Recognize and fully fund the enormous demands of implementing the SFA.
- Provide assistance to move beyond past management failures.
- Provide managers with timely and understandable scientific information.
- Improve the social science information base.
- Characterize capacity and fishing effort.
- Monitor bycatch and discards.

Many specific actions to implement these recommendations were identified by participants throughout the roundtable discussion. Those with apparent support of the majority are listed below. Although participants did not necessarily characterize proposed actions as most appropriate for Congress, NMFS, or the councils, we have done so here in the interest of making the information more useful. A more detailed discussion of the issues leading to these recommendations can be found in earlier sections of this report.

### **1. WHAT CONGRESS CAN DO**

- Create a task force to review performance and operations of all regional councils.
- Create a task force to evaluate the effectiveness of enforcement in council regions, including current fishery penalty schedules.
- Strengthen fishery enforcement.
- Expand the authority of fishery enforcement to protect council meeting attendees.
- Require that all councils establish and enforce total allowable catch quotas for all species in their fishery management plans.
- Significantly increase the funding for social science research.
- Fund data collection on bycatch and discards.
- Clarify whether industry or government should pay for observer programs.
- Provide national guidelines for observer programs but allow councils to develop programs appropriate to regional contexts.
- Fund research on nonfishing influences on fishery productivity.
- Fully fund the activities needed to implement the essential fish habitat provision.
- Fund research on gear disturbances to habitat and effects on habitat productivity.
- Provide funds to monitor and evaluate the effectiveness of regulations, including marine protected areas.

- Allow the United States to take more stringent measures on highly migratory species than those specified in international agreements.
- Allow councils to experiment with different management forms and incentive systems, including rights-based systems, such as individual fishing quotas.
- Minimize the political end-runs of council and NMFS decisions.

## **2. WHAT THE NATIONAL MARINE FISHERIES SERVICE CAN DO**

- Clarify the “overfishing” definition.
- Better explain properties of statistical estimates.
- Continue to improve the communication between industry and scientists.
- Conduct more public outreach and education on rebuilding.
- Allow councils to prioritize rebuilding attention to stocks most needing attention.
- Develop guidelines to help councils make decisions about essential fish habitat.
- Clarify the interpretation and application of the communities provision.
- Develop national guidelines for vessel buyback programs.
- Conduct public education about Council requirements and processes.
- Strengthen social science personnel, research, and data collection.

## **3. WHAT THE NEW ENGLAND FISHERY MANAGEMENT COUNCIL CAN DO**

- Define long-term fishery management goals and monitor progress toward meeting them.
- Address problems of overcapacity within the framework of long-term goals and objectives.
- Develop a rationalization plan to bring fishing capacity into balance with the resource.
- Establish standards for good governance.
- Improve the meeting process through rules and procedures.
- Demand more honesty and accountability in public testimony.
- Use social science research rather than anecdotal testimony for systematic understanding of human influence and impacts.
- Understand that management decisions cannot satisfy everyone.
- Explicitly address questions of allocation and rights.
- Send clear signals to fishing communities about long-term management directions.
- Define bycatch reduction goals and allow fishermen to determine how to achieve them.