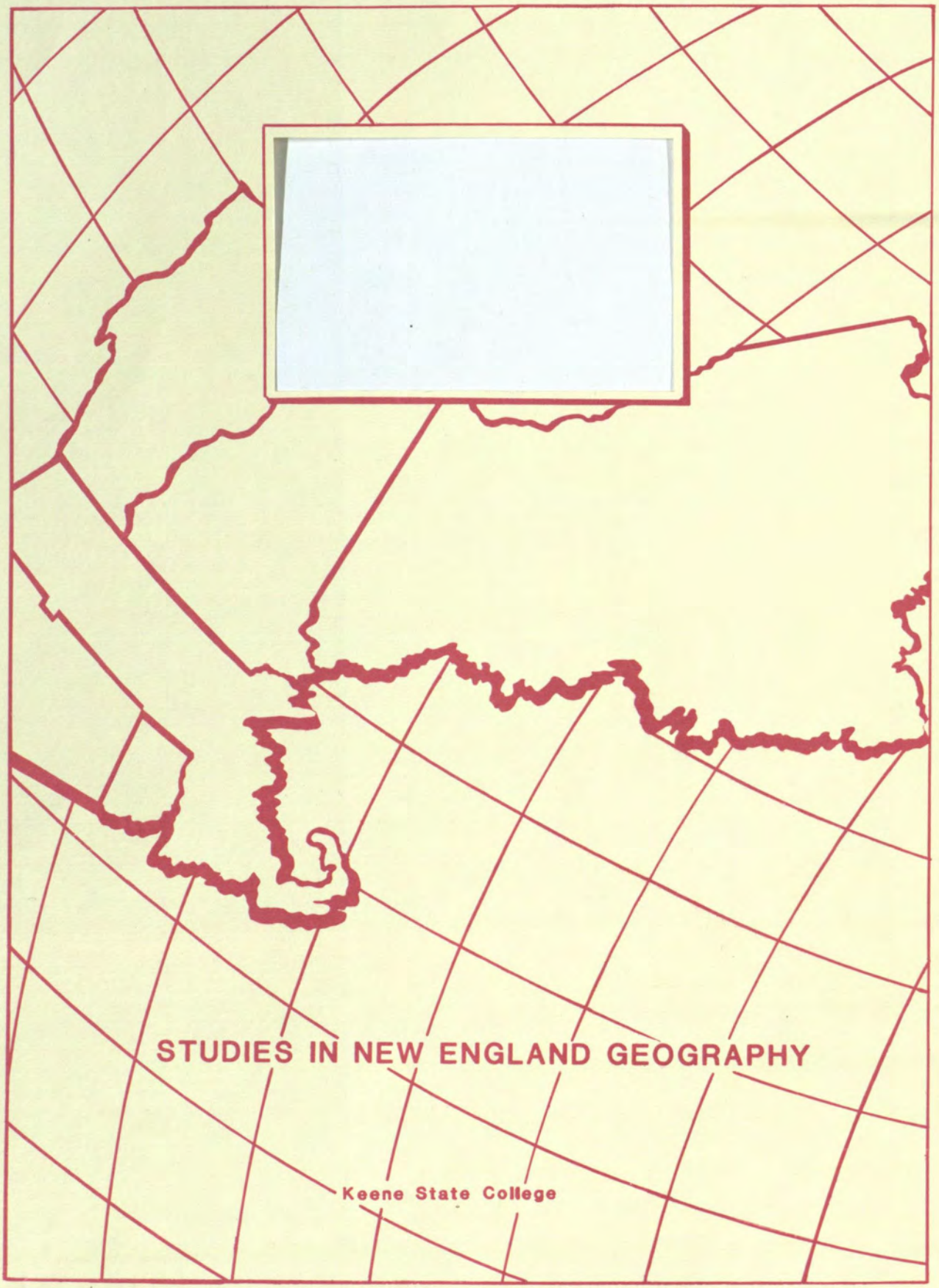

STUDIES IN NEW ENGLAND GEOGRAPHY

Keene State College

New England Fisheries and Participatory Management: Rhetoric and Realities

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New England Fisheries and Participatory Management: Rhetoric and Realities

Abstract

In 1976, after notable declines in the nation's marine fish stocks, the US Congress passed the Magnuson Fishery Conservation and Management Act, delegating responsibility for marine governance to the National Marine Fisheries Service (NMFS). Eight regional fisheries management councils were created to advise NMFS. The council system has failed to conserve marine resources and alienated affected parties, including the New England commercial fishing communities examined in this paper. The present governance structure limits stakeholder participation to passive, consultative forms. Local community members offer informal input into marine fisheries management, but are excluded from meaningful participation in the formal decision-making process and have resorted to litigation to find solutions. Dozens of lawsuits are currently crippling the US marine management system. Litigation has become the method for achieving resolution instead of through a deliberative process that can eventually result in users acquiring more of a conservation ethic. Implementing mechanisms that provide for inclusive and authentic community-based participatory management combined with reasonable and gradual institutional change offers promise for the survival of both fishing communities and marine life.

Keywords: participatory management, indigenous knowledge, institutions, marine fisheries, New England

Introduction

For centuries, the Northwest Atlantic Ocean sustained some of the most productive groundfish stocks (cod, flounder, haddock, and other species that live near the seafloor) in the world. Until the twentieth century the bounty of the marine environment was viewed as virtually limitless and the chief fisheries management goal for countries with fishing fleets was to improve technology to extract more fish from the sea. Beginning in the 1950s, technological innovations began transforming commercial fishing vessels into deadly harvesting machines with larger,

stronger nets and tools such as electronic fish finders (Weber 2002). From 1963 to 1974, New England's groundfish population declined by nearly 70 percent and the U.S. government was forced to act (NOAA Fisheries 2004). Its response was to enact legislation now known as the Magnuson-Stevens Fisheries Conservation and Management Act. The bill marked the beginning of marine management by appointed fishing industry stakeholders and various public administrators as members of new regional fisheries councils.

Since the mid-1970s, natural resource management has involved the inclusion of local communities' representatives in environmental management, because a growing number of specialists deem it necessary for successful conservation. These experts contend that conventional resource management policies fail because local communities that pay the greatest cost for conservation in the form of lost access to resources, receive the fewest benefits from species protection (Pinkerton 1989, Dyer and McGoodwin 1994, Hauck and Sowman 2003). Governments aspired to eliminate the historic antagonism of local people toward resource management plans and instill a sense of responsibility for resources through changes in management that allowed for greater local participation. Yet, even seemingly enlightened participatory management initiatives have often failed to appease local people or halt species declines (Little 1994, Barrow and Murphree 2001).

Participatory management initiatives range from restrictive to empowering (Jentoft 1989). In the US marine fisheries management system, participation takes a restrictive form that may be referred to as "outreach". Outreach includes conservation education, soliciting stakeholder input, and offering research grants for pre-determined conservation-based objectives. In outreach-as-participation, policy makers use public relations to sell their perspective and community members are perceived as having participated when they adopt the state's viewpoint

and offer input on how to meet its objectives. Under such conditions, the role of small-scale commercial fishers in the management process necessarily remains prescribed and largely symbolic. Collective action by fishing communities is not institutionally provided for and when it does occur, it has no political connection to institutional structures. Fishers who perceive conservation objectives as contrary to their own livelihoods seek to undermine them in a variety of ways including false reporting of harvesting data and illegal landings. As such, relations between communities of fishing people and the federal government generally remain marked by "misunderstanding" and "mistrust".

Active and empowering forms of participatory management that devolve authority to existing organizations are possible. Tenure, including the long-term access to resources, their benefits, and the responsibilities related to these rights, are key aspects of genuinely participatory management (Ostrom 1990). Some movement toward active participatory marine fisheries management has taken place in Canada, especially in Nova Scotia's Bay of Fundy, but similar initiatives are difficult within the more rigid US fisheries management system.

In this paper, we argue that: 1) reliance upon a restrictive form of participatory management since the mid-1970s in the United States marine fisheries management system has led to a failure to safeguard both the long term well being of United States fishing communities and the marine environment, and created a dysfunctional system which has been bogged down in law suits, and 2) a discourse that stresses opportunities for active, empowering forms of community participation, but nevertheless limits community participation to passive forms of participatory management, is harming present and future relations among stakeholders, especially between small-scale commercial fishers and other stakeholders.

Research Approach and Methods

Political ecologists view environmental crises as inextricably linked to much wider development crises, including a growing gap between rich and poor and the increasing number of people globally living in abject poverty (Zimmerer and Bassett 2003). In this context, environmental change is viewed as meaningful to individuals and user groups largely in terms of whether it provides an opportunity or presents a problem (Blaikie and Brookfield 1987).

Stakeholder groups in participatory marine management systems, including local people, state agencies, businesses, and environmental organizations, often share the long-term goal of fish stock recovery, but differ on the best means of achieving it. In this paper we take the position of critical political ecologists that challenges the notion that the scientific method and statistics produced by major agencies are relatively value free. We, like critical political ecologists, propose that there should be critiques of influential statistics and scientific methods that include local knowledge and beliefs about the causes of environmental degradation and that change should be examined from different social groups (Forsyth 2003).

Central among the conflicts over how to best sustain fish stocks are issues of allocation (who gets to catch how much, when, and where) and the degree to which fishers' knowledge should be institutionalized within the management process. Key to which knowledge is valued in decision-making is the relative weight given to knowledge gained via observation and informal experimentation at sea by fishers as compared to the more formal training of government fisheries scientists, researchers at universities, and conservationists. Diverse stakeholders, including commercial and sport fishers, leaders and members of grassroots fishing organizations, fisheries researchers (independent, state, and federal), marine conservation organization leaders, seafood industry, and fisheries management council members from seven states were

interviewed at council and advisory meetings, in their homes, offices, and at sea, by the authors between 2000 and 2004 (Table 1). Most worked from major ports in New England (Chatham, Gloucester, and New Bedford, MA; Port Judith, RI; Portland, ME; Portsmouth, NH). Some used minor New England ports (Blue Hill, Saco, and Stonington, ME; Hyannis, Provincetown, Sandwich, Wellfleet, Woods Hole, MA) or non-New England ports (Key West and Marathon, FL; Montauk, NY; Wanchese, NC) (Fig. 1). Each of the more than 60 people interviewed was asked to describe the nature of his or her participation in the fisheries management process, contentment and frustrations with the process, and any changes in the process he or she would make and why. Participants were also asked to describe perceived relations between fishers and fisheries managers and major problems facing fishers in the region (see Appendix A). The case study of New England is used to explore the shortcomings of restrictive forms of participatory management for the region and beyond.

Maine commercial fishers (lobster, groundfish, clams)	9
Massachusetts commercial fishers (groundfish, dog fish, lobster, scallop)	9
Other New England commercial fishers (groundfish)	2
Florida Keys commercial fishers (shrimp, lobster)	7
East Coast commercial fishers (non-New England and non-Florida fisher)	5
Environmentalists/Marine conservation organization leaders	7
Leaders of grassroots fishing organizations	7
Fisheries Council Member (former or present)	7
State and Federal marine resource managers	5
Fisheries researchers/Scientists	8
Seafood industry/Fish traders/Fisher Cooperative leader	6
Recreational/Sport fishers	2
New England columnists writing on marine/fisheries issues	4
Attorneys (one for an environmental group, the other for commercial fishers)	2
Florida Keys Marine Protected Area staff	2
Other (non-fishing fisher activists, spotter pilots, council staff member, treasure salvager, local government member, fisher wives)	9

Note: Total number from all groups is higher than the number of interviewees because of overlap between groups

Table 1 Interviewees by background/location

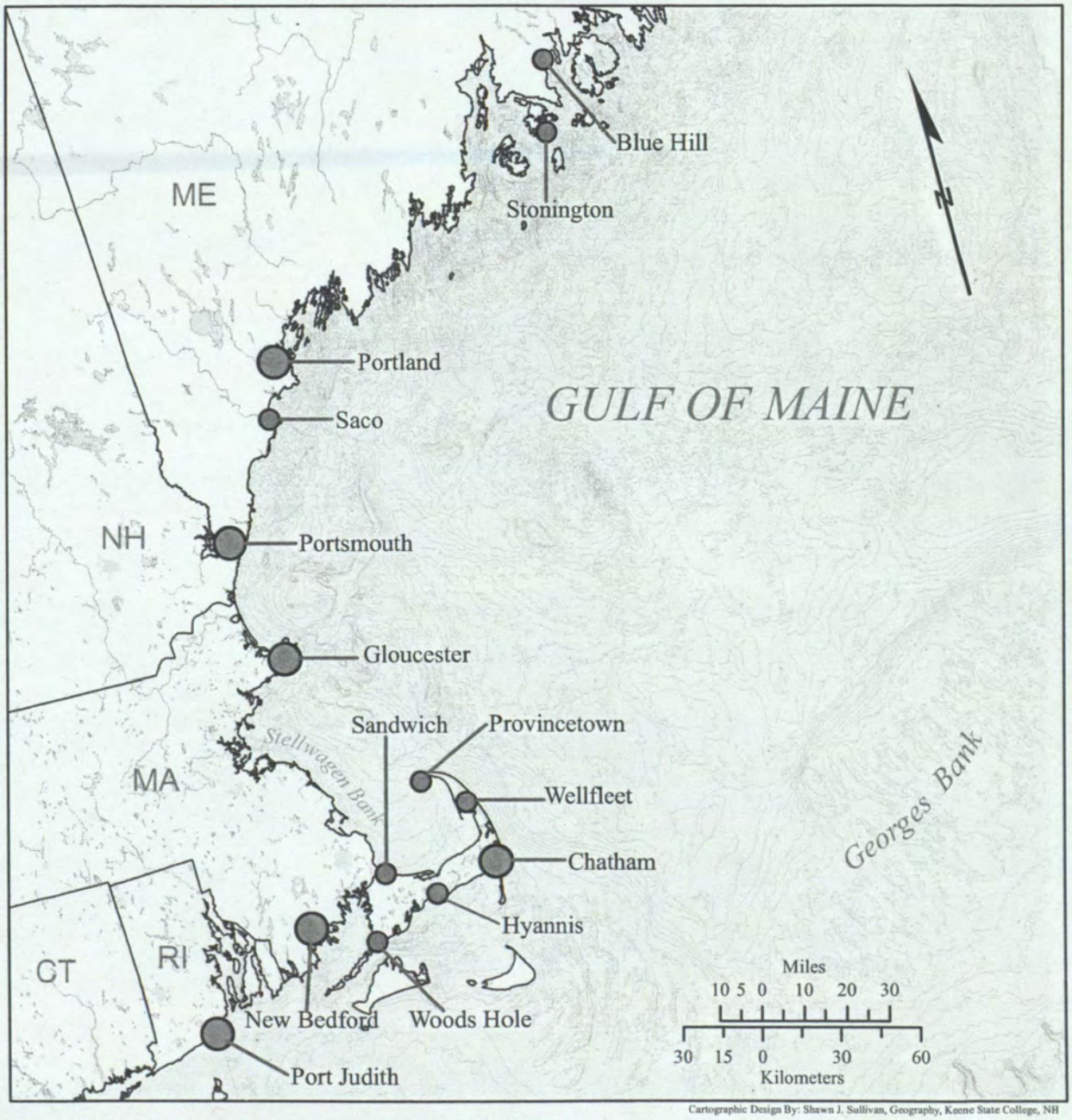
The Structure of Marine Management in the United States

The 1996 Magnuson-Stevens Fishery Conservation and Management Act, or Magnuson-Stevens Act, is the federal legislation through which the Department of Commerce is charged with managing marine resources in the United States (Weber 2002). The National Marine Fisheries Service (NMFS a.k.a NOAA Fisheries) is the federal agency within the Department of Commerce's National Oceanographic and Atmospheric Administration (NOAA) with the responsibility for managing fish from three to two hundred miles from the country's coast (www.nmfs.noaa.gov). Individual states manage nearshore waters.

In 1976, the predecessor of the Magnuson-Stevens Act, the Magnuson Fisheries Conservation and Management Act, created eight regional fisheries management councils to devolve decision-making to a more local level and increase local participation in the management process (Weber 2002). Councils are to advise NMFS on issues identified in the federal legislation and to access regional knowledge in constructing this advice. Each council has approximately 20 appointed members who vote. The voting council members include mandatory appointees from each state, representatives from each state's fishery agency, and at-large appointees from any of the states from within the region (Dobbs 2000). Appointees are nominated as a result of a political selection process that concludes with the various regional state governors independently submitting nominations to the Secretary of Commerce for final selection.

The fundamental task of the fisheries councils is to produce recommendations for fish management plans (FMPs). Public input is solicited during the council's preparation of the FMPs (Weber 2002). All council actions are in the form of recommendations to the Secretary of Commerce. A process exists whereby NMFS reviews the council recommendations prior to their

New England Fishing Ports



Cartographic Design By: Shawn J. Sullivan, Geography, Keene State College, NH

Sources: Office of Geographic and Environmental Information (MassGIS)
Commonwealth of Massachusetts Executive Office of Environmental Affairs
National Oceanic and Atmospheric Administration (NOAA)
ESRI ArcInfo Data and Maps Software Package

Legend

- Park Lands
- Urban Areas
- Water Bodies
- Major Fishing Ports
- Minor Fishing Ports

arrival on the desk of the Secretary for final approval. Enforcement of the approved regulations is the primary responsibility of the Department of Commerce. The US Coast Guard and the state fisheries enforcement organizations assist Commerce with enforcement responsibilities, but the primary regulatory effort to recommend, review, approve, implement, and enforce fishery laws is accomplished within the Department of Commerce (Wallace and Fletcher, no date).

The Discourse of Participatory Management

NMFS, regional councils, SeaGrant Institutes, and mainstream conservation organizations have produced literature on the federal marine management process that indicate that the Magnuson Act and Magnuson-Stevens Act encourage local-level participation and representative democracy (Fowle 1993, McKay and Creed 1999). Studies funded by the Pew Charitable Trust take the more extreme position that commercial fishing interests have been allowed too much participation in marine fisheries management, to the detriment of fish stocks (Eagle, et al. 2003) and call for top-down reform of the council system (Pew Oceans Commission 2003). Opportunities for active local-level participation are not as available as the literature and people interviewed from these organizations suggest. The current institutional structure that embraces outreach-as-participation differs markedly from a marine fisheries management system with active participatory management.

All New England fishers interviewed, other than those serving on council, described the council system as non-participatory or participatory in name only. They reported leaving so-called participatory meetings feeling "talked down to," "not treated as the small business people we are," "frustrated," and "angry." Fishers abounded with personal tales of many hours spent to reach a council meeting and many more waiting for the brief period of time each was allotted to speak. Once allowed to speak few felt that they were actually listened to and one fisher

described listening as "a formality" on the part of council members. Similar sentiments have been noted in other studies of fisheries in New England (Dobbs 2000, Playfair 2003) and elsewhere (Hauck and Sowman 2003, Frontani 2004). A Maine fisher leader felt that:

> "Fishers are about as connected to council as the average person is to the Supreme Court. They don't really believe they can impact decisions made there and don't expect to even meet those people, yet they know their decisions will impact their lives."

In active participatory management, community members have the right to be included as full citizens of the organization making the collective decisions to which they are subject. They have the right to voting equality and an opportunity that is equal to other participants for constructing agendas and participating effectively in decision-making. Furthermore, participants have full opportunity for acquiring an understanding of their personal interest in the decision and the right to exercise with fellow participants final control over the decisions (Dahl 1989, Barrow and Murphree 2001).

No part of the council process fits the criteria for active participatory management. Council members are appointees and are not elected. By virtue of their formal oath the appointed members are held to maximizing benefits to the nation, economically and in terms of stricter conservation of marine resources (Fowle 1993). Such directives drive a concern of the commercial fishers in all interview locations that without expressly saying so the federal government is attempting to drive "small boats" (vessels of less than 40'-50') out of business in order to have an easily managed fleet consisting of a few large or corporately-owned vessels. New England fishers offer low pound limits for cod, the increasing difficulty of retaining or obtaining permits for groundfish, and dramatic declines in allocations of numbers of days at sea (DAS) for groundfish in support of the anti-small boat theory.

Fishers throughout New England note that there is no inherent reason why small- and large-boat operators should view their interests as opposed to one another, but that regulations frequently have the effect of causing greater economic stress to small-boat operators. Whereas large-boat operators pursue multiple fisheries and likely have better access to capital to refit their vessels if a fishery is closed many small-boat operators will be put out of business when their access to their local fishery is further restricted or curtailed. Smaller boats not only have relatively limited mobility but also are more dependent on fair weather and calmer seas to fish. To stay competitive all boat operators seek to cut costs, but cutting costs has safety implications because costs are cut by reducing the number of crew, going out alone (for small-boat operators), not repairing vessels as frequently, taking greater risks with weather, and pushing the limits of physical exhaustion.

DAS declines have come about due to a quota system put in place in the 1990s based on fishers' historical catch from the late-1980s to early-1990s. Several Maine fishers noted that whereas they once had allocations of more than 100 DAS each for groundfish, since the quota system was put in place they have an allocation of only around 20 DAS each. These fishers now rely almost solely on lobstering for their fisheries income. Others have left the fishery entirely (early retirement or taken other jobs) due to the relative scarcity of fish in the nearshore waters they could reach with their smaller vessels. Fishers in Maine and Massachusetts resented that those who had voluntarily redirected their fishing effort away from cod and other groundfish in response to calls from NMFS to do so, were now only eligible for low DAS allocations based on their catch history for groundfish. Small-boat operators throughout New England were generally opposed to other quota systems, such as Individual Fishing Quotas (IFQs). Several had participated in anti-IFQ demonstrations in Washington and spoken out against them in council

meetings. They feared that if IFQs were broadly implemented in the USA they would negatively affect small fishing communities. To date, IFQs have been implemented in a small number of US fisheries with the most widespread use in Alaska (Cicin-Sain and Knecht 2000).

In Iceland and New Zealand IFQ programs have reduced the number of small-boat operators and concentrated quota ownership in the hands of larger, corporately-owned vessels (Cicin-Sain and Knecht 2000, Pauly and Maclean 2003). Additional scientific sources support the concerns of small-boat operators in that recent reports have stressed the overcapitalization of the fishing industry with too many boats chasing too few fish and called for a 70 percent reduction in the New England groundfish fleet to achieve fishing levels commensurate with long-term sustainability (Pew Oceans Commission 2003a). Such calls have been heard by council and supported in Amendment 13 of the Multi-species Fisheries Management Plan. This plan was implemented by NMFS on recommendation by council on May 1, 2004 (NOAA news release, 2004). It calls for further dramatic reductions in DAS allocations and is placing considerable economic burden on small-boat operators. Whereas small boat operators are generally hardest hit by council's directive to manage the seas for the benefit of the nation as opposed to individual operators, large boat operators are far from enamored with decisions handed down by council. New England Fisheries Management Council Executive Director Paul Howard referred to Amendment 13 as a hard pill for all fishers to swallow given the cutbacks involved to meet the directives of the Magnuson-Stevens Act (NOAA news release, 2004).

Without elections for council membership, the council has no consent from a body politic. Apart from the council appointees all other interested parties in the council are without any formal relationship to the fisheries management political process. In this unusual situation,

the individuals most affected have no formal political connection with respect to the council process as citizens, subjects, or members.

Many council committees have industry advisory groups, but advisors are volunteers and the Council Executive Committee appoints the volunteer advisors in closed sessions. No mechanism or requirement exists for advisors to gather local knowledge using formal or informal methods prior to attending advisor meetings. Advisors are not required to disseminate meeting results locally, nor could they do so given the relatively small number of advisors, large areas, and limited council budgets. New England fishers serving on advisory committees noted that even as committee members, they often did not receive information in a timely fashion, making it difficult to partake in meetings. Some expressed frustration that minutes from council-connected meetings are not voted on and approved. Thus, input made can be left out of minutes and no opportunity to correct the distributed minutes exists.

Hearings to collect public input are held on occasion, but because council members are not elected and staff members are heavily involved in holding these "hearings," the rich content and useful meaning of a public hearing with an elected representative is not achieved (Dobbs 2000). Meeting attendees have no institutional political connection with the councils at these gatherings that are conducted to obtain public input and moderated by a few appointees and staff.

Further loss of meaningful or empowering participation occurs when the hearings to gather public input are subjectively summarized by council staffs and lightly reviewed by council members. For example, minutes from public input sessions may be verbally summarized and presented to the council when time constraints between the hearings and the council meeting do not permit preparation of a written summary of the public input (MAFMC 1998). Although

public input is solicited for fish management plans in broad terms it is not solicited for frameworks which can be used to make changes to amendments to FMPs.

It was out of frustration with lack of timely access to information regarding fisheries management in the Northeast that fishers and their supporters created the regional newspaper *Commercial Fisheries News* more than 30 years ago. The newspaper continues to serve as an important vehicle for information sharing.

Institutional Arrangements and the Challenge of Active Participation

Congress's action to establish regional councils created a level of governance which was designed to be regional and more participatory than the various federal commissions on which the council system was modeled. Yet to meet the letter of the law, councils have relied on fisheries scientists and managers relying heavily on the guiding concept of maximum sustained yield (MSY) and a large-scale vantage point to determine acceptable technique, distribution and amount of all fishing efforts. Within ten years of the enactment of Magnuson, it became very apparent that MSY could not be attained on a sustainable basis with dependence on scientists and fisheries statistics. Despite the demonstrated poor management performance, the decision-making method continued without authentic participation of many of the affected parties (Ludwig, et al. 1993). Income generation and long-term job prospects declined (Doeringer et al. 1986). Aside from the depleted resources groundfishers and scallopers, in particular, noted the extra difficulties of making a living due to the constantly changing fish quotas, species restrictions, and regulations. Not only might investments in new groundfish nets be required, but also nets in good condition might become 'outdated' and of limited worth overnight. Dobbs (2000) and Playfair (2003) noted similar concerns among fishers in their studies of Northwest Atlantic fisheries.

Why should government continue to rely on passive, consultative forms of participatory management when alternatives, which included local people in governance in more meaningful ways, could be developed? Concern for achieving national goals may have thwarted the development of institutional arrangements that included a deliberative democracy because inherent in any democratic process (representative or otherwise) is the inability to predict outcomes. In short – Congress may have believed a struggle between the desired outcome (sustainable resource goals/improved national economy) and procedure (local-level participation in self-government) to be an unsolvable paradox for a democratic process (Dryzek 2000).

Stakeholder Assessments of Participation in Marine Management

There is little agreement among stakeholder groups on the participatory process within the fishery management system. Although a wide variety of stakeholders acknowledged that New England Fisheries Council meetings rarely attract more than a few dozen people even though thousands are influenced by council decisions, interpretations varied as to why this was so. Commercial fishers cited financial and time constraints, the "lack of respect" accorded to fishers and their knowledge, and the belief that their years of participation were not making a difference. Several fishers formerly active in the management process no longer attended meetings because they had simply given up on the system. They also cited the "formal," "elitist," and "somewhat intimidating" settings chosen for council meetings (Sheraton, Marriott, Radisson, Holiday Inn and other large hotels) as a reason for their absence not only from council meetings, but also public hearings, and other opportunities for 'input'. The principal reason fishers cited for attending was concern that appointees at the council level do not understand the variety of the consequences of their decisions on fishers' livelihoods. The vast majority of harvesters view themselves as politically included only by virtue of having to comply with council's rule making.

Leaders of grassroots fishing organizations noted that individuals will no longer participate in or pay dues to organizations viewed as ineffectual at council meetings.

State-level employees in fisheries and researchers and staff at SeaGrant institutions generally had sympathy for commercial fishers and their perspectives and a few had notable concerns about the slow rate at which decisions were reached through the council system. Researchers and environmentalists reported being poorly treated by NMFS in that requests for permits were delayed unnecessarily and seemingly only to show who is really in charge. NMFS employees were much more likely to view the often "dishonest" and sometimes "drug abusing" fishers rather than the system as the problem. Their impressions tended to be that there were plenty of opportunities for participation, but that fishers were not making use of them.

There was general agreement that relations between New England fishers and NMFS were strained. State and federal fisheries managers blamed mistakes made in the past based on misunderstandings whereas fishers identified their failure to be included in engaged participation as key to the "us and them" situation that has developed between NMFS and themselves. Fishers found state fisheries managers to be much more accessible and to have a better understanding of fisher problems and more compassion about their plight. Several Massachusetts fishers had collaborated with state managers or university-based scientists on fisheries research including by-catch reduction through redesigning nets. Most fishers found such experiences rewarding, personally and to a lesser extent financially, but believed that such opportunities were limited, did little to change relations overall, and accomplished nothing in the way of increasing opportunities for effective participation in the fisheries governance process.

Fishing and non-fishing stakeholders held diametrically opposed views on the extent to which commercial fishers (a.k.a. industry) were represented on council. Non-fishers viewed

council as industry-based and being too influenced by those who stood to personally profit from weaker fisheries regulations. The majority of New England fishers took the position that industry was underrepresented relative to appointed officials and sports fisher interests. Several fishers expressed anger that areas closed to industry were open to commercial sport fishing operations. They noted that sport fishing operations were poorly monitored and could have catches that exceeded industry limits for certain fish, yet did not suffer from the negative, anti-environmental image the general public was perceived to hold of industry. Fishers in Massachusetts and Maine felt a much greater need to combat negative images of industry presented in schools and by environmentalists. New Hampshire fishers, given the state's extremely short coastline, had more opportunities in relative terms to 'present their side' through marine education centers or adopt-a-boat programs in which school children could meet with fishers.

Leaders of fisher organizations expressed frustration that despite obvious institutional failure Congress viewed the deteriorating fish stocks as a result of an inadequate number and selection of rules rather than a situation requiring institutional changes to promote more distributed decision making. They longed for greater transparency in the decision-making process and viewed the focus by Congress on rules rather than institutional structures as having been influenced by the lobbying of environmental interests.

In 1996, Congress enacted a "Sustainable Fisheries Act" (SFA) that implemented valuable habitat concerns. Additionally, it established rigid goals and timelines that further reduced the potential usefulness for incorporating fishers' knowledge and authentic local level participation in deliberations (Wallace and Fletcher, no date; Weber 2002). The SFA requirements precipitated a large increase in legal actions by green groups and fisher organizations against NMFS and the Department of Commerce regarding conservation

objectives. Whereas an average of one or two lawsuits were brought against NMFS annually throughout the 1970s and 1980s, the number rose to 10 by the mid-1990s, and to the mid 20s by the turn of the century (National Academy of Public Administration 2002). Fishers now commonly send attorneys to represent their interests at council meetings, thereby removing funds from fishing organizations that in the past might have been used to support families of fishers injured or killed at sea. Fishers in New England and Florida noted the perceived need to hire non-fishers to represent industry because fisheries managers were believed to listen only to people with formal degrees and treat non-degree holders as inferiors.

Data collection, interpretation and use in marine policy are quite contested throughout New England and the Florida Keys (Frontani 2004). In New England fishers noted there was a perceived need to have a scientist on board in order to have any of their data accepted as legitimate or unbiased. In Florida, members of a major fisher group were frustrated and irate after hiring the same scientists as the government to conduct a study of fish stocks, only to have the scientists' report rejected by sanctuary staff as "biased" because it was funded by industry. Data collection is an area which many fishers would like to see changed, but one for which there were virtually no concrete ideas offered as to how institutional changes could be made.

Reforming the Council System: Institutions, Resource Tenure, and Form of Participation

A transformation from the present system to one that includes institutionalization of both fishers' knowledge and active participation would begin with smaller-scale marine and fisheries institutions having a recognized place in the fisheries management process. In recent years, commercial fishers and other New Englanders excluded from meaningful participation in the council system have created by-laws and governance structures that could readily be adopted by a management system with active participation. One example is the Northwest Atlantic Marine

Alliance (NAMA), a New England group with diverse multi-state membership that has constructed a self-governing constitution specifically designed to provide for sustainable outcomes for the commons and protection of individual rights (NAMA Constitution 1997, Pendleton and Simonitsch 1999). Other examples of marine resource management that nurture participation by groups with a diverse composition are beginning to emerge as success stories which confirm that affected parties can act accountably if given responsibility and authority. The Mid-Atlantic Fisheries Management Council's real-time management of Illex squid is a development with exciting promise for increased effective participation. Massachusetts' Striped Bass Advisory Committee is working extremely well to generate responsible recommendations by interested parties that are largely self-organized. A 2004 NMFS-approved area sector management initiative for cod is another promising change which incorporates local governance into the fisheries management process. The Cape Cod Commercial Hook Fishermen's Association is fully supporting the initiative.

Problems with fisher organizations noted by their leaders and members were that the organizations tend to be relatively short lived, marked by internal disputes, and harmed by the preference of most fishers to work independently rather than in groups. Many of the New England fishers most active in working towards reforming the marine management system believed that only a minority of fishers were willing to spend time working for change and held somewhat negative views of the average, non-involved fisher. Some admitted that it was difficult to expect people to invest time and funds into endeavors which had relatively limited potential for success.

Whereas Marine Protected Areas (MPA) are an area in which governance structures could be modified to include interactive, empowering participation by fishers, this has not been

the case. Much to the chagrin of many grassroots fishing organization leaders, the relatively newly created U.S. MPA Advisory Commission is top-down in structure and heavily weighted toward experts with limited inclusion of fisher representatives. Fisher representatives were not put forward by their own communities but selected by degree-bearing experts. In the Florida Keys, all commercial fishers interviewed viewed the council system as less relevant to their livelihoods than the establishment of the Florida Keys National Marine Sanctuary in 1990. The management of the Sanctuary, like that of the council system, is said to be participatory, but all fishers, other than those who served on the Sanctuary's advisory committee, noted extreme frustration over their inability to participate in meaningful ways. Every Keys fisher interviewed mentioned a county-wide (non-binding) referendum in which citizens voted against the establishment of the Sanctuary as evidence that their voices were not being heard. In the aftermath of the notorious vote, NOAA reported that people had misunderstood what they were voting for or had been swayed by false anti-sanctuary propaganda (Row 1997). Many Keys fishers who had been quite active in the sanctuary management process in years past noted that they no longer participated because they had given up on the system.

For fishers, the apparent reluctance to enable local people to be more fully engaged in the fisheries management process validated the fishers' dark view of that process, one in which—they claimed—the knowledge of fishers was discounted. In areas in which some fish stocks were improving quotas were being kept the same or even reduced as a precautionary measure. Fishers viewed such conditions as part of a system that was pro-scientist and at odds with fisher livelihoods. In support of their position fishers in Maine and Massachusetts offered many comments that indicated that they recognized that the more the fisher knows the less important is the specialist, and if specialists are less important their funding may be less secure. Some noted

that fishing knowledge is associated with the past and science is more involved with the future. Furthermore, fishermen's knowledge is not collected into scientific format and scientists are most comfortable with knowledge that is the product of controlled experiments. In many parts of the world scientists, conservationists, and fisheries managers have been found wanting in their sensitivity towards and understanding of the socio-economic realities of commercial fishing communities (Dyer and McGoodwin 1994, Frontani 2004, Baelde 2005). Yet 'anecdotal' fisher knowledge can be successfully incorporated into official marine management plans (Zerner 1994).

In responding to what could be done to improve the existing system, most fishers were interested in elected rather than appointed management bodies. This was true for both council and the marine sanctuary. Some fishers suggested that the need for physical presence at council meetings be removed by instituting effective online programs for gathering comments or through the use of electronic log books on vessels to share data and perspectives on management. Maine lobstermen pointed out that missing a single day due to a fixed appointment (be it council meeting, doctor appointment, etc.) can throw off an entire week of fishing because lobster movements are tracked daily and traps placed in locations to which lobsters are anticipated to move. Fishers from Eastern Maine noted that it takes an average of twelve hours of driving to reach and return from a council meeting, making it virtually impossible to attend. Nonetheless, council was perceived to provide some voice for industry. Without council, industry might lose further access to fish stocks to the sport fishers who greatly outnumber them.

Special interest groups on council were considered a problem throughout New England. Fishers do not feel well represented on council when their home port or state is not the major contributor to the type of fishery in which they engage. For example, Massachusetts lobstermen

believed that Maine lobstermen have greater say on council than lobstermen from their state, fishers pursuing scallops outside of the New Bedford area felt underrepresented on council, and a New York fisher noted that although New York lands more whiting than Rhode Island, whiting is managed through the New England rather than the Mid-Atlantic Council. As proof of their position, Massachusetts lobstermen noted that they did not receive support from NMFS to increase the legal minimum lobster carapace size from 3.25" to 3.875"; this meaningful conservation effort would be politically unpopular with Maine lobstermen because a considerable proportion of Maine's lobster catch is right at the legal limit.

Fishers express frustration with a council process that unintentionally marginalizes and weakens the effectiveness of participatory organizations and rewards and inadvertently promotes the forming of special interest groups which are often single issue advocacy groups (SIAGs). Monetary contributions to SIAGs allow people to be symbolically counted as members, but membership does not require attending meetings to deliberate over the issues that affect them (Crenson and Ginsberg 2002). SAIGs lobby on behalf of fishers organized by the location of fishers' homeports, gear used, or location of fishing grounds. Larger ports (Gloucester, New Bedford, Point Judith, and Portland) and large boat operators generally have more funds for lobbying effectively.

Approximately one fifth of fishers called for an end to the council system. Council could be by-passed by letters to senators or direct decision making by the Department of Commerce. It could be replaced with smaller-scale management areas or a less complicated, similarly scaled management system in which their voices would be heard. One council member from industry believed that the system might work more effectively if there were multiple councils—one for industry, one for biologists, one mega-council with secret membership. The council member

believed that if the identities of council members were not known then they could not be lobbied by special interest groups. Fishers who were least involved with the management process generally knew little about council, but had negative impressions of it because of its association with the federal government (which they disliked generally or had had negative encounters with through the Internal Revenue Service).

A point made by nearly all fishers across regions was that they valued their work highly and had little interest in non-industry work although the majority supplemented fishing income with occasional or part-time work. Non-industry work among US fishers includes work in construction and factories, and thus is similar to non-industry work by fishers elsewhere in the world (McGoodwin 1990).

Seafood sellers, fishers, and environmentalists expressed interest in a council system that would act more quickly. Their impressions were that when council faced a politically difficult decision including one that could lead to a lawsuit that its most common response was to hold off on making the decision. They wanted a more proactive council and advance access to documents that would be discussed during council meetings.

Whereas most council members, environmentalists, state and federal fisheries agents view the marine management system as participatory, few commercial fishers do because of the different perspectives held by the stakeholder groups on the meaning of "participatory". To commercial fishers, if councils are representative democracies then council members would be "effective participants" and those in the body politic would have opportunities equal to every other party through the performance of representatives. A discourse of participatory marine management is a serious impediment to authentic participatory democracy. It serves to reinforce mistrust between fishing populations and those with degrees and positions of relative power in

fisheries governance. The inaccuracies can also raise false expectations for active participation among newcomers to the industry thus alienating new generations of fishing people before truly participatory management systems are implemented.

Conclusion

Since the collapse of the Soviet Union the number of non-governmental organizations (NGOs) around the world involved in resource management and development has exploded in a "global associational revolution" (Igoe 2004, 11). NGOs carry with them not only funds for conservation and development, but also specific ideas about how resource management should take place. That local people should be involved in the development process has been an increasingly popular concept with NGOs and states, but one which has not been implemented effectively because too often resource managers are faced with the challenging situation of how to achieve community-based conservation without community support. True community resource management is time consuming and requires setting goals and objectives with community members, not teaching them how to contribute to NGOs' or states' pre-set goals. With pre-conceived objectives participation is reduced to consultation and a very superficial process. Local people are not truly participants but merely attending the process constructed to give the appearance of popular participation without actually involving local people in meaningful ways.

There is an alarming and discouraging state of public participation in New England's marine fisheries lending credence to arguments that top-down management and coercive conservation will not benefit the environment in the long-run (Peluso 1993). Fishers, fisheries managers, conservationists, and researchers are all experts because each group has specialized, relevant knowledge that the others do not. All must be harnessed to improve fisheries

management locally, regionally, and nationally (Mauro and Hardison 2000; Johannes 2001). The most effective means to do so will be to formally reconstitute the management process with internal mechanisms that decentralize authority and create authentic participatory roles for fishers and all other interested parties.

It is not sufficient for government to increase the numbers of the fish in the oceans. Fishing people's lives have been unnecessarily and irretrievably altered by inadequate, centralized systems (Playfair 2003). By transforming the fisheries governance system, fishers and all of the parties with vital interests in marine resources will begin to build an improved relationship with the ocean (Pinkerton 1989, Norse 1993, Cicin-Sain and Knecht 2000). The inclusion of fishers in empowering forms of participatory management will not guarantee desired outcomes, but fishers fair inclusion among a diversity of decision makers, who work within the constraints of a reason-demanding constitution, can better achieve its social, economic, and environmental goals than with the present system.

It is our hope that this article will contribute in some small way to a new generation of policy makers and scholars who are critical of mainstream conservation with development models which talk about, but do not institute truly democratic processes for resource management. Without sufficient emphasis on democratic processes there is merely rhetoric of participation. Such rhetoric maintains existing power relations, builds mistrust among user groups, and stresses marine and terrestrial resources and the local communities associated with them unnecessarily.

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References

Baelde, P. 2005. Interactions between the Implementation of Marine Protected Areas and Right-Based Fisheries Management in Australia. *Fisheries Management and Ecology*. 12: 9-18.

Barrow, E. and M. Murphree. 2001. Community Conservation: From Concept to Practice, in Hulm, D. and M. Murphree (eds.) *African Wildlife and Livelihoods: The Promise and Performance of Community Conservation*. Oxford: James Curry, pp. 24-37.

Blaikie, P. and H. Brookfield. 1987. *Land Degradation and Society*. London: Methuen.

Cicin-Sain, B. and R. W. Knecht. 2000. *The Future of U.S. Ocean Policy: Choices for the New Century*. Washington: Island Press.

Crenson, M.A. and B. Ginsberg. 2002. *Downsizing Democracy, How America Sidelined it's Citizens and Privatized It's Public*. Baltimore: The Johns Hopkins University Press.

Dahl, R.A. 1989. *Democracy and Its Critics*. New Haven: Yale University Press.

Dobbs, David. 2000. *The Great Gulf: Fishermen, Scientists, and the Struggle to Revive the World's Greatest Fishery*. Washington: Island Press.

Doeringer, P.B., P.I. Moss, and G. David. 1986. *The New England Fishing Economy: Jobs, Income, and Kinship*. Amherst: University of Massachusetts Press.

Dryzek, J.S. 2000. *Deliberative Democracy and Beyond*. New York: Oxford University Press.

Dyer, C.L. and J. R. McGoodwin. 1994. *Folk Management in the World's Fisheries: Lessons for Modern Fisheries Management*. Boulder: University Press of Colorado.

Eagle, J., S. Newkirk, and B.H. Thompson, Jr. 2003. *Taking Stock of the Regional Fisheries Management Councils*. Pew Science Series on Conservation and Environment. Washington: Island Press.

Forsyth, T. 2003. *Critical Political Ecology*. London: Routledge.

Fowle, S. 1993. *Fish for the Future: A Citizen's Guide to Federal Marine Fisheries Management*. Washington: Center for Marine Conservation.

Frontani, H.G. 2004 (September). Knowledge, Power, and Society: Participatory Marine Management in East Africa and Eastern North America. *Women in Natural Resources*. (www.cnr.uidaho.edu/winr)

Hauck, M. and M. Sowman. 2003. *Waves of Change: Coastal and Fisheries Co-Management in South Africa*. Lansdowne: University of Cape Town Press.

Igoe, J. 2004. *Conservation and Globalization: A Study of National Parks and Indigenous Communities from East Africa to South Dakota*. Belmont (CA): Wadsworth.

Jentoft, S. 1989. Fisheries co-management: Delegating government responsibility to fishermen's organizations. *Marine Policy* 13: 137-154.

Johannes, R.E. 2001. On the Need for the Study of Indigenous Fishers' Knowledge. *MPA News* 3 (5), 5 November .

Little, P. 1994. The Link Between Local Participation and Improved Conservation: A Review of Experiences. In *Natural Connections: Perspectives on Community-Based Conservation*, Western, D. and R.M. Wright (eds.). Washington: Island Press, pp. 347-372.

Ludwig, D., R. Hilborn, and C. Waters. 1993. Uncertainty, Resource Exploitation, and Conservation: Lessons from History. *Science*, 260 (2), 17 April.

Mauro, F. and P.D. Hardison. 2000. Traditional Knowledge of Indigenous and Local Communities: International Debate and Policy Issues. *Ecological Applications*. 10 (5): 1263-1269.

McGoodwin, J.R. 1990, *Crisis in the World's Fisheries: People, Problems, and Policies*. Stanford: Stanford University Press.

McKay, B.J. and C.F. Creed. 1999 (revised). Fish or Cut Bait, How to Participate in the Fisheries Management System. The New Jersey Sea Grant Program.

Mid-Atlantic Fisheries Management Council (MAFMC), Fisheries Management Plan for Scup, Sept 28. 1998, Philadelphia, PA.

National Academy of Public Administration. 2002. Courts, Congress, and Constituencies: Managing Fisheries by Default. A report for Congress and the U.S. Department of Commerce National Marine Fisheries Service.

Norse, E.A. (ed.).1993. *Global Marine Biological Diversity: A Strategy for Building Conservation into Decision Making*. Washington: Island Press.

National Oceanic and Atmospheric Administration (NOAA) Fisheries, Office of Science and Technology statistics (http://www.st.nmfs.gov/)

NOAA News Release. 2004. "Director of NOAA Fisheries Stands Behind Amendment 13" May 14.

Northwest Atlantic Marine Alliance (NAMA), Saco Maine, NAMA Constitution/bylaws, 1997 (www.namanet.org)

Ostrom, E. 1990. *Governing the Commons: The Evolution of Institutions for Collective Action.* Cambridge: Cambridge University Press.

Pauly, D. and J. Maclean. 2003. *In a Perfect Ocean: The State of Fisheries and Ecosystems in the North Atlantic Ocean.* Washington: Island Press.

Peluso, N. L. 1993. Coercing Conservation? The Politics of State Resource Control. *Global Environmental Change*, June , pp. 199-217.

Pendleton, C. and M. Simonitsch. 1999. An Initiative for Re-conceiving Fisheries Management, in *Commercial Fisheries News*, February, section B.

Pew Oceans Commission. 2003. America's Living Oceans: Charting a Course for Sea Change. *Renewable Resources Journal*, 21(2): 17-20.

Pew Oceans Commission. 2003a. *Socioeconomic Perspectives on Marine Fisheries in the United States*. Arlington: Pew Oceans Commission.

Pinkerton, E. 1989. *Co-Operative Management of Local Fisheries: New Directions for Improved Management and Community Development*. Seattle: University of Washington Press.

Playfair, S.R. 2003. *Vanishing Species: Saving the Fish, Sacrificing the Fishermen.* Hanover: University Press of New England.

Row, S. "A key battle" *Miami New Times* archives (miaminewtimes.com), originally published January 9, 1997.

Wallace, R.K. and K.M. Fletcher (Second Edition). *Understanding Fisheries Management: A Manual for Understanding the Federal Fisheries Management Process Including Analysis of the*

1996 Sustainable Fisheries Act. Sea Grant, Auburn University Marine Extension and Research Center and Mississippi-Alabama Sea Grant Legal Program.

Weber, M. 2002. *From Abundance to Scarcity: A History of U.S. Marine Fisheries Policy*. Washington: Island Press.

Zerner, C. 1994. Transforming Customary Law and Coastal Management Practices in the Muluku Islands, Indonesia, 1870-1992, in Western, D. and R. M. Wright (eds.), *Natural Connections: Perspectives in Community-Based Conservation*. Washington: Island Press, pp. 80-112.

Zimmerer, K.S. and T.J. Bassett (eds.). 2003. *Political Ecology: An Integrative Approach to Geography and Environment-Development Studies*. New York: Guilford Press.

Appendix A: Regional Fisheries Survey

For each question, please give as detailed a response as you can. THANKS SO MUCH!

1. PLEASE DESCRIBE THE NATURE OF YOUR WORK (DOES IT VARY BY SEASON, ETC.)
2. [FOR FISHERS] IN WHAT KIND OF FISHING DO/DID YOU ENGAGE? FROM WHAT PORT(S)? USING WHAT SIZE VESSEL(S)?
3. [FOR FISHERS] WHAT ARE THE MAJOR PROBLEMS FACING THE FISHERS OF YOUR GEAR TYPE IN THIS REGION? WHAT ARE THE MAJOR PROBLEMS MORE GENERALLY?
4. TO WHAT EXTENT DO FISHERS AND FISHERIES MANAGERS AGREE AS TO THE MAJOR PROBLEMS FACING THE FISHERIES IN YOUR AREA? (EXPLAIN GIVING EXAMPLES)
5. PLEASE DESCRIBE RELATIONS BETWEEN FISHERS AND NOAA FISHERIES (NMFS) IN YOUR AREA. (If poor, HOW MIGHT THESE RELATIONS BE IMPROVED?)
6. PLEASE DESCRIBE RELATIONS BETWEEN FISHERS AND STATE FISHERIES AGENTS IN YOUR AREA. (If poor, HOW MIGHT THESE RELATIONS BE IMPROVED?)
7. HOW EFFECTIVE IS YOUR REGIONAL COUNCIL IN MEETING ITS DIRECTIVE OF PARTICIPATORY/ BOTTOM-UP MANAGEMENT? EXPLAIN.
8. DO FISHERS GENERALLY ATTEND COUNCIL MEETINGS IN THIS AREA? WHY?
9. DO YOU ATTEND COUNCIL MEETINGS? (Regularly, infrequently, etc.) ARE YOU A MEMBER OF AN ADVISORY COMMITTEE OR ATTEND SUCH MEETINGS?
10. DO YOU BELIEVE THAT FISHERIES MANAGERS GENERALLY VIEW FISHERS AS EXPERTS AND KNOWLEDGEABLE DUE TO THEIR EXPERIENCE AT SEA? EXPLAIN.
11. [FOR FISHERS] ARE THERE FISHER ORGANIZATIONS/COOPERATIVES IN YOUR AREA? IF YES, WHO INITIATED THESE ORGANIZATIONS AND FOR WHAT PURPOSE? HOW SUCCESSFUL DO YOU REGARD THESE ORGANIZATIONS AND WHY?
12. PLEASE DESCRIBE ANY INVOLVEMENT YOU HAVE HAD IN FISHERIES MANAGEMENT, YOUR CONTENTMENT AND/OR FRUSTRATIONS WITH THE PROCESS, AND ANY CHANGES YOU WOULD MAKE IN THE PROCESS AND WHY.
13. PLEASE SHARE YOUR THOUGHTS ON EACH OF THE FOLLOWING:
    a. INDIVIDUAL FISHING QUOTAS (AND OTHER QUOTA SYSTEMS including DAS)
    b. CATCH DATA (how good is it? how it can/should be used)
    c. COLLABORATIVE RESEARCH (scientists and fishers)
14. [FOR PEOPLE IN FLORIDA] PLEASE DESCRIBE THE RELATIONSHIP BETWEEN INDUSTRY AND THE FLORIDA KEYS NATIONAL MARINE SANCTUARY. HAVE YOU PARTICIPATED IN THE MANAGEMENT PROCESS FOR THE SANCTUARY? EXPLAIN.
15. WHAT QUESTIONS DO YOU BELIEVE NEED TO BE RESEARCHED WITH REGARD TO MARINE FISHERIES IN YOUR AREA?
16. ARE THERE ANY QUESTIONS YOU WOULD LIKE TO ASK? ANYTHING YOU'D LIKE TO SHARE?
17. DO YOU HAVE AN E-MAIL ACCOUNT? MAY I CONTACT YOU VIA E-MAIL OR PHONE?
18. WHO ELSE SHOULD I/WE TALK TO?