THE NEW ENGLAND FISHERIES CRISIS: WHAT HAVE WE LEARNED?

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I. INTRODUCTION

Federal fisheries management in the northwest Atlantic has been a failure. While federal law did succeed in converting the fisheries in the region from foreign fisheries to domestic fisheries, it did little to save the fish themselves. Stock after stock of fish has joined the previously

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decimated ranks of halibut and redfish, and serious questions remain whether even the recent draconian management initiatives imposed on the region's commercial and recreational groundfishing fleets will be sufficient to forestall the collapse of the Atlantic cod.

The consensus with respect to this dismal conclusion is so widespread within fisheries management circles that "New England" has become a metaphor for management failure. Indeed, the threat of preventing the spread of "another New England" to other domestic fisheries in the United States has been repeatedly used as a prod in the congressional proceedings to reauthorize the Federal Fisheries Conservation and Management Act (FCMA).[1]

While no one can seriously question the importance of preventing comparable waste of both human and marine resources in other regions or the need to legislatively reform the federal fisheries management program if its long-term conservation purposes are to be accomplished, a fundamental question remains: have all the lessons that should be learned from the "New England situation" been recognized?

Conservation Law Foundation, Inc. (CLF) is a not-for-profit conservation organization with a twenty-year history of marine resources advocacy in the New England region. CLF has been involved in the groundfish management crisis in the New England region since 1989, including bringing the first public interest litigation under the FCMA to enforce the federal mandate to prevent overfishing.[2]

That experience has been a powerful motivating force behind our support for strengthening the FCMA through the current reauthorization process. But that experience has also raised the possibility that the problems in our region's fisheries that are currently expressing themselves as overfishing and economic collapse are institutional and structural failures that may lie far more deeply than the legislative reach of the FCMA. In that context, the question remains open whether current efforts to tighten the existing regulatory framework will in fact improve New England's ability to manage for both ecological and economic sustainability.

What follows is our perspective on the New England fisheries problem: the nature of the regional fishery, how the region got where it is, what the situation is after six years of intensive effort on our part, and

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1. 16 U.S.C. §§ 1801-1882 (1988 & Supp. 1996).

2. Conservation Law Foundation, Inc. and Massachusetts Audubon Society, Inc. v. Mosbacher, No. 91-11759-MA, (D. Mass., June 28, 1991).

our thoughts on the lessons to be learned from the loss of New England's groundfish. There is not necessarily a happy ending to this story.

II. THE NEW ENGLAND GROUNDFISH FISHERY

New England's European colonists were first attracted to the region in large part by the famed abundance of cod along the North American coast. Descendants of these colonists have made a business of the harvest of groundfish for over 300 years. New England lore is replete with tales of the cod, haddock, and flounder fisheries, and our cultural symbols pay homage to the fish and the harvesters alike. As the groundfish stocks have declined over the last two decades of fishery management under the Magnuson Act, we have been losing more than our claim to a legendary complex of fish species. We have also been losing the threads of a historical and strongly cultural pattern between New Englanders and the sea.

The New England groundfish fishery is extraordinarily diverse, comprising a broad set of targeted species, gear types, vessel sizes, and fishing community cultures spread out among the many ports defining the region.[3] The term "groundfish" refers to a complex of bottom dwelling fish.[4]

Cod, haddock, and yellowtail flounder, all now seriously depleted, have historically been the three most important groundfish species to New England fishermen in terms of landings and revenues. Indeed, the groundfish fishery still remains one of the most important fisheries in the region, generating over $139 million in ex-vessel revenues in 1993.[5] In addition, there are even more significant revenues generated from the various other industries which support the processing and marketing of the catch and service the vessels and their crews.

Over 5,000 vessels ranging in size from less than thirty feet to over 100 feet hold permits to fish for groundfish in the Northeast.[6]

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3. The majority of the fishing effort in New England waters comes from Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut and New York, although boats hailing from all along the Atlantic seaboard have participated in the rich Georges Bank and Great South Channel fisheries over the years.

4. The thirteen species currently included in the groundfish management plan are cod, haddock, yellowtail flounder, American plaice, windowpane flounder, winter flounder, witch flounder, silver hake, red hake, white hake, pollock, redfish, and ocean pout.

5. NATIONAL MARINE FISHERIES SERVICE, FISHERIES STATISTIC DIVISION, NORTHEASTERN COMMERCIAL FISHERIES LANDINGS STATISTICS (1995).

6. NEW ENGLAND FISHERY MANAGEMENT COUNCIL, DRAFT PROPOSALS FOR AMENDMENT #7 TO THE NORTHEAST MULTISPECIES FISHERY MANAGEMENT PLAN INCORPORATING THE DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR AMENDMENT #7, at 106 (1995).

However, only 1,500 to 2,500 vessels are estimated to be actively fishing for cod, haddock, and yellowtail flounder under these permits, and many permit holders are not currently fishing for groundfish at all.[7] Much of the New England fishing industry is made up of small businesses, and most of the New England fleet is individually or family owned and operated. In addition, more than half of the participants in the groundfish fishery are likely to be seasonal or part-time players.[8] The larger boats tend to concentrate exclusively on groundfish or a combination of groundfish and scalloping throughout the year. The smaller, inshore fishing operations tend to target a number of species depending on the season. A Maine fisherman, for example, might switch from dragging for shrimp to trap fishing for lobster to groundfishing during the course of any year.

Several gear types are used to harvest groundfish, primarily otter trawls, gillnets, and hook and line. The majority of groundfish is caught using the otter trawl, a large close-ended net towed along the ocean bottom. A smaller amount of groundfish is caught as a bycatch in other fisheries using other gear types such as scallop dredges. The recreational harvest of groundfish by charter boats and private fishing is variable.[9]

The principal ports in the region include Portland in Maine, Gloucester, Boston, and New Bedford in Massachusetts, and Point Judith in Rhode Island, with numerous smaller ports scattered throughout the region. In 1994, New Bedford ranked as the top New England port in quantity landed and value.[10] The ports are diverse in terms of species landed, presence of fish auctions, processing facilities, ability to accommodate large vessels, support services, and cultural mix.

Over the past decade, the New England groundfish industry has seen a serious decline in its catch, particularly in the mainstay species of cod, haddock, and yellowtail flounder. In the decade 1983-1993, total Northeast landings of the principal groundfish stocks fell sixty percent, from 183.5 thousand metric tons to 72.6 thousand metric tons.[11] Rising ex-vessel prices resulted in a decline in corresponding ex-vessel revenues of only fifteen percent, from $164.4 million in 1983 to $139.2 million in

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7. *Id.*

8. *Id.* at 104.

9. Landings are estimated from "minor" to "above 10%" with the recreational catch of Gulf of Maine cod at about 20% as a percentage of the total landings. Draft SEIS to Amendment #7, *supra* note 7, at 133.

10. NATIONAL MARINE FISHERIES SERVICE, FISHERIES STATISTICS DIVISION, FISHERIES OF THE UNITED STATES, 1994 at 5.

11. NORTHEASTERN COMMERCIAL LANDINGS STATISTICS, *supra* note 6.

1993.[12] Northeast commercial landings of cod declined nearly fifty-five percent, from 50.8 thousand metric tons in 1983 to 22.9 thousand metric tons in 1993.[13] Buoyed by rising prices, ex-vessel revenues for cod increased approximately eighteen percent during this same period, from $38.2 million to $45 million.[14] Landings of haddock have declined dramatically—approximately ninety-four percent in the period 1983-1993.[15] Northeast landings of haddock were a mere 0.9 thousand metric tons in 1993, down from 14.7 thousand metric tons in 1983.[16] Haddock revenues sank eighty-six percent during this same period, from $19 million to $2.7 million in 1993.[17] New England yellowtail flounder landings are also down significantly. In the period 1983-1993, yellowtail flounder landings fell eighty-nine percent, from thirty-three thousand metric tons to 3.6 thousand metric tons.[18] Yellowtail revenues were $10.4 million in 1993, down seventy percent from $35.2 million in 1983.[19]

In addition to cod, haddock, and yellowtail flounder, landings of many other groundfish species have declined significantly. Eight of the species in the groundfish plan are currently considered to be over-exploited, four of the species are considered to be fully exploited, and only one species (red hake) is considered to be under-exploited.[20]

III. A BRIEF (AND BIASED) HISTORY OF GROUNDFISH MANAGEMENT IN NEW ENGLAND

The first management plan developed by the New England Fishery Management Council (New England Council) was for cod, haddock, and yellowtail flounder and was implemented in the spring of 1977. This plan was based on a quota system and, later, individual vessel trip limits for these three species. It remained in force until 1982.[21] At

12. *Id.*
13. *Id.*
14. *Id.*
15. *Id.*
16. *Id.*
17. *Id.*
18. *Id.*
19. *Id.*
20. NATIONAL MARINE FISHERIES SERVICE, STATUS OF THE FISHERY RESOURCES OFF THE NORTHEASTERN UNITED STATES FOR 1994 at 44-81 (1995).
21. NEW ENGLAND FISHERY MANAGEMENT COUNCIL, DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT TO AMENDMENT #5 TO THE NORTHEAST MULTISPECIES FISHERY MANAGEMENT PLAN 5-6 (1993). The quota system adopted by the New England Council had been established earlier by the international body that supervised the fisheries on Georges Bank prior to 1977, the International Commission for the Northwest Atlantic Fisheries (ICNAF).

that time, after a partial recovery of the stocks for these three species,[22] the quotas and trip limits were abandoned because of a variety of problems, including the impossibility of enforcing the trip limits which were not supported by many of the region's fishermen.[23]

The plan that eliminated quotas and trip limits defined optimum yield circuitously and nonnumerically as "the amount of fish actually harvested by U.S. fishermen in accordance with the measures listed" in the plan.[24] As there were no controls on fishing power or numbers of participants in the fishery, there were significant increases in both areas during this period, aggravating an already high level of fishing mortality. The fishing pressure on groundfish in U.S. waters was aggravated by the 1984 decision of the International Court of Justice that established the boundary line between United States and Canada and gave to Canada the northeast peak of Georges Bank,[25] a traditional fishing ground for some of the larger Maine and Massachusetts boats.

In 1986, the National Marine Fishery Service (NMFS), responding to the advice of its scientists about the negative trends in fish populations as a result of overfishing, balked at approving the Northeast Multispecies Fishery Management Plan (Groundfish FMP), citing the threat of overfishing.[26] NMFS disapproved the plan in January 1986 and, when it was resubmitted by the Council unchanged, approved the regulation for only a year, threatening to develop a Secretarial plan[27] unless suitable amendments were adopted by the Council within that year.[28]

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22. MASSACHUSETTS OFFSHORE GROUNDFISH TASK FORCE, MASS. DEPT. OF FISHERIES, WILDLIFE, AND ENVIRONMENTAL LAW ENFORCEMENT, NEW ENGLAND GROUNDFISH IN CRISIS—AGAIN 3 (1990).

23. Many of the groundfish fishermen have historically objected to single species quotas and trip limits because they could not understand the conservation benefit of throwing dead fish overboard when one species' limit was reached while they continued to fill their holds with other species not subject to limits. These fishermen argued that mesh size regulation was the best way to avoid such waste while meeting conservation objectives in a multispecies fishery. This argument predated the FCMA and was a regular objection at the earlier ICNAF quota sessions. *See* DEWAR, M.E., INDUSTRY IN TROUBLE: THE FEDERAL GOVERNMENT AND THE NEW ENGLAND FISHERIES, 125-26. This dispute continues unresolved to this day.

24. NEW ENGLAND FISHERY MANAGEMENT COUNCIL, INTERIM FISHERY MANAGEMENT PLAN FOR ATLANTIC GROUNDFISH, at i (1981).

25. Donna R. Christie, *The Georges Bank/Gulf of Maine Boundary Dispute between the United States and Canada*, in GEORGES BANK 469-73 (Richard H. Bourne and Donald W. Bourne eds., 1987).

26. 51 Fed. Reg. 29,642 (1986).

27. *See* 16 U.S.C. § 1854(c) (1988) (authority for Secretarial preemption of council planning authority when council fails to develop suitable fishery management plan).

28. 51 Fed. Reg. 29,642 (1986).

A year later, in a key moment of weakness, NMFS backed down from its conservation-oriented position in the midst of overwhelming political pressure from the New England congressional delegation[29] and approved marginal and ineffectual changes to the Council's 1986 plan.[30] NMFS did not attempt to directly reassert its management prerogatives to protect the region's groundfish under the FCMA again until the agency was sued by CLF in 1991. When CLF first entered the regional fishery management picture in 1989, the 1986 Groundfish FMP had undergone a second amendment in 1989,[31] which not only failed to address the steady decline in groundfish stocks observed by government scientists since the early 1980s, but also exacerbated the problem by canceling a scheduled increase in mesh size.

An event that significantly forced the New England Council's hand was the 1989 NMFS revisions to the fishery management plan guidelines that were developed under the authority of Section 301(b) of the Magnuson Act.[32] Known popularly as the "602 Guidelines," they provide guidance to the councils as to NMFS's interpretation of the national standards that all fishery management plans are required to meet.[33] The 1989 revisions to these guidelines required councils to develop objective and measurable definitions of overfishing and to develop comprehensive recovery plans for stocks found to be overfished based on those definitions.[34] Without such measurable criteria, the FCMA national standard that required that fishery management plans prevent "overfishing"[35] was ambiguous and largely meaningless as a regulatory tool.

In November 1989, the New England Council proposed that the definition of "overfishing" for groundfish for purposes of satisfying the revised 602 Guidelines be the biological targets contained in the Groundfish FMP, which were twenty percent of the maximum spawning potential (MSP)[36] for most groundfish stocks.[37] The Council admitted at

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29. *See, e.g.*, Letter from Senators Cohen, Mitchell, Kennedy, Kerry, Chafee, and Pell to Clarence J. Brown, Acting Secretary of Commerce (August 6, 1987).

30. Final Rule, 52 Fed. Reg. 35,093 (1987) (amendment 1).

31. 54 Fed. Reg. 4797 (1989) (amendment 2).

32. 16 U.S.C. § 1851(b) (1988).

33. *Id. See* 50 C.F.R. § 602.1-.17 (1990).

34. 50 C.F.R. 602.10-.12 (1990).

35. 16 U.S.C. § 1851(a)(1)(C) (1988).

36. This rate refers to the percentage of the theoretical maximum spawning potential of a stock with no fishing mortality and is intended to reflect the reproductive health of the stock. The target levels for groundfish were intended to maintain stock levels over the long-term.

this time that cod, haddock, and yellowtail flounder failed to meet this definition.[38]

In November 1990, the New England Council completed its development of Amendment #4 to the Groundfish FMP, the first amendment submitted to the Secretary of Commerce since the adoption of the overfishing definitions for groundfish.[39] The amendment admitted that those overfishing thresholds had been surpassed for all stocks of cod, haddock, and yellowtail flounder.[40] Amendment #4 also admitted that it contained no provisions to eliminate the overfishing of these stocks or to initiate rebuilding, indicating that the Council intended to do so in a subsequent amendment.[41] Amendment #4 clearly violated the FCMA's requirement that "conservation and management measures [in FMP's] shall prevent overfishing . . . ,"[42] and CLF advised the New England Council and NMFS that Amendment #4 was in violation of FCMA's national standards.[43]

NMFS, nevertheless, approved most of Amendment #4 and promulgated regulations to implement its provisions on May 31, 1991.[44] Intending to provide some judicial "spine" to NMFS's foundering oversight of the Council, CLF and the Massachusetts Audubon Society sued the Secretary of Commerce, the Director of NMFS, and the Regional NMFS Director in June 1991 for failure to prevent the overfishing of cod, haddock, and yellowtail flounder.[45]

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37. Letter from Douglas Marshall, Executive Director, New England Fishery Management Council to Richard Roe, Northeast Regional Director, National Marine Fisheries Service (November 21, 1989).

38. *Id.* Analyses in 1990 indicated that Georges Bank cod stocks were at 8.8% MSP against a biological target of 20% MSP; Gulf of Maine cod stocks were at 10.3% MSP against a biological target of 20% MSP; Georges Bank yellowtail flounder were at 15.7% MSP against a target of 20% MSP; and southern New England yellowtail flounder were at 7.0% MSP against a target of 20% MSP. NEW ENGLAND FISHERY MANAGEMENT COUNCIL, DRAFT AMENDMENT #5 TO THE NORTHEAST MULTISPECIES FISHERY MANAGEMENT PLAN 12 (1993).

39. Amendment #3 to the Groundfish FMP was submitted to the Secretary in the summer of 1989 and implemented later that year. 54 Fed. Reg. 52,803 (1989). It established a process that was intended to allow the Council to respond quickly to protect aggregations of juvenile or spawning fish, a process that has not worked successfully to date.

40. 56 Fed. Reg. 979 (1991).

41. *Id.*

42. 16 U.S.C. § 1851(a)(1) (1988).

43. Letter from Eleanor Dorsey, *et al*. to Richard B. Roe, Northeast Regional Director (Feb. 19, 1991).

44. 56 Fed. Reg. 24,724 (1991). The Secretary noted that the plan was deficient and did "not constitute a complete rebuilding strategy." *Id*. at 24,725.

45. Conservation Law Foundation, Inc. et al. v. Mosbacher, et al., *supra* note 3. The plaintiffs did not name the New England Council as a defendant based on our analysis that the FCMA did not intend councils to be responsible parties. The Council did not attempt to intervene

In August of 1991, the plaintiffs and the U.S. Department of Commerce signed a consent decree establishing a judicially supervised schedule for the development of an amendment to stop overfishing rates on cod and yellowtail flounder within five years and within ten years for haddock.[46] Because the plaintiffs to the litigation hoped that the court schedule could operate as a prod to action by the New England Council, the consent decree provided an opportunity for the Council to develop the plan by September 1992, with the requirement that the Secretary develop a plan if the Council did not act in time.[47]

Although the litigation provoked considerable hostility and resentment toward CLF by many fishermen and most of the special interest industry groups,[48] the New England Council generated a draft of Amendment #5 to the Groundfish FMP on March 18, 1992, that met the terms of the consent decree. Amendment #5 was presented to largely hostile public hearings throughout the region during the spring of 1992.[49] One encouraging development was the effort of an industry advisors group that took upon itself the difficult task of developing a consensus effort reduction proposal that would be more acceptable within the fishery.

CLF regarded this initiative with considerable interest because industry representatives up until that time had primarily taken anti-regulatory positions with respect to management of the fishery. In an effort to encourage these nascent industry efforts to address overfishing and to develop fishing mortality reduction measures that would reflect industry input, CLF and Massachusetts Audubon Society agreed to extend the original September 1992 court deadline for completion of Amendment #5 for an additional year.

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in the action although a number of fishing trade organizations were allowed to intervene in the matter later. *See* Conservation Law Foundation v. Mosbacher, 966 F.2d 39 (1st Cir. 1992).

46. Conservation Law Foundation, Inc. v. Mosbacher, *supra* note 3. The content and nature of the amendment was left up to the New England Council so long as overfishing was eliminated within the stipulated time frame.

47. *Id.*

48. Several fishery trade organizations challenged the Secretary's authority to execute the consent decree with CLF and Massachusetts Audubon Society on a number of specious grounds. These grounds were categorically rejected by the courts. *See* Conservation Law Foundation, Inc. v. Franklin, 989 F.2d 54 (1st Cir. 1993).

49. One of the confounding factors in recognizing the overall worsening situation was the unusually big size of the 1987 year class of cod and yellowtail flounder, which led to significantly higher short term biomass and, therefore, landings in 1990 and 1991. Many fishermen erroneously interpreted these increases to be indicative of a groundfish recovery, and efforts by the biologists to put this temporary "blip" into its proper perspective given the continuing very high fishing pressure were lost on the fishing community.

A full year was devoted to refinement of Amendment #5, and a second round of public hearings was held on the revised plan. The final plan, adopted by the New England Council at its September 1993 meeting, proposed to eliminate overfishing by cutting fishing mortality fifty percent over five years using a combination of measures, the principal one being a gradual reduction in the number of days that boats over forty-five feet could fish on groundfish each year.[50] The Council also partially closed entrance to the fishery for the first time in its history, imposing a five year moratorium on some classes of new permits,[51] although this measure was expected only to prevent further increases in fishing capacity in a fleet that was already perhaps twice the size that the resource could sustain.

In January 1994, Amendment #5 was approved by the Secretary and became operative in March 1, 1994,[52] more than four years after the Council had acknowledged that cod, haddock, and yellowtail flounder were overfished.

Unfortunately, these measures were too little and arrived too late. Scientists had provided the first indications that this would be the case months before, but their information went unheeded. Assessments of cod stocks in the Gulf of Maine and Georges Bank conducted in January 1993 revealed that fishing mortality rates had climbed to new record highs in 1991, such that reductions of sixty to seventy percent were needed to meet the overfishing definition, not just the fifty percent reduction planned in Amendment #5.[53] No changes were made or proposed for Amendment #5 as a result of this new information.

In December 1993, NMFS reported to the Council that Georges Bank haddock had collapsed. The agency recommended emergency action to protect the species, which was implemented in the form of a 500-pound trip limit in January 1994.[54] That same month, a new

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50. For a lack of a better approach, the managers made the assumption that there was a 1:1 correspondence between fishing effort reduction and fishing mortality reduction. The plan was to adjust measures if the expected mortality reductions were not seen.

51. In order to protect the ability of younger fishermen to enter the fishery, Amendment #5 authorized continued open access for hook and line fishing and for boats possessing less than 500 pounds of groundfish a day. This loophole will be closed by implementation of Amendment #5 in the summer of 1996, but until then hundreds of new permits have been and are being issued.

52. 59 Fed. Reg. 9,872 (1994). A number of measures could not be implemented because of shortages in regulation gear in the region and technical difficulties, some of which such as an approved vessel tracking system are still unresolved.

53. NATIONAL MARINE FISHERIES SERVICE, REPORT OF THE 15TH NORTHEAST REGIONAL STOCK ASSESSMENT WORKSHOP (15th SAW): THE PLENARY 19, 24 (1993).

54. 59 Fed. Reg. 26 (1994).

assessment of southern New England yellowtail flounder revealed that this stock had also collapsed under extremely high fishing mortality rates. The scientific advice was to reduce fishing pressure to "levels approaching zero."[55] No changes in the management measures for yellowtail flounder planned for Amendment #5 were proposed by either NMFS or the Council.

The next stock assessment report, however, in August 1994, finally caught everyone's attention. Updated assessments for both cod and yellowtail flounder on Georges Bank revealed that the yellowtail flounder stock had collapsed and the cod stock, the most important single groundfish stock, was in "imminent danger" of collapse.[56] A highly unusual special advisory on Georges Bank groundfish declared that measures in Amendment #5 were "clearly inadequate" to prevent the collapse of cod or allow the rebuilding of yellowtail flounder.[57] The scientific advice to managers was to reduce fishing mortality for these two species "to as low a level as possible, approaching zero."[58]

In September 1994, with the implementation of Amendment #5 barely behind them, the New England Council commenced the development of Amendment #7[59] to implement the SAW recommendations. To its credit, the Council decided to rebuild the spawning biomass of cod, yellowtail flounder, and haddock, a more aggressive and important strategic target for the fishery than Amendment #5's objective of simply eliminating overfishing. To avert further decline during the development period, the Council also requested that the Secretary implement emergency measures, the most significant of which was the closure of large areas on Georges Bank and southern New England.[60]

Because of concerns about severe economic impacts to fishermen from the needed reductions in fishing for cod, haddock, and flounder, it

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55. NATIONAL MARINE FISHERIES SERVICE, REPORT OF THE 17TH NORTHEAST REGIONAL STOCK ASSESSMENT WORKSHOP (17 SAW): THE PLENARY 27-29 (1994).

56. NATIONAL MARINE FISHERIES SERVICE, REPORT OF THE 18TH NORTHEAST REGIONAL STOCK ASSESSMENT WORKSHOP (18TH SAW): THE PLENARY 42, 53 (1994).

57. *Id.* at 54.

58. *Id.* at 53.

59. In May of 1994, Amendment #6 was implemented, making permanent a suite of temporary, emergency-based measures designed to severely restrict the harvest of Georges Bank haddock. 59 Fed. Reg. 32,134 (1994).

60. 59 Fed. Reg. 63,926 (1994). Since that time, Gulf of Maine cod stocks have also been determined to be at their lowest point in thirty years. At a February 1995 meeting, regional scientists suggested that fishing mortality of this stock be reduced to one-third of 1993 levels. NATIONAL MARINE FISHERY SERVICE, REPORT OF THE 19TH NORTHEAST REGIONAL STOCK ASSESSMENT WORKSHOP (19TH SAW): THE PLENARY 21 (1995).

was September 1995 before the Council had a draft of Amendment #7 to take to public hearings. Several alternative effort reduction approaches were proposed, although the Council did not identify a preferred alternative. The most radical alternative was a proposal to close the fishery completely throughout the species' range. Other alternatives used various methods to reduce fishing mortality to levels that would allow rebuilding to the minimum spawning stock biomass threshold levels within two to over ten years depending on the stock. Each of these alternatives attempted to achieve an immediate eighty percent reduction in fishing mortality from the estimated 1993 levels.[61]

Unlike the earlier public hearings on Amendment #5, which were dominated by commercial fishermen and trade representatives who vigorously denied the extent of the crisis, the atmosphere of the Amendment #7 hearings was somber, heavy with a recognition among an increasing number of the region's fishermen that the scientific advice predicting a widespread stock collapse had been correct. Participants also recognized that many of the fishermen in the earlier hearings over Amendment #5 were now either out of work or forced out of the region to fish elsewhere.

Although many commercial fishermen in the hearings, particularly those representing the larger trawler operations out of New Bedford and Gloucester, Massachusetts, and Portland, Maine, opposed Amendment #7 as economic suicide and premature,[62] there was support for the Council's rebuilding objectives, and some fishermen even admitted that the region had run out of time for less drastic management options. Stories were presented to the New England Council about increasing safety issues in the fleet from deferred maintenance and short-handed fishing trips, as well as an increasing number of violent and financially ruinous gear conflicts, most often between the larger mobile gear fishermen and the fixed gear lobstermen and groundfish gillnetters. There were also an increased number of vocal recreational fishermen supporting aggressive management action.

In late January 1996, the Council approved a set of measures intended to reduce fishing mortality by eighty percent from 1993 levels within two years, primarily by accelerating the effort reduction schedule

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61. Amendment #7 Draft, *supra* note 7, at 14-35.

62. A number of commentators felt that Amendment #5 had not been given a chance to work. While this was true, it was also true that Amendment #5 was not designed to produce the fishing mortality reductions that the scientists now knew were necessary.

of Amendment #5.[63] Even at that drastic level of reductions, rebuilding to minimally acceptable biomass levels could take from three to four years (in the case of yellowtail flounder) to well over ten years (in the case of haddock).[64]

IV. OBSERVATIONS: WHAT CAN WE LEARN FROM NEW ENGLAND?

There have been many opportunities to observe the ineffectiveness of the fisheries management process in New England. Some of the problems the region has confronted can be addressed through revisions to the Magnuson Act. Others, however, seem to go beyond legislative remedies and raise more fundamental questions about the factors that determine economically and ecologically healthy fisheries. The following observations are intended to help look at these various issues.

A. Fishery Management Plans Must Contain Measures Adequate to Meet Long-Term Biological and Economic Objectives

At a number of congressional hearings, CLF has pointed to several aspects of the Magnuson Act that require revision to prevent situations like the New England crisis from arising in other fisheries. First, there is a clear need to elevate into law the requirement in the 602 Guidelines that each fishery management plan contain an objective and measurable definition of overfishing for each stock or stock complex under management.[65] Similarly, we advocated that the Act mandate rebuilding programs with specific time and abundance targets for stocks found to have been overfished.[66] To be effective, a council's schedule for developing these programs must have strict time limits.[67]

These few changes alone would go far in removing the discretion that the New England Council felt it had to accommodate short-term

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63. 61 Fed. Reg. 8540 (1996). Implementation of Amendment #7 is expected to begin in the summer of 1996.

64. Amendment #7 Draft, *supra* note 7, at 12.

65. Eleanor Dorsey, *The 602 Guidelines on Overfishing: a Perspective from New England*, *in* CONSERVING AMERICA'S FISHERIES: PROCEEDINGS OF A 1994 NATIONAL SYMPOSIUM ON THE MANAGEMENT ACT 188 (Stroud ed.). Similar testimony has been presented to Congress. *See, e.g.*, *Reauthorization of the Magnuson Fishery Conservation and Management Act, 1995: Hearings on H.R. 39 Before the Subcomm. on Fisheries, Wildlife and Oceans of the House Committee on Resources*, 104th Cong., 1st Sess. (1994) (Statement of Eleanor Dorsey, Staff Scientist, Conservation Law Foundation, Inc.).

66. *Id.* at 188.

67. *Id.*

economic interests in managing the groundfishery even in the face of systemic overfishing and long-term economic decline. Although the Council members regularly justified their inaction by claims that more data or scientific analysis of different alternatives were needed, the short-term politics of the situation were the major factor in slowing the Council down and keeping it from taking forceful action.

Indeed, a persistent complaint from some New England Council members was that they lacked clear, long-term strategic objectives and that intelligent management was impossible in the absence of such objectives. While that observation may be so, no one on the New England Council took steps to develop such objectives, casting doubt on the motivation for these comments.

To the degree that political pressure within a region prevents a council on its own from recognizing the fundamental imperative of conservation management, the FCMA must provide the policy floor: FMPs must prevent overfishing, and any fishery that is overfished must be rebuilt to minimum levels to preserve the long-term production capacity of the stock.

B. A Trigger Point for Federal Preemption of Council Jurisdiction Should be Identified before the Fishery Is in Crisis

The experience in New England suggests to us that given a choice between allowing additional harvest to accommodate "social and economic factors" or maintaining a spawning stock biomass that can support long-term biological and economic objectives, councils will too often be tempted to compromise the biological objectives. For that reason, we have supported efforts to redefine one of the cornerstone concepts of the FCMA, "optimum yield," so that NMFS cannot approve or accept plans that would allow harvesting in excess of a stock's "maximum sustainable yield."[68]

The New England situation presents a powerful justification for this higher standard. CLF was precluded from intervening in the groundfish collapse in any meaningful way until we could prove that a national standard was being violated. The only conservation "bright line" in the existing national standards that appeared judicially enforceable was

68. *Reauthorization of the Magnuson Fishery Conservation and Management Act, 1995: Rockport, ME Field Hearings on S. 39 Before the Subcomm. on Oceans and Fisheries of the Senate Committee on Commerce, Science, and Transportation*, 104th Cong., 1st Sess. 86 (1995) (statement of Jennifer Atkinson, Consulting Fellow, Conservation Law Foundation, Inc.).

the "prevent overfishing" mandate of national standard one.[69] All the other national standards were either vague or compromised by multiple objectives.

The problem with making "overfishing" the intervention trigger is that it is usually too late to help save the fish stocks or avert economic hardship. By the time the scientists make a determination of "overfishing," the fishery is already overcapitalized and the economic, social, and political pressures to stall meaningful reductions are simply too great. Any action at that stage in a fishery is drastic almost by definition.

Forcing councils, on the other hand, to manage their fisheries in a more precautionary manner in order to avoid federal mandates or judicial action should provide a technical and political incentive for the councils to pay stricter attention to the biological bottom line. It might also encourage councils to look more strategically at the development and oversight of their fisheries, with particular attention to the capitalization of the fishery and the collective fishing effort which are two of the principal forces that determine fishing mortality.

While there can be no question that the "open fisheries" in New England exaggerated the capital inflow problem in the groundfish fishery, accelerating capitalization in the form of technological improvements occurs in "closed fisheries" as well and has the same practical effect as far as fishing effort and mortality is concerned. The traditional approach sanctioned by the FCMA—indifference to capitalization issues in "underexploited fisheries" followed by uncontrolled entry and capitalization followed by political crisis and effort shifts and even federal "decapitalization" programs like the proposed New England buy-out program[70]—should be simply intolerable with such valuable national resources as our coastal fisheries.

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69. 16 U.S.C. § 1851(a)(1) (1994).

70. There are proposals in both the H.R. 39 and S. 39 FCMA reauthorization bills that would provide federal funding for a New England "buy-out" program. There are a number of problems associated with this financial assistance program including: (1) no one predicts that the level of funding will significantly reduce the present fishing harvesting capacity of the fleet; (2) the financial assistance for boat owners and creditors does nothing to relieve the financial hardship for crew members or other secondary employees in the fishery; (3) the "buy-out" program is a financial assistance instrument, not an instrument for permanently reducing effort in the groundfishery; (4) the potential for abuse is high with reports already of fishermen using the federal "buy-out" funds to "buy in" to other overexploited fisheries like lobster with the equivalent of a federal subsidy; and (5) the program sets a bad precedent for other fisheries who might see overfishing as the political route to new federal aid.

A similar point needs to be made about the initial decision that fish stocks need management. Unlike any other federal public resource management program where extensive pre-authorization review of any development proposal is required, the FCMA only provides that councils should develop FMP's for fisheries that require conservation and management.[71] The threshold for determining the need for management is largely left up to the councils and is judicially unreviewable.

In New England, the interpretation of this FCMA threshold has been such that management plans are not developed until the fishery is already significantly underway and already manifesting signs of biological stress. At this point, the job of managing the fishery becomes one of reacting to the level of effort already in the fishery rather than anticipating the sort of harvesting that can be reasonably sustained. The primary question becomes how to reduce the fishery rather than how to develop it, and the burden of establishing a need for management is shifted onto the public.

To accommodate the concurrent need for fisheries development and management, councils should require those who intend to engage in a new fishery or harvesting practice to bear a greater burden of demonstrating its sustainability as well as its relationship to other existing fisheries or resource issues. This shift does not necessarily require a revision to the FCMA; it does require a change in the way the provisions of the FCMA are interpreted and administered.

C. Federal Oversight of Council Actions Should Be Strengthened to Insure Compliance with the National Standards and FCMA Goals

While preference should clearly be given to the regional councils for the management of regional resources, the New England experience demonstrates the critical importance of federal oversight backed up by judicial review to force a recalcitrant council to execute its responsibilities. The threat of Secretarial preemption of regional management prerogatives provides a strong incentive to council members to make hard choices, but only so long as they perceive that the threat is real. In New England, the Council and vested fishery interests had prevented NMFS from developing its own management plan through misguided congressional pressure in 1987, and no one was holding

71. 16 U.S.C. § 1852(h)(1) (1994).

NMFS accountable for stock protection until the courts acted in response to CLF's 1991 lawsuit.[72]

Until CLF's action, most litigation under the FCMA was brought by industry trade groups to oppose conservation or management measures or to contest allocation decisions.[73] Few of those law suits were able to successfully breach the broad agency discretionary standards that Congress built into the FCMA. Such immunity from oversight, however, is a double-edged sword since litigation to force the NMFS or a council to act to develop and implement conservation and management measures to protect public resources is constrained as well.

It is our view that Congress should strengthen public oversight of the councils' management of public marine resources by strengthening the requirements imposed on NMFS to preempt councils that are not responsibly exercising their management authorities. In addition to the language changes we have suggested earlier,[74] strict time frames need to be provided for NMFS action, particularly in a case where stocks are in an overfished status.

Judicial review should be made available for third parties to enforce the conservation objectives of the FCMA where NMFS fails to exercise its mandatory duties. Future reauthorizations of the FCMA might consider the inclusion of "citizen suit" provisions to enforce these conservation objectives similar to provisions that already exist for water,[75] air,[76] and hazardous waste,[77] to name a few. During an era of declining agency budgets, the importance of clear guidance on oversight of the councils by NMFS as well as the public has never been greater.

D. Councils and the Council Process Must Include a Broader Range of Public Interests

That fish are a national *public* resource is obvious. The role the public should play in the management of this resource, however, is less well accepted, at least in our region. In New England, the Council is not

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72. Lest outsiders are lured into thinking that all New Englanders have learned from history, a number of the current members of the New England congressional delegation including Senators Snowe and Kennedy, as well as Representatives Longley, Torkildsen, Frank, and Joseph Kennedy submitted letters recently to the New England Council and NMFS demanding that Amendment #7 be delayed until a full social and economic study of its consequences could be analyzed.

73. *E.g.,* Kramer v. Mosbacher, 878 F.2d 134 (1989).

74. *See supra* notes 66-72 and accompanying text.

75. *See* 33 U.S.C. § 1365 (1994).

76. *See* 42 U.S.C. § 7604 (1994).

77. *See* 42 U.S.C. §§ 6972, 9659 (1994).

representative of the full range of public interests associated with fisheries conservation and management. Beyond token representation, conservation and recreational fishing interests are largely missing from the New England Council's makeup, as are a number of important economic elements of the regional fishery, most notably the processing sector, the scallop fishery, and the lobster fishery.[78] Consumer groups testified at some of the public hearings but have been by-and-large invisible in the management process. Without adequate inclusion of these broader sets of values, Councils will not be able to manage for yields that provide the "greatest overall benefit to the [n]ation."[79]

This deficiency in capturing the full range of public interests in the Council membership can be cured to some degree by legislative change broadening the Council's base and mandating greater diversity of appointments. At the same time, it is also clear that state fisheries managers should have greater public accountability for representing the full spectrum of public interests of their respective states.[80]

Greater public participation in the Council's membership and audience will be a major adjustment for many in the present fishery. In New England, for example, stakeholders other than commercial fishermen and fisheries professionals have traditionally been viewed as outsiders in fisheries management debates.[81]

The historic lack of public involvement has undoubtedly perpetuated and reinforced this perception. Recently, however, more environmental groups have begun to monitor and participate in the Council process.[82] Media attention and interest in fishery management has also grown in the region in the wake of the groundfish crisis, although coverage remains sporadic. Although some vested special interests and "old-timers" still voice their disapproval of these newcomers, many others now accept the increased presence of public interest groups as legitimate.

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78. Although it seems that the New England Council could cure this imbalance through an active advisory committee structure, it has used that approach only sporadically.

79. 16 U.S.C. §§ 1801(b)(4), 1802(18) (1994).

80. In New England, state fisheries officials—who sit on the Council *ex officio,* and who clearly could have been a powerful motivating force on the Council had they acted in concert—failed to shape the debate in a way that contributed to the resolution of the management crisis.

81. During public hearings, a number of fishermen forcefully expressed their view that these were "their" fish and that "outside meddlers" like CLF, Greenpeace, and the Center for Marine Conservation should get lost.

82. Representatives of the Center for Marine Conservation, the Environmental Defense Fund, the International Wildlife Coalition, and Greenpeace among others have all become regular attendees of the New England Fishery Management Council meetings in recent years.

E. The Long-Term Health of a Fishery Is Controlled by the Successes and Limitations of the Component Parts of Fishery Management

There is a tendency to jump to the conclusion that all New England needed was a good fishery management plan. While it is clear that a good plan is necessary, our experience has taught us that long-term fisheries success—as measured by rebuilt and maintained cod, haddock, and flounder stocks—will require more than good paperwork and planning.

No matter how carefully crafted, plans can still fail to meet their stated objectives if the other critical components of the management system are not functioning well. There are at least five major processes involved in the management system for federal fisheries: the plan development process; fair and effective administration of the plan; fair and effective enforcement of the plan; acceptance of and compliance with the plan by a critical mass of the regulated community; and adequate scientific assessments of the status of the fishery and the fish stocks.

Successful fishery management requires adequate information, administration, enforcement, compliance, and evaluation, as well as plan development. The success of each aspect is dependent on the success of all the others. If any of these other functions are deficient, they will constrain the effectiveness of even the best developed plans. That was one of our most important lessons in New England and one that cannot be resolved solely through better legislation.

The focus of our lawsuit in 1991 was to force the groundfish managers to do their jobs and develop an effective management plan for the declining groundfish stocks. Our victory in court, however, only produced a management plan—Amendment #5. The litigation exposed a serious natural resource management problem that desperately needed attention; it could not bring the groundfish back. It is now clear to us that long-term solutions will require a much deeper and more persistent effort that addresses the entire complex of factors that define the success of a managed fishery.

Fisheries management under any structural framework requires adequate operational resources. The combined efforts of data collection and analysis, development of management measures, administration and enforcement of measures, and evaluation of measures, as well as supplementary programs such as gear and habitat research, all require significant human and capital resources. Congress has never allocated the kind of resources that NMFS, the Coast Guard, and the councils need

to fully carry out their FCMA responsibilities. States in the New England region, despite the significant contributions that fisheries make to their respective economies, only provide marginal additional resources. The New England Council, which has jurisdiction over vast ecological and economic resources, does not even transcribe the minutes of its Council or committee meetings because of a lack of clerical help.

Unlike the fisheries, which in our region are all *over*-capitalized, fishery management functions are perennially *under*-capitalized. Moreover, it does not seem that in the current climate of shrinking federal and state budgets that this situation is likely to change.

Consequently, fishery managers are left with three nonexclusive choices: (1) find sources of funding other than the taxpayer; (2) design the management plan in a way that can be easily administered and enforced by a small, centralized bureaucracy; and (3) leverage federal and state management by engaging the cooperation of the harvester sector through the development of shared objectives and partnerships.

Currently, few of these options are being adequately explored in New England. For instance, proponents of imposing user fees in New England cannot ignore the political realities of raising revenues from a virtually bankrupted groundfish fleet that has little confidence in the ability of the government to effectively manage resource use. At the same time, the present situation where fish are "free" public goods produces waste and sends the wrong message to harvesters regarding the nature of their harvest privileges. The policy decision to forego user fees eliminates a source of off-budget revenue that could be dedicated to badly needed management, science, and technology research that would benefit all users. Unfortunately, the development of such revenue streams is not legal under the current FCMA.[83]

The second option to deal with management under-capitalization is plan design. Plan design and efficacy are heavily influenced by the availability of administrative and enforcement resources. Despite a general awareness that there is significant diversity and flux in the biological environment in the Gulf of Maine as well as in the various fishing practices in the region, management plans have to be designed around available resources, specifically scarce enforcement resources and limited data. Since NMFS and the Coast Guard cannot enforce a customized set of management initiatives that are narrowly tailored to

83. The FCMA prohibits the imposition of any fee beyond the costs associated with operating a permit system. 16 U.S.C. § 1853(d) (1994).

each set of fishing practices, they cannot approve them in a management plan.

Indeed, one of the strong attractions of effort consolidation initiatives like individual transferable quotas (or traps or days-at-sea) for fishery managers is their belief that the marketplace would operate to reduce the number of participants in the fishery and increase their economic stake in the future of the fishery, two forces that would simplify administration and enforcement. Unfortunately, it is the very same components of ITQ programs that make such programs attractive to resource-strapped managers and administrators—consolidation and privatization—that make ITQ programs anathema to the traditional, open access, community-based fishermen of New England where experience and residency, *not* the access to capital to buy ITQs, have been the keys to entrance into the region's fisheries. ITQs, in any event, are not on New England's immediate horizon.

The third option is perhaps the least explored in New England: leveraging scarce federal and state management resources by engaging fishermen directly in the nuts and bolts—and responsibilities—of fisheries management. The success of this approach in New England will require radical change in both how the region's fishermen see themselves and their responsibilities to the resource and how the fishery managers, scientists, and resource advocates see the role and value of the fishing community. Cultural change of this sort cannot be legislated. In New England, in particular, the development of an organized, pro-active fisherman's constituency for improved management cuts against a long history of independence and anti-government sentiment.

A number of arguments can be advanced in favor of focusing on greater fisherman involvement in developing and implementing fisheries management in this region. Perhaps the most important is that the waters under the New England Council's jurisdiction are simply too vast to be either understood or managed centrally. Managers need the fishermen as their eyes and ears on the resource every day, and they need them as their partners in meeting the management objectives, particularly given the highly variable and dynamic changes in conditions in the ocean.

In the same way, fishermen whose economic security depends on keeping their harvests within the ecosystem's productivity limits need the objectivity and broad geographical scale of fisheries scientists and the neutrality of fisheries managers to achieve the maximum sustainable yields from the resource. All parties, but most significantly the marine resource itself, lose in the current warfare.

Perhaps the easiest place to observe these lost opportunities is on the information side of fisheries management in this region. For years, there has been open hostility between groundfishermen and the fisheries scientists who have been evaluating groundfish stock conditions. As the foregoing account of the history of the New England groundfish fishery illustrates repeatedly, scientific advice was routinely ignored by the Council and the region's fishermen who did not see what the scientists were seeing and did not understand the implications of what the scientists were saying. This gap between the fishermen and the scientists is not surprising, since fishermen and scientists come by their understanding of the resource very differently. The scientific community has highly developed theoretical methods that rely heavily on statistical analysis for evaluating the health of the fish resource and the environment it inhabits. Fishermen have highly developed empirical and intuitive methods of evaluating the resource that rely heavily on personal and, in some cases, multigenerational experience.

Both sources of information are important for producing a healthy fishery. Although fishermen would benefit from a greater understanding of the process of stock assessment as performed by fisheries scientists, few make the effort to participate in the stock assessment workshops. Part of this reluctance comes from the fact that few of the region's fishermen have the advanced academic skills to participate directly. However, since this limitation can be readily overcome by the hiring of fishery consultants for these proceedings, the lack of participation must also be recognized as a cultural barrier.

Scientists would benefit from the empirical knowledge of fishermen. For example, the selectivity curves that have been derived from experimental tows to determine the catch size of different mesh sizes do not have much relationship to how nets behave under working conditions where they can become rapidly clogged or where they can be rigged in ways that defeat their theoretical selectivity. While most fishermen who operate otter trawls recognize this fact, scientists often rely only their theoretical curves. A groundfish management plan based on these curves will not significantly reduce mortality of juveniles if the fishermen's experience is accurate. Because many fishermen in New England who have stepped forward with this sort of empirical information about the "real world" of fisheries management have been ignored or told to come back with "proof," they refuse to participate any longer.

The current management dynamic—with managers and scientists acting on one set of information and fishermen acting on another—creates a context in which these two approaches are competing for recognition. Instead of improving ways of integrating the diversity of information that is generated about the fishery and the resource by fishermen *and* scientists, the two camps resort to an adversarial context.[84] Valuable insights from both the scientists and the fishermen are lost in this zero-sum debate.

Information about the resource and our impact on it is the heart of fishery management. For the system to work well, it must have access to as much reliable information as possible. To generate this information, fishermen, managers, and scientists need a context in which they can freely exchange information and mutually develop their understanding of the resource.

To date, few opportunities exist for this sort of cooperation in New England and without it, the opportunities for management to improve will be severely hampered. Even if all stakeholders in the fishery are represented in the management process, the advantages of their diversity will be lost if they are not able to effectively exchange information. Similarly, the lack of operational resources cannot be remedied without improved coordination among the many aspects of the system. If the most fundamental element of a functional management system—communication—cannot be established so that greater cooperation among participants is possible, the chances of a sustainable resource harvest seem dim.

V. CONCLUSION

New England fisheries have generated controversy for centuries, although the current economic downturn and biological declines are unprecedented as far as we have been able to discover. It is disturbing to admit that modern institutions, scientific and engineering advances, analytical capabilities, communications technology, and resource law have had such little impact on improving the management picture for the marine resources which have been such a central part of New England's heritage.

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84. The rift between fishermen and scientists in New England is not just based on cultural differences. A number of fishermen in the region have distinct memories of the days of the distant water factory trawler period on Georges Bank. They believe that the pulse overharvesting that scientists allowed the foreign operations came at the expense of the American fishermen. For a good account of this historic enmity, see DEWAR, *supra* note 24.

The challenge of developing a management strategy that produces the sort of incentives within this region that reward fishermen who act responsibly and brings them into leadership positions within the management process cannot be overstated. While we indicated above that this story does not necessarily have a happy ending, there has been a groundswell of interest over the past year, particularly within the fishing community itself, in changing the historic pattern that has too often had fishermen and conservationists at odds with each other. We hope that trend will grow and flourish.