

3.0 ECONOMIC CONSIDERATIONS

Before implementing management measures, NMFS must consider the economic impacts in accordance with two laws: the Regulatory Flexibility Act (Reg Flex Act) and Executive Order 12866 (E.O. 12866). The requirements under E.O. 12866 and Reg Flex Act are similar. Both require a description of the need for the action, and the management objectives. These requirements can be found in Sections 1 and 2 of this document. They also require an analysis of each alternative, the expected effects, and a description of the reasons why an action is being taken (Sections 7, 8, and 9). The main difference between the Reg Flex Act and E.O. 12866 is the focus of the analysis. While the Reg Flex Act focuses on individual businesses, E.O. 12866 focuses on the entire fishery.

The analyses required for E.O. 12866 and under the Reg Flex Act are included in Section 8, and additional economic impacts are discussed throughout this document, particularly in Section 7. Additional information about the Reg Flex Act, E.O. 12866, and economic impacts can be found in Chapter 7 of the Fishery Management Plan for Atlantic Tunas, Swordfish, and Sharks (NMFS, 1999).

Before implementing management measures, NMFS considers all economic concerns and works with the constituency, including representatives of small businesses, to identify alternatives, consider the impacts of these alternatives, and to select preferred alternatives based on various factors, including relative effects on small businesses. NMFS has consistently worked with its constituents throughout the public scoping processes, public hearings, and extensive comment periods. NMFS also works with two Advisory Panels, formed under the re-authorization of the Magnuson-Stevens Act, that include representatives of small businesses. For the regulations in this document NMFS held 13 public hearings during two comment periods and received hundreds of written comments and over 2,000 form letters. Many of the comments received mentioned the economic and social impacts these regulations will have on all fishermen, commercial and recreational. A summary of comments submitted and the agency's responses can be found in Appendix B of this document. Comments that specifically related to the economic and social impacts and analyses can be found in the sections titled "Mitigation of Economic Impacts" and "Social and Economic Analyses".

In addition, NMFS strives for improved collection and analyses of data pertaining to the social and economic aspects of the fisheries. The 1996 Small Business Regulatory Enforcement and Fairness Act (SBREFA) has increased the focus on these analyses. NMFS is endeavoring to develop clearer guidance on the actual implementation of the requirements pertinent to fishery management. NMFS believes the goals of fishery management are consistent with those of the Reg Flex Act: implement fishery management regulations to ensure a healthy resource that will sustain viable fisheries for both commercial and recreational constituents and the businesses associated with those fisheries.

3.1 Small Business Regulatory Enforcement and Fairness Act

The 1996 SBREFA amended the Reg Flex Act and made compliance with Sections of the Reg Flex Act subject to judicial review. The purpose of the Reg Flex Act is to require agencies to assess impacts of their proposed regulations on small entities and to encourage Federal agencies to utilize innovative administrative procedures when dealing with small entities. If an action is believed to be significant, the Reg Flex Act requires agencies to perform an Initial Regulatory Flexibility Analysis (IRFA) during the proposed rule stage and, after considering public comment, a Final Regulatory Flexibility Analysis (FRFA) during the final rule stage.

In a regulatory flexibility analysis, the focus is on small businesses and the effect of regulatory measures on their revenues and/or costs. The analyses should contain sufficient information to make a determination of whether the rule has a “significant economic impact on a substantial number of small entities” under Reg Flex Act. While the current National Oceanic and Atmospheric Administration (NOAA) guidelines for the Reg Flex Act focus primarily on impacts on either gross revenues and/or costs (depending upon the measure being considered as well as available data), the financial condition of affected firms (i.e., the net effect of gross revenue and cost changes) is also an important consideration in these analyses. The NOAA guidelines for the Reg Flex Act are currently being revised (65 FR 32078). The comment period for these revisions began on May 22, 2000, and will remain open until June 21, 2000.

The definition of a “small entity” includes small businesses, small organizations, and small governmental jurisdictions. The Small Business Administration considers a small business as a firm with annual receipts averaging over three years up to three million dollars annually. For processors, a small business is one with 500 or fewer employees; the wholesale industry size standard is 100 or fewer employees. A small organization is defined as any non-profit enterprise that is independently owned and operated and is not dominant in its field. NMFS believes that all participants in pelagic longline fisheries, including processors, can be defined as small entities.

3.2 Executive Order 12866

In compliance with E.O. 12866, the Department of Commerce and NOAA require the preparation of a Regulatory Impact Review (RIR) for all regulatory actions that either implement a new FMP or significantly amend an existing plan, or may be significant in that they reflect agency policy concerns and are of public interest. The RIR is part of the process of preparing and reviewing FMPs and regulatory actions and is intended to provide a comprehensive review of the changes in net economic benefits to society associated with proposed regulatory actions. Thus, the focus of the RIR is on the net economic benefit from the entire fishery, not the net economic benefit to individual fishermen. The analysis also provides a review of the problems and policy objectives prompting the regulatory proposals and an evaluation of the major alternatives that could be used to solve the problems. The purpose of the analysis is to ensure that the regulatory agency systematically and comprehensively considers all available alternatives so that the public welfare can be enhanced in the most efficient and cost-effective way.

3.3 Net Economic Benefit

One type of measurement used in evaluating the economic importance of a fishery is net economic benefit, also referred to as economic value. Net economic benefit is a measure of the “value” of a fishery and is the sum of producer and consumer surplus associated with the fishery. For the commercial fishery, net economic benefit includes profits (difference between total revenues and total costs) to producers (vessel operators, suppliers, fish dealers, retailers, etc.) and the net benefits to seafood consumers. In examining alternatives, these are often considered at the margin, i.e., the change in net benefits in moving from the status quo to another alternative. Note that net economic benefit considers employment as a cost; thus, all other things being equal, the more employment generated under an alternative, the lower the net economic benefit.

Due to limited data on fishing costs, and limited studies measuring consumer surplus for seafood products, net economic benefits are difficult to measure in HMS commercial fisheries. Trip-level data on fishing costs are collected on a voluntary basis in an add-on questionnaire at the end of the pelagic longline trip summary form. NMFS is considering making this add-on mandatory (64 FR 55900). Some cost data are also available from previous surveys of the various HMS fleets. These may be used to generate partial estimates of net economic benefit, notably producer surplus (revenues-costs).

3.4 Economic Impact

Another type of economic measurement is economic impact. Economic impact is often what fishermen, commercial and recreational, refer to in emphasizing the importance of their activities to local communities and the national economy. Economic impact is a measure of the income, tax revenues, and employment generated by an activity. In the commercial fishery, information on expenditures (bait, tackle, labor, etc.) as well as the ex-vessel value of landings plus value-added are usually used to designate economic impacts. Non-consumptive uses of a resource (e.g. whale watching) also generate economic activity. The relative levels of economic impact allow cross-comparison of the effect of the measures on the level of expenditures -- primarily fishing costs -- from both the recreational and commercial fisheries. Expenditures may be examined in the format of an input-output model, which traces the “ripple” effect of every dollar of expenditures in one sector on other sectors, often referred to as secondary, or induced, effects. Expenditures can also be used to estimate the number of jobs generated by various management measures. Economic impacts can be important to communities, as employment levels, income, and a wider tax base are desirable economic effects of fishing activities.

3.5 Consumer Surplus and Angler’s Willingness-to-Pay

There are two basic types of consumer surplus. The first one relates to those people who purchase and eat fish at grocery stores or restaurants. This consumer may be willing to pay more money for better quality fish. The second type of consumer surplus relates to recreational fishermen who find fishing enjoyable and satisfying even if it is catch and release. This consumer may be willing to pay more money for better quality fishing.

Changes in consumer surplus can occur due to changes in the price of seafood. Because a large percentage of swordfish consumed in the United States is imported (approximately 71 percent; NMFS, 2000), it is assumed that regulations affecting the operation of the domestic fishery (other than a complete closure) will not result in significant price changes at the consumer level and therefore will not result in changes in consumer surplus. However, consumers may be willing to pay more for domestically caught swordfish, or other fish, especially if it is fresher or fished with conservation in mind.

Changes in the availability of recreational fishing opportunities also affects the angler's willingness-to-pay. To the extent that restrictions on U.S. longlines may enhance recreational fisheries for HMS, increased angler satisfaction may be an additional economic benefit for the alternatives considered in this document. NMFS received many comments on the impacts of this type of consumer surplus during the comment period. A summary of these comments can be found in Appendix B.

3.6 Producer Surplus and Income to Captain and Crew

Producer surplus is measured by the economic rent (above normal profits) earned by the vessel owners, captain and crew. For the purposes of this analysis, profits will be used as a proxy for economic rents earned by the vessel owners. Note that crew wages are generally considered to be part of the variable costs of fishing to the vessel owner. Profits are affected through changes in both revenue and costs which occur because of the management action. For example, time/area closures will likely affect fishing costs due to greater distances to fishing grounds for affected vessels.

Initial losses in producer surplus are typically estimated for year one of the management measure. Vessels might incur further losses in future seasons, but will also have time to adjust their fishing practices so as to minimize these losses. Labor will also adjust as some crew members leave the industry or shift to vessels in other fisheries that are unaffected by the pelagic longline regulations.

Income to the captain and crew depends on the wages they receive. If the crew members are earning more money in longline fishing than they would earn in the next best alternative fishing area and/or occupation available to them, their income is likely to decrease as a result of the proposed action. It is assumed that crew members would be able to find alternative employment because it is possible they are capable of participating in another fishery (i.e., some may possess a broad range of commercial fishing skills).

3.7 Non-Market Valuation

Although marine mammals and other protected species are not normally traded in economic markets, society still places a value on protecting these species from human-induced mortality. Thus, those who place a value on the survival of a species also benefit from the protection of these species afforded by fisheries regulation. Contingent valuation techniques have been used

by economists to assess the value to society of such non-market goods and services, and the techniques have been endorsed by a NOAA Blue Ribbon Panel of independent experts. However, the use of contingent valuation techniques to answer public policy questions is still considered controversial.

NMFS does not have value estimates for animals protected by the ESA or MMPA taken by longlines, but studies indicate that society does value the existence of marine mammal species encountered by other fishing gears (Strand, McConnell, and Bockstael, 1994). For that reason, it is important to consider the value to society of protecting endangered and threatened species. Due to lack of specific valuation data, no attempt has been made to include such values in the analysis presented below. Rather, they are mentioned to illustrate the high value the public places on eliminating human-induced mortality of marine mammal stocks. This high public value is illustrated in Chakravorty and Nemoto's (2000) study described below.

Chakravorty and Nemoto (2000) used 1995 logbook data from the Hawaii [pelagic] longline fishery to estimate a spatial and dynamic model of fishermen's decisions on effort in a multi-species fishery. The model is then used as a policy simulation exercise to examine the impacts of time/area closures (inshore and offshore) and an increase in the auction fee at Honolulu ex-vessel market. A simulated inshore time/area closure (e.g., to reduce commercial-recreational conflicts) results in vessels compensating by fishing further offshore, and making fewer trips, thus increasing fishing costs and reducing crew wages. Closing areas further offshore (e.g., for turtle conservation) results in greater effort inshore, with shorter but more numerous trips, with fewer swordfish sets and catches. The offshore analyses allow estimation of the costs of turtle conservation in terms of foregone profits to the longline fleet, roughly \$15,000 per turtle.

3.8 Net National Benefits

Net national benefits are the benefits minus the costs under the alternatives. Due to lack of cost data, only marginal changes in gross revenues are evaluated. Because costs are likely changing as well, these analyses are only a partial picture of the effect of the various alternatives. The net economic benefits are measured as the change in consumer and producer surplus brought about by the preferred management measures. As indicated above, these net benefits are minimum estimates because they do not include non-market benefits such as existence values or non-consumptive use values. These benefits are difficult to calculate and are not generated in this document. In practice, one of the most straightforward methods of evaluating producer and consumer surplus is to allocate and allow the sale of individual transferrable quotas (ITQs): for example, the price that might be bid by an individual fisherman for the right to harvest one swordfish reflects either producer surplus (for a commercial fisherman) or angler willingness-to-pay (for a recreational angler) or existence value (for a conservationist). Although ITQs are not in place for the swordfish fishery, the limited access system implemented in July 1999 imparts a value to permits and may provide a proxy for estimating this value in a few years. Initial observations on transfers of permits indicate sale/offer prices of \$10,000 for a directed swordfish permit; it can be assumed that incidental permits would be worth less money. Further, permits for larger vessels would be worth more than those for smaller vessels given the existing vessel

upgrading provisions. These values reflect primarily the present value of expected net revenues from swordfish fishing (subject to vessel restrictions) for a range of outgoing years.

3.9 Theoretical and Empirical Studies of Fishing Behavior

Theoretical studies of fishing behavior have attempted to isolate the major determinants of the decision-making behavior of commercial fishermen. Having such models allows the analyst to determine the effect of specific variables, including those that might be affected by fishery policy. Economic theory indicates that the fishermen's decisions relative to choice of fishing area are most influenced by net returns in the fishery, or the difference between gross revenues and costs. The fisherman could formulate expectations about the relative net returns across sites based on the estimated travel cost of accessing the sites and the expected catch rates at each site. Everything else being equal, fishermen prefer sites with high catch rates that are closer to port to sites that have lower catch rates and/or are farther from port. In many cases, fishermen must make tradeoffs between travel costs and catch rates.

The social and economic effects of closing fishing grounds are reflected primarily in the impacts on net returns, which are a function of the relative net returns in closed areas versus the areas and/or times that could remain open to the fisherman. Therefore, a key factor in assessing the impacts is comparing the net returns in the remaining "choice set" of times and areas versus those that are being closed. If a fisherman is taking a decision on fishing site subject to the constraint of time/area closures, and if the next best choice is a more distant site but with higher catch rates, then the effect might be marginal. However, if the next best site is substantially more distant and has the same or lower catch rates, then the fisherman might experience significant reductions in net revenues.

In the analyses presented in this document, the choice set is "closed" for the no effort redistribution model, and the choice set is basically the open areas of the Gulf of Mexico and the Atlantic under the effort redistribution model (Appendix C). For the purposes of assessing the impact on bycatch, the analyses show the net effect on both target catch and incidental catch. The former allows an estimation of the effect of the closure on gross revenues.

The effects on net revenues are more difficult to estimate due to the need to assess the change in fishing costs. The primary fishing cost affected by a closure analysis is travel costs, which include fuel costs as well as the opportunity cost of the captain and crew's time. It is difficult to assess whether vessels would permanently relocate (likely in the case of a year-round closure) and thus take trips of similar distance from a port in an open area, or stay in their home ports, and either "wait out" some or all of the closure, or steam to open areas during the closure (e.g. in the case of the Charleston Bump closure for a limited number of months). Returns are affected primarily by catch rates, although relative prices also play an important role.

3.10 A Summary of Vessel Buyback Programs

Reducing fishing capacity is one overcapitalization alternative that could provide some economic

relief. Commonly known as buyback, this alternative pays harvesters in fisheries with too much fishing capacity either (a) to surrender their fishing permits for that fishery or (b) both to surrender all their fishing permits and withdrawn their fishing vessels from all fishing (by scrapping or by title restriction). A buyback's statutory authority is section 312(b)-(e) of the Magnuson-Stevens Act. The buyback's intent is to decrease excess harvesting capacity, increase the economic efficiency of the remaining harvesting capacity, and facilitate the conservation and management of fishery resources.

There have been a number of buyback programs that have been implemented or are in the initial stages of implementation. Buyback programs funded entirely or in part by the Federal government have reduced the number of permitted fishing vessels in New England, Texas, and Washington. Beginning in 1976 and continuing to the present, programs financed partly or entirely by the Federal government have awarded cash compensation to people surrendering salmon fishing licenses in the Pacific Northwest. More recently, federal funds have been used to purchase licensed vessels in the New England groundfish fishery, and contributed to the fishing license buyback program in the Texas Bay and bait shrimp fisheries. Responding to interest in expanding these programs and the arguments of those who believe that industry should both play a more central role in designing buyback programs and pay for profitable programs, the Sustainable Fisheries Act amended the Magnuson-Stevens Act to create new buyback program options. New fishing vessel reduction programs authorized by Section 312 of the Sustainable Fisheries Act can draw on both Federal and industry funding, these programs operate under federal guidelines and assistance, and they will use loans from the federal treasury.

Payments for reducing fishing capacity can be fixed, based on market values or production histories, determined by reverse auctions, or a combination of these. Buyback costs can be funded by Federal appropriations, Federal loans repayable by post-buyback harvesters, contributions from other public or private entities, or a combination of these. Title XI of the Merchant Marine Act, 1936, as amended, is the authority under which NMFS' Fisheries Finance Program makes loans for financing buyback costs.

On May 18, 2000, NMFS implemented an interim final rule for implementing a section 312 buyback (65 FR 31444). Although NMFS has not yet conducted a buyback solely under the section 312 authority, NMFS has conducted one buyback partially under the section 312 authority and several buybacks under other authorities.

NMFS recently conducted a \$90 million buyback in the Bering Sea pollock fishery. Although separately authorized by the American Fisheries Act, the pollock buyback involved a loan under Title XI that will be repaid by fees collected under section 312. The pollock buyback's cost was financed by a \$15 million Federal appropriation and a \$75 million buyback loan from the Fisheries Finance Program. Post-buyback pollock harvesters will repay the loan over the next 30 years by a fee of 0.6 cents for each pound of inshore pollock they land. Shoreside processors will deduct the fee from ex-vessel proceeds otherwise payable to the harvesters, and forward fee revenues to NMFS for application to the loan. This buyback involved fixed payments and vessel scrapping as well as the revocation of all fishing permits the vessels possessed.

Except for several additional requirements, buyback loans entirely under the authority of section 312 work the same way as the pollock buyback loan. The additional requirements are that the repayment fees equal some portion (not to exceed 5 percent) of the ex-vessel value of post-buyback landings and that industry referenda authorize the fees before buyback loans occur. Under Title XI alone, however, 20 years is the maximum maturity for buyback loans. Buyback loans are statutory loans. Buyback loans involve no promissory notes, mortgages, or other conventional loan documentation. Post-buyback landing fees are the exclusive source of repaying, and security for, buyback loans. Fee payment and collection are mandatory. Beyond these fees, however, no one has any other liability for loan repayment.

Before enactment of the section 312 and Title XI buyback authorities, NMFS conducted a major buyback in the Northeast multispecies fishery. Under the authority of the Interjurisdictional Fisheries Act and funded entirely by Federal appropriations, this buyback involved vessel scrappings as well as permit revocations. For \$24.39 million, this buyback scrapped 79 vessels. These 79 vessels had been responsible for 19.47 percent of this fishery's production over a three year period. The buyback also revoked the 79 multispecies fishing permits these vessels possessed, as well as 456 permits the vessels possessed for other species.

The multispecies buyback involved a reverse auction. Each bidder specified the price (buyback payment) for which the bidder was willing to withdraw fishing capacity and the average value over a 3-year period of all multispecies production for the vessel and permit involved. The price, stated as a percentage of the production, was the factor by which this buyback ranked bids for acceptance. The bids accepted were those whose buyback prices were the lowest percentage of the production values.

In connection with the Northeast multispecies buyback, NMFS also made \$20 million in general Title XI loans available for refinancing existing debts on vessels remaining in the fishery after the buyback. By providing longer repayment terms and lower interest rates, these Title XI refinancing loans decreased the debt service burdens of post-buyback vessels.

Other buybacks preceding the section 312 authority have involved inshore fishing permits in the Washington state salmon fishery and the Texas state shrimp fishery. Also conducted under the Interjurisdictional Fisheries Act, 75 percent of these buyback costs were funded by Federal appropriations. The other 25 percent was funded by non-Federal sources.

3.11 Other Options for Economic Relief

Besides buyback programs, there may be other options for economic relief. NMFS has worked with a number of other agencies/departments to explore programs that are available to fishermen and other businesses affected by fishery management measures. These programs are described below.

1. The Small Business Administration (SBA) is a source of guarantees for loans from local banks. The 7(a) Loan Guaranty Program is one of SBA's primary lending programs. It

provides loans to small businesses unable to secure financing on reasonable terms through normal lending channels. The program operates through private-sector lenders that provide loans which are, in turn, guaranteed by the SBA--the Agency has no funds for direct lending or grants. Most lenders are familiar with SBA loan programs so interested applicants should contact their local lender for further information and assistance in the SBA loan application process. Information on SBA loan programs, as well as the management counseling and training services offered by the Agency, is also available from the local SBA office. Interested parties can learn more about this program by visiting the SBA website: <http://www.sba.gov/financing/fr7aloan.html>.

2. The Economic Development Administration (EDA) was created to create new jobs and retain existing jobs in economically stressed communities. Through a series of grant programs, the EDA helps distressed communities develop strategies to improve their own economic situation through a multifaceted cooperative effort. Most of the EDA activity affecting the fishing industry has been funded through the EDA's Public Works Program and the EDA's Economic Adjustment Program. The Public Works Program has funded port and harbor improvements. The Economic Adjustment Program helps communities adjust to serious changes in their economic situation, and proceeds from this program are generally used for organization, business development, revolving loan funds, infrastructure, and market research. Interested parties can learn more about these programs, including eligibility requirements and contact information, by visiting the EDA website: <http://www.doc.gov/eda/html/prgtitle.htm>.
3. The Farm Credit System (FCS) is a nationwide financial cooperative that lends money and provides financial services to agriculture and rural America. Congress created the FCS in 1916 to provide American agriculture with a dependable source of credit. The FCS makes loans and leases at competitive rates with flexible terms to fit the needs of farmers, ranchers, commercial fisherman, agribusinesses and country home owners. As of January 1997, the FCS was comprised of 225 banks and associations that include the following: 6 Farm Credit Banks, which make direct, long-term loans through 60 Federal Land Bank Associations and provide loan funds to 65 Production Credit Associations; 56 Agricultural Credit Associations; and 31 Federal Land Credit Associations. Long-term loans to the fishing industry are made for a variety of purposes, including real estate for aquaculture operations, processing and marketing facilities, and capital equipment. In addition, short-term FCS loans can be used to buy production equipment such as fuel or bait while longer-term loans may be used for gear expenditures, the purchase of new vessels, and the reconditioning of older vessels. Interested parties can locate a FCS lender by visiting the following website: <http://www.fcredit.com/locate.htm>.
4. The U.S. Department of Labor's Economic Dislocation and Worker Adjustment Assistance Act provides funds to States and local substate grantees so they can help dislocated workers find and qualify for new jobs. It is part of a comprehensive approach to aiding workers who have lost their jobs that also includes provisions of the Worker Adjustment and Retraining Notification Act and the Trade Adjustment Assistance

program. Workers who have lost their jobs and are unlikely to return to their previous industries or occupations are eligible for the program. This includes workers who lose their jobs because of plant closures or mass layoffs; long-term unemployed persons with limited job opportunities in their fields; and farmers, ranchers and other self-employed persons who become unemployed due to general economic conditions. Services include retraining services, readjustment services, and needs-related payments. Interested parties can obtain more information about services available and contact information by visiting the following website: <http://www.doleta.gov/programs/factsht/edwaa.htm>.

5. The Fishing Vessel Obligation Guarantee Program (FOG) was established by the Federal Ship Financing Act of 1972. With the passage of the Sustainable Fisheries Act, the FOG program was renamed the Fisheries Finance Program (FFP) and was authorized to finance buyback programs and the purchase of Individual Transferable Quota shares by small-scale fishermen and crew members. The FFP is a direct federal loan program. Regulations implementing the new authority for financing industry-funded vessel buybacks have not been finalized, but the program is expected to require an interested fishery to develop and submit a business plan for the buyback to NMFS for review and approval. The plan will have to include an economic analysis describing the benefits to remaining vessels. If the plan is approved by NMFS, participants in the fishery must vote whether to implement the plan. If a plan is approved by the fishery's participants, the FFP will borrow money from the U.S. Treasury Department to buyback vessels of permits. The vessel owners or permit holders remaining in the fishery will repay the Treasury loan through a levy of up to 5 percent of the ex-vessel value of the fishery's landings.

4.0 SOCIAL CONSIDERATIONS

Mandates to conduct social impact assessments come from both the National Environmental Policy Act (NEPA) and the Magnuson-Stevens Fishery Conservation and Management Act. NEPA 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 section 102(2)(a)]. Moreover, agencies need to address the aesthetic, historic, cultural, economic, social, or health effects which may be direct, indirect, or cumulative. Consideration of social impacts is a growing concern as fisheries experience increased participation and/or declines in stocks. With an increasing need for management action, the consequence of such changes need to be examined in order to mitigate the negative impacts experienced by the populations concerned.

Social impacts are generally the consequences to human populations that follow from some type of public or private action. Those consequences may include alterations to the ways in which people live, work or play, relate to one another, and organize to meet their needs. In addition, cultural impacts which may involve changes in values and beliefs which affect people’s way of identifying themselves within their occupation, communities, and society in general are included under this interpretation. Social impact analyses help determine the consequences of policy action in advance by comparing the status quo with the projected impacts. Although public hearings and scoping meetings provide input from those concerned with a particular action, they do not constitute a full overview of the fishery.

Pending the collection of quantitative information concerning the views of pelagic fishermen, qualitative data can be used to provide a rough estimate of some impacts. Section 9 provides a description of the social impacts of the final actions. Additional information regarding the social impacts of each alternative can be found in Section 7.

NMFS recognizes that the final regulations contained in this document could have substantial economic and social impacts. The final actions for time/area closures, in particular, may harm commercial fishing communities found near the closed areas. In response, NMFS has tried to identify possible sources of economic relief for affected individuals, businesses, and communities. Some government agencies such as the Small Businesses Administration, the Economic Development Administration, the Farm Credit System, the U.S. Department of Labor’s Economic Dislocation and Worker Adjustment Assistance Act, and the Fishing Vessel Obligation Guarantee Program may provide fishing industry participants with loans, training for new jobs, and/or grants for economically stressed communities. A summary of these options can be found in Section 3 of this document.

NMFS has also tried to minimize impacts by delaying the implementation of some of the final actions. This will allow fishermen, dealers, and other related industries to relocate both business interests and family.

Additionally, Executive Order 12898 (Environmental Justice) requires agencies to identify and

address disproportionately high and adverse environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States. NMFS has tried to identify and address these concerns in these regulations, consistent with Environmental Justice. Descriptions can be found throughout the alternatives in Section 7 and in Section 9 of this document.

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