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Big Fish, Little Fish: Politics and Power in the Regulation of Florida's Marine Resources*

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This paper draws on interviews with 70 couples in commercial fishing families to examine the relative influence of objective scientific information as opposed to political and social considerations on the management and allocation of marine resources. Decisions about the regulation of commercial fishing are influenced by Florida's economic dependence on tourism and related development and competition for control of the state's coastal resources. Class, power, and bureaucratic knowledge all have a part in the decisions that shape the regulation of Florida's inshore net fishing industry.

In the past decade, a surge of interest in environmental conservation, protection, and restoration has resulted in increasingly complex regulations governing the use of natural resources. In the case of marine fisheries management, public policies have been aimed at creating a balance between long-term conservation of fisheries stocks and optimal economic utilization of resources (Palsson 1989; Smith 1990). In principle, such decisions are based on the best available empirical evidence. However, despite the ideology that scientific knowledge prevails, there is evidence that social and political processes ultimately determine the management and allocation of marine resources (Durrenberger 1990; Meltzoff 1989; Orbach and Johnson 1989).

Historically, commercial fishers were independent boat owners with small vessels and permanent crews who primarily engaged in fishing to satisfy their material and social needs rather than to accumulate capital (Davis 1991). Social values such as security, equity, and community self-determination were more important than economic efficiency, particularly in the long-term management of natural resources (Soden 1989:97). Knowledge systems that provided direction to fishing activities were based on generations of observations about changes in the weather, tides, and seasons, and a view of nature as unpredictable but not random (Bailey 1988; Smith 1990).

In this system, production was an integral part of the household economy; there was no dividing line between work and leisure. Fishing was considered a way of life, not merely a source of income (Palsson 1989). Small boat operations were based on family cooperation and coordination, and women were involved in the fishing business as financial managers and administrators (Davis 1986; Dixon et al. 1984; Thompson 1985).

In the last 20 years, capitalistic, vertically integrated firms using large vessels for both fishing and processing began to dominate the fishing industry (Bailey 1988; Palsson 1989), and small boat fishers expanded their capacity for production by investing in mass harvesting

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approaches (Davis 1991; Palsson 1989). In this mode of production, a small boat fisher's success was measured by his or her ability to maximize profits through the best available technology, rather than by the skipper's skill and the size of the catch (Davis 1991; Palsson 1989).

In the 1960s and early 1970s, fisheries management policies governing the individual fisher's activities were reoriented from industrialization, which promoted extensive use of technologies to maximize the catch, to strategies that regulated the harvesting of marine resources according to the stock's biological capacity to withstand certain rates of exploitation (Davis 1991). With this change came a greater emphasis on scientific monitoring of the fish catch in order to assure compliance with regulations (Davis 1991). Small boat fishers increasingly came under the direction of federal and state fisheries management and industrial development policies established through bureaucratic procedures outside the fishers' control (Davis 1991). In addition, regulatory committees were established to consult on policy decisions. Their recommendations became fully incorporated into government agencies' fisheries management policy formation and implementation process (Davis 1991). Access to these decision makers depended in large part on the professionalization of various interest groups and their ability to communicate with the regulatory committees (Davis 1991).

Through these actions, fisheries management institutionalized a bureaucratic process in a setting foreign to most small boat fishers and their communities, and beyond the scope of their experience and influence (Davis 1991; Meltzoff 1989). For the most part, marine fisheries regulations were implemented without regard to local conditions or practices developed by generations of fishers with their own self-regulatory regimes (Acheson 1988; Berkes 1990; Davis 1991).

In addition, the viewpoints of fishing families, who formed the fishing operation's structure and who carried out its daily activities, have been obscured by the industry's regulatory structure. Women in particular have been excluded and rendered invisible in the process of formulating decisions and validating knowledge (Cashman 1991; Rocheleau 1991).

Politics and Power in Marine Fisheries Regulation

Some studies have shown that commercial fishers' position in the class structure has put them at a disadvantage and made them ineffective in the political process (Durrenberger 1990; Meltzoff 1989; Soden 1989). With few economic resources or political skills, commercial fishers have been unable to speak or to present themselves according to the models of "success" established by dominant factions and class interests (Meltzoff 1989). The public hearing process, a mainstay of marine fisheries management, was intended to bring certain issues before local communities and to provide the opportunity for opposing interests to present and discuss the issues. However, the public hearing has served to cement the positions of opposing social, economic, and political interests rather than to encourage free speech and an exchange of ideas (Griffith and Maiolo 1989; Meltzoff 1989). Within such a process it is difficult to recognize a plurality of communities of knowledge (Cashman 1991). Groups with substantial financial resources have recruited additional contributors and have used the press to sway public opinion, resulting in additional support, funds, and testimony (Griffith and Maiolo 1989). Individualistic commercial fishers seldom have had the cohesion, finances, or speaking and writing skills to counter allied environmental and sports interests (Cashman 1991; Meltzoff 1989).

In this paper we examine the social and political processes operating in the regulation of Florida's commercial inshore net fishing industry. The goal is to illuminate these processes and their potential impact on marine resource regulation and to provide specific observations regarding the penetrating influences of class, power, and bureaucratic knowledge.

Study Setting

Florida's fisheries management has been conducted under the auspices of the Florida Marine Fisheries Commission (FMFC) since its creation in 1984. Commissioners are appointed by the governor and are to decide the regulation and use of state controlled marine fisheries resources. Biological and economic data are provided to the commission by scientists employed by the Department of Natural Resources and the commission itself. Additional information is also sometimes sought from various private, state, and federal agencies.

The commission reviews proposed management plans that are researched and assembled by its scientific staff. Plans are published and distributed through newsletters to notify the public of impending decisions. A series of public hearings are set to provide the opportunity for testimony by staff and various interested parties. Representatives of commercial and recreational fishing organizations are usually present at hearings and encourage rank-and-file members to attend and to provide testimony about the personal costs and benefits associated with a particular management plan. Following the conclusion of the hearings, the commission drafts the final proposal and submits it to the governor and cabinet for approval, at which time it becomes law.

In Florida, unprecedented population growth has mushroomed the ranks of recreational fishers to over four million fresh and salt water anglers (Wilson 1991), compared to 16,000 commercial net fishers (Longman 1992). The inshore net fishing segment of the commercial fishing industry has come under increasing attack by recreational fishing interests that have sought to limit the commercial harvest of various inshore species (Longman 1992). Recently, the Organized Fishermen of Florida (OFF), which represents the state's commercial fishing interests, successfully challenged a 1991 ruling by the Marine Fisheries Commission that would have extended weekend closures on the commercial roe mullet harvest during roe season to two full weeks per month. Had this ruling been upheld, commercial fishers' access to one of the state's principal commercial species would have been blocked during the fall roe season when the catch typically provides a substantial part of the fishers' annual income.

In the spring of 1992, commercial fishing was again challenged by sport interests when recreational fishing groups lobbied the state legislature to introduce a bill that would ban net fishing entirely. Although the bill was "tabled" after extensive lobbying by OFF, the fight by recreational fishers to outlaw inshore net fishing is expected to continue through persistent political pressure on fisheries regulators or through a state constitutional amendment banning all commercial net fishing in Florida's waters (Longman 1992). Thus, the fight between recreational and commercial interests has reached beyond individual communities and counties to the state's legislative bodies, threatening the future of Florida's inshore net fishing industry.

Methods

As part of a larger study of family stress and coping due to changing marine fisheries regulations, data were gathered through face-to-face interviews conducted with 70 married couples living in Florida. Commercial fishers who net fished some time during the year and their spouses were included in the sample. With one exception, all fishers were male.

Responses to three open-ended questions provided the data reported here. The questions addressed: (1) the couples' assessments of the future of fisheries management in Florida; (2) the couples' support for or concerns about their children's possible choice of commercial fishing as a vocation; and (3) other comments concerning the management of Florida's marine fisheries. Answers were transcribed and selected passages were retrieved using keyword searches with information management software.

Results

Four major themes which emerged in the interviews are addressed in the sections below. First, fishing families observed that they have increasingly been pushed from their positions as leaders in Florida's settlement and as independent provisioners of food for the state and the nation to the fringe of Florida's social and political processes. They likened this process to moving from the status of "cowboys" to that of "Indians." Second, this process has devalued a long history of family and community pride and accomplishment, moving them into the status of "endangered species." Third, fishing families attributed their marginalization to the misrepresentations of special interest groups with strong political ties and a large financial base. Fourth, increasing bureaucratization and growing reliance upon scientific fisheries management, as well as professionalization of commercial fishing as an occupation, have caused Florida net fishers to distrust natural resource managers and to question the validity of "scientific" fisheries management.

"Cowboys or Indians"

Florida has been a popular destination since the 1950s for thousands of retirees and "snowbirds" who migrate annually to Florida's tropical beaches and relaxing coastal communities. The majority of Florida's population is concentrated along the Atlantic and Gulf coastlines where waterfront property values have increased dramatically. The result has been the continuing displacement of established fishing families. They have been unable to afford increasing property taxes and younger families have been prevented from purchasing waterfront property needed for their trade.

The continuing influx of "Yankees" has brought fishing families into direct and indirect conflict with Northern urban values, customs, and lifestyles that differ markedly from local maritime culture. Newcomers have continued to arrive in such numbers that commercial fishing families have been outnumbered and outvoted in local governance. For example, recent settlers have imposed their own aesthetic values on traditional ways of life in local decisions about land use. These new ideas concerning the maintenance and beautification of property have required fishing gear to be stored away from residential areas. As one fisher observed:

You see the more pressure that comes in with development . . . I won't be able to put those traps in the yard out there, because somebody is going to build a house across that canal and they are not going to want to look at it.

With the recent interest in environmental protection, Florida net fishers claimed they had been characterized as outlaws by recreational fishing groups and others. Indeed, commercial fishers have often been stereotyped as rowdy, independent, stubborn, and distrusting of strangers (Gilmore 1990), an image that has been reinforced with newspaper accounts of illegal fishing practices (Hill 1991; Levy 1990).

Commercial fishers, on the other hand, claimed it would be absurd to jeopardize their livelihood by overharvesting fisheries stocks. The outlaw image may in fact be an exaggeration of commercial fishers' strong attachment to independence in their work. Being one's own boss and the ability to come and go freely were mentioned as the primary reasons for choosing fishing as an occupation. Net fishers showed a great affinity with the popular images of cowboys portrayed in movies of the old West—masculine, independent, self-righteous, and just.

That image is not, however, shared by the general public. The couples we interviewed found that they had to defend themselves against physical and verbal attacks on a daily basis. Fishers told of being spit on as they fished near the beach with haul seines, having rocks thrown at them by property owners while travelling through residential canals, and being

subjected to verbal abuse and angry stares from recreational fishers as they moved from one fishing location to another. Wives who worked in restaurants, banks, or convenience stores were subjected to patrons' malicious remarks about commercial fishers. Despite attempts to educate the public or to cope with these attacks privately through prayer and patience, the constant harassment had a demoralizing effect:

You talk about hatred trying to rise up in you. When you see these people trying to put you out of business like they have done us. I do have a bad outlook on it and these kind of people.

Moreover, increased regulations have severely curtailed the highly valued sense of independence associated with commercial fishing as an occupation. Commercial fishers have been limited by a plethora of regulations restricting their fishing gear, when and where they can fish, and who is allowed to fish. Federal, state, and local authorities have the power to detain and to inspect commercial fishers' operations on water and land at anytime. In frustration, one fisher claimed that from the time he set foot in his boat until he came ashore he would likely be breaking some law.

These families have faced increasing regulation of land and marine resources, and the bureaucratization and professionalization of a lifestyle chosen specifically for its lack of rules and regulations. In addition, fishing families' traditional values have been displaced through the incursion of wealthy urban elites into local rural communities. With this encroachment, commercial fishers no longer identified with the cultural image of the cowboy. In fact, they saw themselves as a minority group under the control of majority interests, regardless of their history and needs. The most striking analogy made by these couples was their growing identification with the historical demise of Native Americans. As two fishers explained:

It is part of our culture, part of our heritage: fishing stories, net mending, and building your own boat. The new politics of the nineties are destroying our culture. You know, it is like not letting an Indian hunt a panther [even though there are] religious reasons [for this practice].

But, I realize that we're the Indians here and we are standing in the way of progress. They are going to move us out, one way or another, whether we are prepared or not.

Another fisher noted:

It is very depressing. I know what the Indians felt like. There is no doubt about it, the Indians had to feel that way when the white man crowded them out. They are taking and not giving.

The constant need to defend their community roles as food providers and their traditional family values caused fishers and their wives to question their futures. Formerly an integral part of the social fabric of rural communities, these families saw the transformation to urbanized, impersonal social relations as threatening their continued productivity and endangering their long-term survival.

Endangered Species

Fishing families saw themselves as food providers and conservators of traditional values of independence and hard work. They were puzzled by what they viewed as a general shift in society's values. The strong family ties that held generations together and helped men and women manage the daily strains of fishing had seemingly been rejected by the majority in favor of more individualistic interests and the pursuit of pleasure.

The commercial fisherman is an endangered species. It's been a way of life, something we've built our whole life around. . . . It means an awful lot to be able to want to stay in an area to do things your family has always been involved in. . . . I cannot understand the mentality that says, "Let's . . . close down all of our commercial fishing." I think the mentality now is that we're going to become more and more of a playground, that we want entertainment, enjoyment—you know it's self-fulfillment on the people's part.

Fishing families believed they were being forced out of their communities and livelihoods by those with more money, political power, and leisure time. As one fisher observed:

Your sport fishermen, they want it all to themselves. They . . . made the statement they didn't care if we lived or died, they wish we would starve to death. . . . They've got the time and energy to fight us. We have to go out there and make a living. We don't have the time or the money to fight. . . . For their fun, I'm supposed to lose my way of living, my heritage, my livelihood, for their pleasure?

Without the financial base or the political connections to give them the power to defend their livelihood, these families foresaw a perilous future in commercial fishing. Within a recession showing few signs of improving, prospects for other work looked bleak. Having learned only those skills needed for fishing, age and lack of education worried many. As one fisher explained:

To me it is depressing, because you get to looking at yourself and you are forty-two years old and [have] no other way to make a living. You do not know anything else. You know in a matter of two more years they are going to have more laws on you. What can you do? You can't get a job, nowhere.

Many fishers were reluctant to leave an occupation to which they were totally devoted. Yet to remain in fishing would likely result in increased financial problems. This uncertain future caused considerable anguish among many fishing families. The women in particular observed that recent increases in regulation had not taken family needs into account. As one wife explained:

There are . . . thousands of people who are depending on fishing to feed their families and provide a roof for [them] to live under. I think that the people on these commissions don't have to worry about that. They are very well educated and have good backgrounds and their families will always have a place. [They] will always have good food and they don't have to worry about it. They don't see my three little girls. When they pass these laws and they take another \$100 a week out of their mouths, they don't see them.

Some predicted the gradual loss of income due to increased regulations reducing the fisher's catch or eliminating access to certain species would result in family dependence on government transfer payments, such as Medicaid, AFDC, or Food Stamps. Couples considered the government's approach to regulation, which they felt protected fish at the expense of family survival, to be shortsighted and ill-conceived.

The government doesn't have enough money for people who are already on welfare and they should consider this. . . . They should think of [the children, wives, and fishermen] before they keep passing all these laws to protect the fish, because what about protecting us?

Families were angered about the dramatic change in their way of life, increased pressure to comply with the class-based social standards imposed by newcomers, and the devaluation and disappearance of traditional lifestyles and values of independence and self-sufficiency. Already struggling privately, commercial fishing families were publically humiliated by media reports influenced by special interest groups whose agenda included the control of fisheries resources and the elimination of commercial fishing.

Truth or Lies

The fight over Florida's marine fisheries resources recently reached new intensity with the push to ban net fishing entirely in the state. According to commercial fishers, recreational fishing organizations have misrepresented their priorities and memberships to the public by using conservation terminology to disguise the sports interest in eliminating commercial fishing. Fishers we interviewed claimed that conservation of resources is not the primary objec-

tive of these special interest groups and that names such as the Florida Conservation Association (FCA) and Gulf Coast Conservation Association (GCCA) are deceiving. They argued that sports groups' claims for game fish status for certain species are ploys to grab fisheries resources entirely for themselves, not to conserve them. Also, commercial fishers observed that these relatively small but vocal groups do not represent the majority of recreational fishers in the state.

Nevertheless, the couples that participated in this study had unwavering faith in the public's ability to see through these allegedly deceptive tactics, provided that the "truth" was revealed to them. We were told that educating the general public about commercial fishers and fishing techniques was crucial to the process of providing the "truth." For example, according to study participants, the public has been misinformed about the degree of environmental destruction associated with different types of commercial net fishing. Whereas most people think of netting in terms of massive international drift nets and purse seines, the nets of inshore fishers in Florida are restricted according to mesh size, length, and type. Fishers explained that their nets are set and gathered within a period of hours, not set out to drift unattended for days. In addition, they insisted that their choice of gear allows them to catch fish of a specific age class and size, without indiscriminately pulling in anything and everything.

Fishing families also expressed concern about consumers' lack of knowledge about the sources of seafood, which compounds the problem of getting the "truth" out. Given that 60 to 70 percent of seafood consumed in the United States is imported, the public may not know when they are getting fresh Florida seafood. The market for many of the types of fish harvested by study participants has not been directly affected by imports. However, commercial fishers predicted that the markets for their products would quickly be filled by imports if those species were removed from commercial production. In addition, fishers pointed out that a large part of their market includes lower income blacks in Georgia and urban areas along the East Coast. Fishers argued that these consumers' needs and preferences are disregarded, partly as a result of their lower social status.

Perhaps the most distressing source of bias to fishers was the constant assault against the commercial fishing industry in the sports media. While reading the morning newspapers, fishing families regularly discovered the daily sports column had been devoted to condemning the allegedly destructive practices of commercial fishers. Advocating the abolition of commercial net fishing, journalists pointed to the decline of certain species as proof of commercial fishers' lack of a conservation ethic and blamed them for depletion of fisheries stocks. As one fisher's wife said:

[You are] treated like Jack the Ripper by the media when you are actually providing a service and feeding people.

Without a public forum, fishers and their families were at a loss. Although they wrote letters to the editor, many felt this was in vain because daily sports columns had greater credibility.

The thing is that people don't realize what is going on. They just read the newspapers and don't get out and see it for themselves, see what is really going on.

Fishers emphasized that if the public could come out on their boats and see how they fished, they would understand that commercial fishers are not the monsters portrayed by recreational fishing groups. In so doing, they would learn the "truth," that is, acquire knowledge about commercial fishers and their practices.

Big Science vs. Little Science

Commercial net fishers in Florida have faced increasing regulation of the type and size of

their gear, closure of fishing areas, quotas, and seasonal closure of fisheries based on a species-by-species bioeconomic model. Licensing procedures for the right to catch and sell restricted species require fishers to provide evidence that a specified minimum of their annual income comes from commercial fishing. This is “Big Science”—the establishment by the government, based on empirical studies, of limitations on particular species and the protection of these species by monitoring commercial fishers’ activities.

Commercial net fishers have, over generations, built a distinct body of knowledge about their environment and the species they harvest. Fishers have relied on close observation for subtle changes in the weather, such as shifts in wind direction and temperature and barometric pressure fluctuations. They have closely monitored the moon’s phases to “fish by fire” by looking for a phosphorous flash as fish move through the water at night. Fishers’ daily routine has placed them in an ever-changing environment where they have developed their own methods of observation and have sought to unravel the natural processes affecting the environment, the fish they seek, and their own fishing activities.

Fishers consider themselves professionals who have developed valued expertise from years of experience, a lifetime for some. Over the years, their knowledge has increased their productivity and has reduced the physical and financial risks associated with the business. However, commercial fishers’ knowledge and experience has increasingly been displaced by the bureaucratic/scientific process of fisheries management. It has been reduced in that context to a “Little Science” based on local knowledge; geographically-specific information; and fluid, holistic models rather than controlled data-gathering.

Fishers we interviewed acknowledged that empirically-based knowledge served as the basis for fisheries management. Several had contributed to the research process by taking biologists on their boats, assisting with tagging and data collection, measuring fish caught in their nets, and returning tags for studies of fish migration patterns. At FMFC meetings, fishers listened to presentations of biological data and offered testimony based on their personal observations to reinforce or challenge proposed regulations.

Nevertheless, fishers expressed doubts about the usefulness of this scientific knowledge. As one fisher explained:

Well, the biologists and the models they use don’t show me nothing, really. Those people pick too many numbers out of the air. They pick [numbers] for this much escapement on mullet or this much escapement on red fish. They don’t know how many were there to start with. Why, they said there were two million red fish in the Gulf of Mexico; they counted them with an airplane.

Fishers’ skepticism was reinforced when supposedly “objective” scientific knowledge was used “against” commercial fishers in the fisheries management process. The controversy over red fish was repeatedly offered as one example of the subjective nature of the decision-making process when political forces exerted pressure on policymakers. Red fish are highly prized by recreational fishers because they are valiant fighters. Red fish also became increasingly important to commercial harvesters in the late 1980s after it was popularized by a New Orleans chef. Increased fishing pressure by both recreational and commercial sectors caused a dramatic decline in stocks. However, the majority of red fish were caught by recreational fishers (Lampl 1989; Seaman 1985) and at the time commercial fishers assumed that scientific data were in their favor.

Yet, the Marine Fisheries Commission designated red fish a game species, disallowing any commercial harvest. This was a major shock to commercial fishers’ belief in the reliability and usefulness of scientific data and increased their distrust of the commission. The decision was seen as being based on political interests and liaisons between commissioners and recreational fishing groups, not on biological and economic evidence. Some study participants claimed that if the regulation had been based solely on biology they could have lived with it, but in their view the end result was a biologically unjustified, unfair ruling that caused considerable economic distress for their families.

The recent attempt to impose a two week closure every month on the roe mullet fishery is another example of the equivocal nature of fishers' feelings about the rationalization of fisheries management. Some fishers cited statistics, provided and interpreted by the OFF biologist, concerning fish biomass ratios that served to challenge the mullet ruling. Rather than renewing their faith in the scientific model, however, the successful use of scientific data further undercut their view of science as a basis for fisheries management. Commercial fishers actively participated in the data-gathering and hearing process, only to find their faith in the biological model's objectivity betrayed. In the words of one fisher, "It just shows me that you can hire [a biologist] to tell you anything you want."

Whereas once they were willing to accept a transition to a scientific model, commercial fishers questioned knowledge about the environment gained through scientific analysis alone:

This [marine biologist] is years and years away from having the experience to know. Because it takes years for me, or you, or anybody to get the information to catch fish. It would take anyone 10 years to become a good fisherman. It will take the commissioners, it will take [a marine biologist] 10 years to even know what he is talking about. But, they put him in there. They bought him to study the mullet and they want answers from him, now.

The conflict between these two environmental views, one based on empirically-generated data and scientific models, the other on local knowledge with a long history of personal testing and observation, created several dilemmas. First, the net fishers in this study recognized the need for scientific knowledge and utilized that knowledge to guide some of their own practices, but were also distrusting of the ultimate objectives of "Big Science." Second, full-time fishers disapproved of part-timers who competed for increasingly limited resources, but also criticized additional licensing procedures further restricting commercial activity. Third, commercial fishers saw the need to participate in the scientific management process to control decisions affecting their livelihoods. Yet, many commercial fishers denounced the increasing political pressure on fisheries management and claimed they were too angry about the system's biases to participate in the decision-making process.

Discussion and Conclusions

In this paper we examined the marginalization of commercial net fishing families in Florida due to increasing competition for control of marine resources, and the penetrating influence of recreational fishing interests on local maritime cultures, marine fisheries regulations, and public opinion. As previous research has also suggested, political processes influenced decisions about natural resource use (Gale 1991; Griffith and Maiolo 1989; Meltzoff 1989; Palsson 1989). The results also bring into relief the importance of class interests in fisheries regulation in Florida.

This study suggests that the bureaucratic system and decision-making process governing Florida's inshore net fishing industry gives influence and advantage to individuals and groups laying claim to certain sources of scientific, social, or political power. This system diminishes the importance of commercial fishers' knowledge in decisions regarding natural resource use. It forces fishers to adapt localized practices and norms to technoscientific knowledge, bureaucratic standards, and agencies of the state (Davis 1991; McGuire 1991; Palsson, 1989), while granting certain other speakers the authority to present their views on the most effective management strategies (Griffith and Maiolo 1989; McGuire 1991).

Furthermore, as a result of the emphasis on scientific research and bureaucratic management, fishers, their families, and communities are removed from the decision-making process. The family and community contributions and solidarity that have been part of commercial fishing operations for generations are ignored. Families' future economic survival and the

intergenerational transfer of business are threatened, without regard to family needs or interests.

Potential solutions to these social conflicts were suggested by the fishing families we interviewed. According to these couples, current management practices are weakened by decision makers' lack of knowledge of commercial fishing, inability to observe the replenishment of previously depleted stocks, and negative stereotypes about commercial fishers. They suggest that more complete scientific information is needed that incorporates the local knowledge base regarding changes in fisheries stocks and habitats and efforts at self-regulation.

In addition, an equitable resource management and allocation strategy that ensures that the needs and interests of various user groups are taken into account could enhance the probability of cooperation. Fishing families suggest that increased contact between commercial fishers and policymakers is a key to improving understanding. Fishers could demonstrate their own body of knowledge about fishing and its regulation, make observations about current stock sizes of various species under government regulation, and provide an accurate picture of the hard work and family sacrifice involved in commercial fishing.

Fishers also urge the regulatory committee to recognize that special interest groups may influence decision making and that commercial voices may not be adequately heard under the current system. They recommend developing more equitable representation in the decision-making process by including representatives of commercial fishing interests on marine regulatory committees when recreational and development interests also have a formal role.

Finally, commercial fishing families suggest that decision makers assess the state's priorities regarding protection of both environmental and human resources. They point out that extensive coastal development is destroying fisheries habitats, and, along with marine regulations, is dramatically altering the quality of human life in waterfront communities.

References

- Acheson, James M.
1988 *The Lobster Gangs of Maine*. Hanover, N.H.: University Press of New England.
- Bailey, Connor
1988 "The political economy of fisheries development." *Agriculture and Human Values* 5:35-48.
- Berkes, Fikret
1990 "Common-property resource management and Cree Indian fisheries in subarctic Canada." In *The Question of the Commons*, ed. Bonnie J. McCay and James M. Acheson, 66-91. Tuscon, Ariz.: University of Arizona Press.
- Berkes, Fikret, and Dorothy Pocock
1990 "Diversity of commercial fisheries in the Canadian Great Lakes." *Society and Natural Resources* 3:173-186.
- Cashman, Kristin
1991 "Systems of knowledge as systems of domination: The limitations of established meaning." *Agriculture and Human Values* 8:49-58.
- Davis, Anthony
1991 "Insidious rationalities: The institutionalization of small boat fishing and the rise of the rapacious fisher." *MAST (Maritime Anthropological Studies)* 4:13-31.
- Davis, Donna Lee
1986 "Occupational community and fishermen's wives in a Newfoundland fishing village." *Anthropological Quarterly* 59:129-142.
- Dixon, Richard D., Roger C. Lowery, James C. Sabella, and Marcus J. Hepburn
1984 "Fishermen's wives: A case study of a Middle Atlantic coastal fishing community." *Sex Roles* 10:33-52.

- Durrenberger, E. Paul
1990 "Policy, power and science." *MAST (Maritime Anthropological Studies)* 3:69-86.
- Gale, Richard P.
1991 "Gentrification of America's coasts: Impacts of the growth machine on commercial fishermen." *Society and Natural Resources* 4:103-121.
- Gilmore, Janet C.
1990 "Fishermen stereotypes: Sources and symbols." *Canadian Folklore* 12:17-38.
- Griffith, David, and John Maiolo
1989 "Considering the source: Testimony versus data in regulations surrounding Gulf and South Atlantic trap fisheries." *City and Society* 3:74-88.
- Hill, Jerry
1991 "It's hard to hook some snook." *Bradenton Herald* October 10: D6.
- Lapl, Linda
1989 "Fishery allocation: To the fishcatchers or the fisheaters?" In *Marine Resources Utilization: A Conference on Social Science Issues*, ed. J. Stephen Thomas, Lee Maril, and E. Paul Durrenberger, 101-104. Mobile, Ala.: University of South Alabama Publication Services.
- Levy, Art
1990 "Four thousand pounds of grouper seized." *Sarasota Herald Tribune* July 25: 1B, 3B.
- Longman, Phillip
1992 "Fish fight: Pay up or cut bait." *Florida Trend* 35:32-35.
- McGuire, Thomas
1991 "Science and the destruction of a shrimp fleet." *MAST (Maritime Anthropological Studies)* 4:32-55.
- Meltzoff, Sarah Keene
1989 "Class division and the politics of conservation in the Florida Keys." In *Marine Resource Utilization: A Conference on Social Science Issues*, ed. J. Stephen Thomas, Lee Maril, and E. Paul Durrenberger, 123-130. Mobile, Ala.: University of South Alabama Publication Services.
- Orbach, Michael K., and Jeffrey C. Johnson
1989 "The transformation of fishing communities: A public policy perspective." In *Marine Resource Utilization: A Conference on Social Science Issues*, ed. J. Stephen Thomas, Lee Maril, and E. Paul Durrenberger, 63-67. Mobile, Ala.: University of South Alabama Publication Services.
- Palsson, Gisli
1989 "The political ecology of Icelandic fishing." In *Marine Resource Utilization: A Conference on Social Science Issues*, ed. J. Stephen Thomas, Lee Maril, and E. Paul Durrenberger, 131-135. Mobile, Ala.: University of South Alabama Publication Services.
- Rocheleau, Diana E.
1991 "Gender, ecology, and the science of survival: Stories and lessons from Kenya." *Agriculture and Human Values* 8:156-165.
- Seaman, William
1985 *Florida Aquatic Habitat and Fishery Resources*. Eustis, Fla.: Florida Chapter of American Fisheries Society.
- Smith, M. Estellie
1990 "Chaos in fisheries management." *MAST (Maritime Anthropological Studies)* 3:1-13.
- Soden, Dennis
1989 "Community-oriented analysis: Viewing policy alternatives for the Gulf Coast region." In *Marine Resource Utilization: A Conference on Social Science Issues*, ed. J. Stephen Thomas, Lee Maril, and E. Paul Durrenberger, 93-98. Mobile Ala.: University of South Alabama Publication Services.
- Thompson, Paul.
1985 "Women in fishing: The roots of power between the sexes." *Comparative Studies in Society and History* 27:3-32.
- Wilson, Don
1991 "Industry decimated by overfishing, development." *The Orlando Sentinel* July 27: C1-C2.