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5. COMMUNITY DATA UPDATE

According to National Standard 8 (NS 8), conservation and management measures should attempt to both provide for the continued participation of a community and minimize the economic effects on the community. Complying with NS 8 is contingent upon the availability of community studies and profiles as well as regional economic analyses. The information presented here complements the social and economic data contained in the fishery update sections of the report and highlights studies that have emphasized regional and state-specific assessments.

5.1 Overview of Current Information and Rationale

The Magnuson-Stevens Act requires all FMPs to include a fishery impact statement intended to assess, specify, and describe the likely effects of the measures on fishermen and fishing communities (§303(a)). When establishing any new regulations, the cultural and social framework relevant to the fishery and any affected fishing communities (§303(b)(6)) must be taken into account.

The National Environmental Policy Act (NEPA) also requires federal agencies to consider the interactions of natural and human environments by using “a systematic, interdisciplinary approach which will ensure the integrated use of the natural and social sciences ... in planning and decision-making” (NEPA §102(2)(a)). Federal agencies should address the aesthetic, historic, cultural, economic, social, or health effects of regulations which may be direct, indirect, or cumulative. Consideration of the social impacts associated with fishery management measures is a growing concern of managers as fisheries experience variable participation and are affected by declines in stocks.

Social impacts are defined as the consequences to human populations that follow from some type of public or private action. These consequences may include changes in “the ways in which people live, work or play, relate to one another, organize to meet their needs and generally cope as members of a society ...” (Interorganizational Committee on Guidelines and Principles for Social Impact Assessment, 1994:1). In addition, cultural impacts may involve changes in the values and beliefs that affect the way people identify themselves within their occupation, their communities, and society in general. Social impact analyses help determine the consequences of policy action in advance by comparing the status quo with the projected impacts. Public hearings, scoping meetings, and Advisory Panel meetings provide input from those concerned with the impacts of a proposed management action.

While geographic location is an important component of a fishing community, management measures often have the most identifiable impacts on fishing fleets that use specific gear types. In addition, since the species managed by the HMS FMP are by definition highly migratory, fishermen tend to shift locations in an attempt to follow the fish. The geographic concentrations of HMS fisheries may also vary from year to year as the behavior of these migratory fish is somewhat unpredictable. The relationship between these fleets and geographic

fishing communities is not always a direct one. As a result, the inclusion of typical community profiles in HMS management decisions is somewhat difficult.

NMFS (1994) guidelines for social impact assessments specify that the following elements are utilized in the development of FMPs and FMP amendments:

1. Information on distributional impacts, non-quantifiable considerations such as expectations and perceptions of the alternative actions, and the potential impacts of the alternatives on both small economic entities and broader communities;
2. Descriptions of the ethnic character, family structure, and community organization of affected communities;
3. Descriptions of the demographic characteristics of the fisheries;
4. Descriptions of important organizations and businesses associated with the fisheries;
5. Identification of possible mitigating measures to reduce negative impacts of management actions on communities.

To help develop this information for the HMS FMP and the Billfish Amendment, NMFS contracted with Dr. Doug Wilson, from the Ecopolicy Center for Agriculture, Environmental and Resource Issues at Rutgers, the State University of New Jersey. Dr. Wilson and his colleagues completed their field work in July 1998. This study covered four species groups (tunas, swordfish, sharks, and billfish) that have important commercial and recreational fisheries extending along the Atlantic and Gulf coasts from Maine to Texas and in the Caribbean. The study investigated the social and cultural characteristics of fishing communities in five states and one U.S. territory: Massachusetts, New Jersey, North Carolina, Florida, Louisiana, and Puerto Rico. These areas were selected because they each have important fishing communities that could be affected by measures included in the HMS FMP and the Billfish Amendment, and because they are fairly evenly spread along the Atlantic and Gulf coasts and the Caribbean. For each state or territory, a profile of basic sociologic information was compiled, with at least two coastal communities visited for further analysis. Towns were selected based on HMS landings data, the relationship between the geographic communities and the fishing fleets, and the existence of other community studies. Finally, the Advisory Panels for HMS and Billfish provided extensive input on which fishing communities should be included in this analysis. Complete descriptions of the study results can be found in Chapter 9 of the HMS FMP and Chapter 7 of the Billfish Amendment.

5.2 Summary of New Social and Economic Data Available

Survey of Commercial Fishermen by National Fisherman Magazine (December, 1998)

National Fisherman Magazine sampled more than 3,500 individuals to provide an assessment of America's commercial fishermen (Fraser, 1998). Surveys were allocated by state in accordance with 1990 U.S. Census estimates of the percentages of commercial fishermen in each state. The National Fisherman survey asked participants 21 questions and conducted personal interviews to assess demographic information, views on management, and outlooks on the future of the commercial fishing industry.

According to all respondents, the industry is much smaller than it was even a few years ago. In fact, the U.S. Bureau of Labor Statistics recently reported a decrease in the numbers of commercial fishermen from 59,000 in 1992 to less than 47,000 in 1996. The large majority of commercial fishermen were male (95 out of 100) and, while 52 percent were 45 or older, only 7 percent of those responding were under 30 years old. Fifty-one percent of fishermen sampled had been fishing more than 20 years and over 80 percent had been fishing 11 years or longer. Forty-five percent of fishermen have seen their income from fishing decrease since they began fishing and 38 percent have seen an increase. Thirty-three percent of fishermen expected fishing to earn them up to \$24,999 in 1998. Thirty-two percent expected to earn between \$25,000 and \$49,999. Fifty three percent of fishermen belong to a fishermen's association, 33 percent have never belonged, and 11 percent did belong but dropped out. Eighty-one percent of fishermen describe their outlook on the future of commercial fishing as fearful to very fearful, although 69 percent foresaw working as a commercial fisherman until retirement. Seventy-nine percent would not recommend commercial fishing as a future occupation for their sons or daughters.

Compared to when they first began fishing, 88 percent of fishermen paid more attention to legislative matters that affect their fishery. When asked, "Who or what do you consider the greatest threat to the longevity of your career in fishing?", 31 percent replied NMFS, 28 percent replied environmental activists, 26 percent stated overfishing/overcapitalization, 20 percent said sport fishermen, 15 percent said competition in the market, and 11 percent replied other. Seventy-one percent of fishermen disagree or strongly disagree with the statement that, "Fisheries are managed in a manner that promotes maximum sustainability into the future." Eighty-two percent of fishermen are not confident in NMFS' ability to manage the country's fisheries. When asked, "What method do you favor most for limiting/reducing fishing effort?", 42 percent favored limited entry, 18 percent favored individual fishing quotas, 17 percent replied buybacks, 14 percent said that access should not be limited, and 9 percent noted "other". Fifty-five percent feel that fishermen are not accurately portrayed in the media.

Although it is difficult to determine specific implications for HMS management from a general survey, responses on preferred management techniques, level of participation in the process, and outlooks for the future can be helpful as guidelines. Commercial fishermen can be

identified as a community in respect to some of their attitudes towards their work and typical characteristics. It is important to acknowledge these traits to produce management measures that are most amenable to, and supportive of, the typical commercial fisherman.

NMFS Office of Science and Technology Socioeconomic Fishing Surveys

NMFS conducted two separate socioeconomic surveys in order to provide demographic and economic data on marine recreational fishermen. Basic demographic information included age, education, employment status, and income distribution. Economic data consisted of estimated boat and travel expenses as well as distance traveled to reach a particular fishing destination. In addition, participants were surveyed on their management preferences. Data were collected and analyzed by individual state. Survey results pertaining to the “Big Game” category of recreational fishing are discussed further in Section 4.4.4.

Marine recreational fishermen from Maine through Virginia’s recreational were surveyed during May through December of 1994. Anglers were asked a few questions during routine MRFSS intercept interviews. Several additional socio-demographic questions, as well as questions about management preference, were asked during follow-up telephone interviews with willing participants. Over 22,000 economic intercept add-on surveys were completed, and over 8,000 individuals participated in the telephone follow-up survey.

In March 1997 to February 1998, recreational fisherman from North Carolina through Louisiana were surveyed. Data were collected to provide demographic and economic data on marine recreational fishing participants and followed the same protocol as the 1994 survey. In total, over 33,000 economic intercept add-on surveys were conducted. Of these, over 10,000 individuals were administered the telephone follow-up survey.

Survey results are helpful in identifying baseline characteristics of the East and Gulf Coast marine recreational fisheries. There is a wide variety of recreational fisheries in each state and fishermen that target HMS are typically a small percentage of the total. As a consequence, these studies were not used in the HMS FMP and are mentioned here primarily as an interesting example of a type of community study. A state-by state-assessment of HMS recreational fisheries would be valuable and is something that NMFS is considering as a future project.

5.3 Future Trends

Social impact analyses should continue to be conducted and refined in terms of the techniques employed and how they can be best used by management. The following data were described by Brainerd et al. (1996) as being essential in order to characterize individual ports as distinct communities and to assess levels of regional cohesion. “Census” in this case refers to taking data from all ports in the region, not all persons within a community. “Sample” refers to a

subset of ports. The census and other public data, combined with per-trip crew information, will allow fisheries managers to estimate regional differences in fishing effort and movement between fisheries. In addition, it will allow assessment of differing social service, employment, and retraining needs in different communities. The ethnographic data will further understanding of regional and even extra-regional patterns of fishing and attitudes toward fishing and fisheries management, as well as the place of fishing within individual communities. These data will also provide the detailed information necessary to allow fishers' knowledge of fishing and the environment to be usefully incorporated into fisheries management.

Table 5.1 Community Data Collection

Data Element	Census (C) or Sample (S)	Frequency	Collection Method
<i>Demographic Data</i>			
By smallest available aggregations	C	Based on the public data source frequency	U.S. Census and municipal data
Population levels	C	" "	" "
Age / sex breakdown	C	" "	" "
Vital statistics (births, deaths, net in-out migration)	C	" "	" "
Racial / ethnic composition	C	" "	" "
Welfare rates	C	" "	" "
Crime rates	C	" "	" "
Availability and character of health and other community services	C	" "	" "
Education levels	C	" "	" "
Average family size	C	" "	" "
Language use	C	" "	" "
Income levels (average and by occupational category)	C	" "	" "
Housing costs	C	" "	" "
<i>Sociocultural Data</i>			
Community social and cultural events related to fishing, and the level of participation by fishing and non-fishing members of the community	Census initially, then sample	Every 3 to 5 years	ethnographic studies (including focus groups, network analysis, participant observation)
Views on and experiences with fisheries managers and management in general, and on specific types of fisheries regulations of both fishing and non-fishing communities.	" "	" "	" "

Data Element	Census (C) or Sample (S)	Frequency	Collection Method
Local (sometimes called "traditional") ecological knowledge of harvesters	" "	" "	" "
Multi-generational fishing patterns and perceived importance of generational continuity in the fishery	" "	" "	" "
Existence and importance of fishing community ties to other fishing communities through kinship, shared festivals, history of joint fishing fleets or grounds, or other means	" "	" "	" "
Existence and importance of conflicts among stakeholder communities	" "	" "	" "
Sources of information on current and proposed fisheries management measures	" "	" "	" "
Perceptions of the fishing industry within the broader community and region	" "	" "	" "

In addition, regional economic impact assessments (EIAs) provide a means to predict how anglers' behavior affects the economic activity of a specific region. An EIA can be relied on as a key component in satisfying NS 8 as well as the Regulatory Flexibility Act. EIAs are a relatively recent advent in fishery management and are still in the development stages. A recent journal article titled "Regional Economic Impact Assessments of Recreational Fisheries: An Application of the IMPLAN Modeling System to Marine Party and Charter Boat Fishing in Maine" urges caution in the use of EIAs (Steinback, 1999). Without knowledge of the interactions and assumptions in the variables, the model results may not reflect an accurate portrayal of the region. Steinback uses an analysis of Maine's charter industry to explore how more consistent and accurate techniques can be incorporated in regional EIAs. As the techniques and data necessary to conduct a community EIA become further refined, they can be better integrated into a management framework and used to explore the effects of proposed alternatives.

Section 5 References:

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