

REVIEW OF SOCIAL IMPACT ASSESSMENT INCLUDED IN NATIONAL ENVIRONMENTAL POLICY ACT DOCUMENTS RELATED TO MARINE



Report

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Authors: Kathryn Mengerink, Nathan Hausman, and David Roche

In addition, the following people contributed to this report: Nicholas Bryner, Zachary Jyllka, [intern], Shannon Smyth, and Greta Swanson

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I. OBJECTIVES AND METHODOLOGY

This Report explores the structure and content of existing social impact assessments (SIAs) for fisheries management under the National Environmental Policy Act, with the goal of understanding what works well and how to build on past approaches. The purpose of this Report is to summarize key elements of the SIAs that are included in twenty-four recent ocean-related NEPA documents, in order to facilitate dialogue regarding the structure, content, design approaches, and presentation of SIAs in NEPA documents.

To summarize the 24 ocean-related NEPA documents, the Environmental Law Institute worked with the National Oceanic and Atmospheric Administration (NOAA) NEPA staff, as well as an advisory team made up of NOAA social scientists. Together, the group identified the key NEPA documents to target for evaluation and factors to examine in each document. The NEPA documents were selected to be representative of existing SIA practices in the ocean context.

Table 1 provides a summary of the 24 documents analyzed and indicates the type of NEPA document, year completed, agency, and region. The analysis focuses on understanding SIAs related to fisheries management—therefore, 14 of the 24 NEPA documents relate to fisheries management decisions. The Report also includes information from several other types of NEPA documents for comparison purposes. These include four documents related to offshore energy development, four National Marine Sanctuary documents, one document related to oyster aquaculture, one document related to introduction of non-native oysters, and one document related to endangered species research.

Table 1. NEPA Documents Reviewed

<u>FEDERAL ACTION DESCRIPTION</u>	<u>SHORTHAND REFERENCE NAME</u>	<u>TYPE & YEAR</u>	<u>AGENCY</u>	<u>REGION</u>
Amendment 15 to the Scallop FMP	Amd 15 Scallop FMP	FEIS, 2010	NMFS	Northeast
Amendment 16 to the Northeast Multispecies FMP	Amd 16 NE Groundfish	FEIS, 2009	NMFS	Northeast
Amendment 5 Monkfish FMP	Amd 5 NE Monkfish	EA, 2010	NMFS	Northeast

<u>FEDERAL ACTION DESCRIPTION</u>	<u>SHORTHAND REFERENCE NAME</u>	<u>TYPE & YEAR</u>	<u>AGENCY</u>	<u>REGION</u>
Proposed Effort Control Measures—American Lobster Fishery	Control Measures: American Lobster	DEIS, 2010	NMFS	Northeast
To Reduce Incidental Bycatch and Mortality of Sea Turtles in the Southeastern U.S. Shrimp Fisheries	Sea Turtle Bycatch in SE Shrimp Fishery	DEIS, 2012	NMFS	Southeast
Amendment 14 Snapper Grouper	Amd 14 Snapper Grouper FMP	FEIS, 2007	NMFS, SAFMC	South Atlantic
Amendment 26: Reef Fish FMP, Red Snapper IFQ Program	Amd 26 GM Snapper	FEIS, 2006	NMFS	Gulf of Mexico
Amendment 11 FMP for Spiny Lobster in Gulf & South Atlantic	Amd 11 Gulf Spiny Lobster FMP	FSEIS, 2012	NOAA, GMFMC, SAFMC	Gulf of Mexico & South Atlantic
Amendment 31 FMP for Reef Fish Resources in the Gulf	Amd 31 Gulf Reef Fish	DEIS, 2009	NMFS, GMFMC	Gulf of Mexico
Amendment 20: Rationalization of the Pacific Groundfish Trawl	Amd 20 Pacific Groundfish	FEIS, 2010	PFMC, NMFS	Pacific
Allocation of Harvest Opportunity Between Sectors of the Pacific Coast Groundfish Fishery	Pacific Groundfish Allocation	FEIS, 2010	NMFS, PFMC	Pacific
Bering Sea and Aleutian Islands Crab Fisheries	BSAI Crab FMP	FEIS, 2004	NMFS	N Pacific
Final Environmental Impact Statement for Essential Fish Habitat Identification and Conservation in Alaska	AK EFH FMP	FEIS, 2005	NMFS, NPFMC	Alaska
Cape Wind Energy Project	Cape Wind	FEIS, 2009	BOEM	Nat'l Office
Channel Islands NMS Management Plan	Channel Islands NMS Mgt.	FEIS, 2009	NOS, NMSP	Pacific

<u>FEDERAL ACTION DESCRIPTION</u>	<u>SHORTHAND REFERENCE NAME</u>	<u>TYPE & YEAR</u>	<u>AGENCY</u>	<u>REGION</u>
Chukchi Sea Planning Area Oil and Gas Lease Sale 193	Chukchi Sea Oil & Gas Lease	FEIS, 2011	BOEM	Alaska
Cordell Bank, Gulf of the Farallones, and Monterey Bay NMS	CB/GF/MB NMS	FEIS, 2008	NOS, NMSP	Pacific
Florida Keys NMS Management Plan	Florida Keys NMS Mgt.	FEIS, 1996	NOS, NMSP	SE/Gulf
Steller Sea Lion and Northern Fur Seal Research	Sea Lion/Fur Seal Research	FPEIS, 2007	NMFS	Nat'l Office
Tortugas Ecological Reserve Final Supplemental Management Plan	Tortugas Reserve Mgt.	FSEIS, 2000	NOS, NMSP	SE/Gulf
Atlantic OCS Proposed Geological/Geophysical Activities	Atlantic OCS Geological/Geophysical	DPEIS, 2012	BOEM	Gulf of Mexico
Commercial Wind Lease Issuance and Site Assessment Activities on the Atlantic Outer Continental Shelf Offshore New Jersey, Delaware, Maryland, and Virginia	Mid-Atlantic Offshore Wind	EA, 2012	BOEM	Mid-Atlantic
Drakes Bay Oyster Company Special Use Permit	Drakes Bay Oyster Co. SUP	DEIS, 2011	NPS	Pacific
Chesapeake Bay Oyster EIS	Chesapeake Bay Oyster	FPEIS, 2008	ACE	Norfolk

The bulk of the documents reviewed (18 of 24) are Final Environmental Impact Statements (FEISs), including two Programmatic EISs (FPEISs) and two Supplemental EISs (FSEISs). Five documents are Draft EISs (DEISs), of which one is a Draft Programmatic EIS (DPEIS). Two EAs are also included in the Report and analysis. Nineteen documents were completed in the last five years, with the other five completed in 1996, 2004, 2005 (2), and 2006. The documents completed prior to 2007 were chosen based on their potential to have substantial SIAs based on the nature of the action.

Some of the tables and charts provided in the Report focus on certain NEPA documents and do not include others. In some cases, we have included only a representative sample of the NEPA documents given the scope of the work, and in others, we have included only certain similar NEPA documents in order to draw comparisons. In all cases, the sample size and composition are noted.

The authors began by cataloging the NEPA documents, including the lead agency that prepared them, the type of NEPA document, the year the document was published, and the nature of the action being proposed. The authors reviewed each document to understand how social impacts (historical and proposed) were identified and assessed. One major issue discovered is the linkage and occasional blending of social and economic impact assessments, which affected the scope of the review. While the main focus of this research is on SIA, the authors evaluated some aspects of economic impact assessments to better understand the overlap and linkages between the two types of assessments.

Following the initial review, we prepared a detailed synopsis of our findings for each document, including the following:

- Social and economic context of the management action
- Structure of the SIA
- Quality and quantity of analysis of social and economic factors
- Affected groups analyzed
- Data gaps and confidentiality concerns noted in the document
- Design approach, methodology, and presentation of results

For each NEPA document, the authors catalogued all findings, which are included in Appendix A of this Report. After reviewing each of the NEPA documents individually, the authors compared findings among NEPA documents.¹ In order to begin a dialogue on SIA, the scope of comparison encompassed the following factors:

- *Structure*: What is the structure of the SIA in a NEPA document, and does the structure affect the content of the analysis? Are there approaches that dilute or strengthen SIA?
- *Content*: What is the typical content of an SIA for ocean management? How does data availability affect SIAs? How should economic, social, and environmental data be linked in the analysis?

¹ Raw comparison data are included in Appendix B.

- *Design Approach:* Could creative methods of presenting or analyzing data, such as using map-based tools or a social vulnerability index, strengthen SIA?

By summarizing and contextualizing ocean-related SIA, the study is designed to support a dialogue regarding the elements of SIA in order to optimize the use of social information in federal decision-making.²

² The findings contained in the Report and Appendices are summarized in the Executive Summary.

II. FINDINGS

Social impact assessment (SIA) is not an inherently simple or straightforward process, and there is no one-size-fits-all approach. SIA is guided by a mix of legal and policy requirements; it requires assessment of a complex array of factors; it can be conducted using a multitude of methods; and it can be presented in a number of ways.

While it is a complex process, meaningful and robust SIA is important. It is the formal process by which community impacts are considered in management decisions, and it presents how the environmental, social, and economic impacts of management decisions affect the human environment. The process, content, and presentation of SIA in NEPA documents could influence how the public participates and the management decisions themselves.

This Report presents results in the form of ten observations (Table 2) that focus on legal drivers, content and style, economic and social variables, affected groups, and data limitations.

Table 2. SIA Observations in Ocean-Related NEPA Documents

	Category	Description
1	Legal drivers	SIAs inform and are informed by multiple legal requirements.
2	Content and style	Consideration of social impacts is often spread throughout a NEPA document.
3	Variables	Economic and social variables overlap in fisheries-related NEPA documents.
4	Variables	Certain social and economic factors are considered in multiple SIAs.
5	Variables	The quantity and quality of analysis of economic and social variables varies with substantially greater focus on economic variables.
6	Data limitations	Data gaps related to social variables were often identified as a limitation to an SIA.
7	Affected groups	Assessment of social impacts to affected groups varies by group.
8	Data limitations	Confidentiality of social data can limit community-level assessment.
9	Content and style	SIA elements are often incorporated by reference to outside documents.
10	Design approaches	Several NEPA documents include creative approaches for evaluating social impacts and sharing results of the assessment.

Due to the complexity of SIA, some of the observations have overlap or may require more information—when applicable, the overlap and information needs are noted. The remainder of the Report describes each observation in detail.

OBSERVATION 1: SIAS INFORM AND ARE INFORMED BY MULTIPLE LEGAL REQUIREMENTS.

To say that environmental decisions have socioeconomic dimensions is to acknowledge the inextricable connections between ecological and human landscapes. The United States Congress has long recognized the importance of considering socioeconomic impacts in environmental planning and decision-making processes. Through various statutory schemes, Congress has incorporated SIA into environmental review.

This observation provides a brief overview of the SIA statutory, regulatory, and policy requirements under NEPA. It includes brief summaries of court decisions that address SIA requirements. These case summaries are not meant as an exhaustive legal analysis of SIA case law, but are included as examples of the legal controversies that arise under NEPA's SIA requirements. This section also includes a brief overview of other federal legal requirements to evaluate social and economic impacts when taking federal actions. While these requirements do not arise under NEPA specifically, review of past NEPA SIAs indicates that SIAs often are designed to address more than one statutory mandate, and that legal guidance cited may influence SIA content and structure.

A. SIA UNDER NEPA AND NEPA-RELATED POLICIES

1. NEPA

In 1969, Congress passed NEPA, declaring it the “the continuing policy of the Federal Government . . . to use all practicable means and measures . . . to create and maintain conditions under which man and nature can exist in productive harmony.”³ NEPA requires federal agencies to prepare and publicly produce an Environmental Impact Statement (EIS) on the impacts of the proposed action before undertaking “major Federal actions significantly affecting the quality of the human environment.”⁴ Section 102 of NEPA specifically requires

³ 42 U.S.C. § 4331.

⁴ 42 U.S.C. § 4332(2)(C). Some have argued that the inclusion of the term “human” modifying “environment” signals Congress’ intent that agencies consider social and economic impacts in deciding whether to prepare an EIS for a proposed action. Stephen M. Johnson, *NEPA and SEPA’s in the Quest for Environmental Justice*, 30 *Lox. L.A. L. Rev.* 565, 585 (1997). Council on Environmental Quality Regulation 1508.14 reflects this statutory construction.

Federal agencies to make “integrated use of the natural and social sciences . . . in planning and in decisionmaking.”⁵

With such expansive statutory language, the range of impacts requiring consideration under NEPA has generated significant litigation. In the 1972 case of *Hanly v. Mitchell*, the U.S. Court of Appeals for the Second Circuit noted that “[NEPA’s] aims extend beyond sewage and garbage and even beyond water and air pollution; [t]he act must be construed to include protection of the quality of life for city residents.”⁶ Other federal appeals courts sought to limit the breadth of NEPA. Several courts held that NEPA prioritized environmental impacts above socioeconomic ones, holding that socioeconomic impacts alone were insufficient to trigger NEPA’s EIS requirement.⁷

In 1978, the Council on Environmental Quality (CEQ) promulgated regulations clarifying NEPA implementation.⁸ CEQ Regulation 1508.14 provides:

“Human environment” shall be interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment. (See the definition of “effects” (Sec. 1508.8).) This means that economic or social effects are not intended by themselves to require preparation of an environmental impact statement. When an environmental impact statement is prepared and economic or social and natural or physical environmental effects are interrelated, then the environmental impact statement will discuss all of these effects on the human environment.⁹

However, even after the promulgation of the CEQ regulations, which stated that social impacts alone do not trigger an EIS, questions remained as to the breadth and depth of NEPA’s SIA requirements. In 1983, in the case of *Metropolitan Edison Co. v. People Against Nuclear Energy*

CEQ Regulations, 40 C.F.R. § 1508.14.

⁵ 42 U.S.C. § 4332(2)(A).

⁶ *Hanly v. Mitchell*, 460 F.2d 640, 647 (2d Cir. 1972).

⁷ See, e.g., *Maryland-National Capitol Park & Planning Comm’n v. U.S. Postal Serv.*, 487 F.2d 1029 (D.C. Cir. 1973); *Breckinridge v. Rumsfeld*, 537 F.2d 864 (6th Cir. 1976); *Image of Greater San Antonio, Tex. v. Brown*, 570 F.2d 517 (5th Cir. 1978); *Como-Falcon Cmty. Coal., Inc. v. U.S. Dept. of Labor*, 609 F.2d 342 (8th Cir. 1979), cert. denied, 446 U.S. 936 (1980).

⁸ See 42 U.S.C. § 4321. It is important to note that CEQ Regulations allow agencies to adopt their own NEPA implementation procedures. NOAA issued Administrative Order 216-6, which details its internal policies and procedures for NEPA compliance. NOAA, Dep’t of Commerce, Administrative Order 216-6, Environmental Review Proceeding Implementing the National Environmental Policy Act (May 20, 1999), available at http://www.nepa.noaa.gov/NAO216_6_TOC.pdf.

⁹ CEQ Regulations, 40 C.F.R. § 1508.14.

("PANE"), the Supreme Court determined whether NEPA required the Nuclear Regulatory Commission (NRC) to consider potential psychological damage to persons living in the area of the Three Mile Island Nuclear Power Plant before permitting the reopening of a reactor at the plant.¹⁰ Although the plaintiffs alleged no direct environmental harm from reopening the reactor, they claimed the action would adversely affect the psychological health of nearby residents, thereby triggering NEPA's EIS requirement.¹¹

The Court noted that psychological health falls within the ambit of NEPA if the risk of harm stems from a physical change to the environment. However, the Court nonetheless held that NEPA only applies when there is a "reasonably close causal relationship between a change in the physical environment and the effect at issue."¹² The Court found no causal relationship in the *PANE* case because the risk to psychological health did not arise out of a direct change to the physical environment. While the *PANE* decision narrowed NEPA's applicability, it also affirmed the requirement that social impacts resulting from changes to the physical environment be considered in an EIS.¹³

Increasingly, other courts also have found force in NEPA's SIA requirements. In the 1985 case of *Northern Cheyenne Tribe v. Hodel*, the Northern Cheyenne Tribe brought suit against the Department of the Interior (DOI) for failing to discuss social and economic impacts to the Tribe in an EIS related to a major federal coal lease sale on tracts adjacent to the Northern Cheyenne Reservation.¹⁴ DOI argued that it assessed the Northern Cheyenne Tribe in the same manner as it had other stakeholders in the vicinity. In an unpublished memorandum opinion, the United States District Court for the District of Montana held that DOI violated NEPA by failing to consider socioeconomic and cultural impacts of the coal lease sale on the Northern Cheyenne Tribe as a group of affected residents.¹⁵

Some courts have invalidated environmental assessments (EAs) for failing to adequately assess socioeconomic impacts under NEPA. In 2003, in *TOMAC v. Norton*, the United States District Court for the District of Columbia held that the Bureau of Indian Affairs' (BIA's) EA and finding

¹⁰ *Metropolitan Edison Co. v. People Against Nuclear Energy*, 460 U.S. 766 (1983).

¹¹ *Id.*

¹² *Id.* at 774.

¹³ *Id.*

¹⁴ *Northern Cheyenne Tribe v. Hodel*, No. CV 82-116-BLG (D. Mont. 1985).

¹⁵ *Id.* While the court's remedy voiding the lease sale was appealed and eventually remanded, the court's holding with respect to DOI's failure to assess the socioeconomic impacts of the lease program on the tribe was left undisturbed. See *Northern Cheyenne Tribe v. Hodel*, 842 F.2d 224, 226 (9th Cir. 1988), *modified*, 851 F.2d 1152 (9th Cir. 1988), *remanded*, *Northern Cheyenne Tribe v. Lujan*, 804 F.Supp. 1281 (D. Mont. 1991). As an unpublished opinion, the case may not be cited as precedent, but it does provide an example of how courts may view SIAs.

of no significant impact were inadequate under NEPA because the agency failed to meaningfully consider various socioeconomic impacts associated with its decision to take land into trust for the construction of a casino.¹⁶ The court concluded that the BIA's EA failed to consider indirect, growth-inducing effects and to "clearly explain the Bureau's conclusion that an increase of 5,600 new jobs, 800 new employees and their families, and related changes in physical development and natural resource use will not have a significant effect on a community of 4,600."¹⁷

2. EXECUTIVE ORDER 12,898 (ENVIRONMENTAL JUSTICE) AND ACCOMPANYING NEPA MEMORANDUM

In 1994, President Clinton issued Executive Order 12898 (EO 12898), which required federal agencies to examine environmental justice matters as a socioeconomic impact consideration. The EO directs each federal agency to "make environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health and environmental effects of its programs, policies, and activities on minority populations and low-income populations."¹⁸ In an accompanying memorandum, the President decreed, "[e]ach Federal agency shall analyze the environmental effects, including human health, economic and social effects, of Federal actions, including effects on minority communities and low-income

¹⁶ *TOMAC v. Norton*, 240 F. Supp. 2d 45, 51 (D.D.C. 2003).

¹⁷ *TOMAC*, 240 F. Supp. 2d at 52. For a discussion of the role of SIAs in environmental assessments, see Johnson, *supra* note 4, stating the following:

The more contentious yet important question is whether NEPA requires the government to consider the secondary health and socioeconomic impacts of proposed actions when it prepares an EA. This is an important question because ninety-nine percent of the government actions that are reviewed under NEPA are reviewed in the context of an EA, rather than an EIS.

Arguably, the Supreme Court implicitly answered this question in the affirmative in *Metropolitan Edison*, when it held that the environmental impacts an agency must consider when preparing an EIS include the health impacts caused by changes to the physical environment resulting from the proposed government action. If this reading of *Metropolitan Edison* is correct, it is hard to imagine why NEPA would not require the government to consider secondary health effects as environmental impacts at the EA stage. The EA stage is the point at which it is decided whether the proposed action significantly affects the human environment, such that the agency must prepare an EIS. Similarly, if secondary socioeconomic impacts are environmental impacts that must be considered in an EIS, they should also be considered in determining whether to prepare an EIS in the first place. *Id.* at 584.

¹⁸ Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, 59 Fed. Reg. 7629 (1994), 3 C.F.R. § 859, *reprinted* in 42 U.S.C. § 4321.

communities, when such analysis is required by the National Environmental Policy Act of 1969.”¹⁹ Although EO 12898 does not create a right of action for private plaintiffs to enforce its mandates, it nonetheless has been cited as instructive of the kind of socioeconomic impacts an agency should consider in the course of its NEPA analyses.²⁰

3. COUNCIL ON ENVIRONMENTAL QUALITY GUIDANCE (ENVIRONMENTAL JUSTICE AND NEPA)

In the wake of EO 12898, CEQ issued guidance to federal agencies for incorporating environmental justice considerations into NEPA review.²¹ The CEQ guidance does not establish a particular formula for identifying environmental justice considerations but instead focuses on six guiding principles:

1. Agencies should consider the composition of the affected area, to determine whether minority populations, low-income populations, or Indian tribes are present in the area affected by the proposed action, and if so whether there may be disproportionately high and adverse human health or environmental effects on minority populations, low-income populations, or Indian tribes.
2. Agencies should consider relevant public health data and industry data concerning the potential for multiple or cumulative exposure to human health or environmental hazards in the affected population and historical patterns of exposure to environmental hazards, to the extent such information is reasonably available. For example, data may suggest there are disproportionately high and adverse human health or environmental effects on a minority population, low-income population, or Indian tribe from the agency action. Agencies should consider these multiple, or

¹⁹ Presidential Memorandum Accompanying Executive Order 12,898, 30 Weekly Comp. Pres. Doc. 279,280 (Feb. 11, 1994).

²⁰ See, e.g., *In re Louisiana Energy Services (Special Nuclear Material License) (Claiborne Enrichment Center)*, U.S. Nuclear Regulatory Comm’n Atomic Safety and Licensing Board, Docket No. 70-3070-ML (May 1, 1997) (relying on Executive Order 12898 to find that the agency failed to adequately consider the social and economic impacts of constructing and operating a uranium enrichment facility on the surrounding communities in its EIS), *affirmed* in part by *In re Louisiana Energy Services (Claiborne Enrichment Center)*, Docket No. 70-3070-ML (April 3, 1998).

²¹ Council on Env’tl. Quality, *Environmental Justice Guidance Under the National Environmental Policy Act* (Dec. 10, 1997), *available at* <http://ceq.hss.doe.gov/nepa/nepanet.htm>.

cumulative effects, even if certain effects are not within the control or subject to the discretion of the agency proposing the action.

3. Agencies should recognize the interrelated cultural, social, occupational, historical, or economic factors that may amplify the natural and physical environmental effects of the proposed agency action. These factors should include the physical sensitivity of the community or population to particular impacts; the effect of any disruption on the community structure associated with the proposed action; and the nature and degree of impact on the physical and social structure of the community.
4. Agencies should develop effective public participation strategies. Agencies should, as appropriate, acknowledge and seek to overcome linguistic, cultural, institutional, geographic, and other barriers to meaningful participation, and should incorporate active outreach to affected groups.
5. Agencies should assure meaningful community representation in the process. Agencies should be aware of the diverse constituencies within any particular community when they seek community representation and should endeavor to have complete representation of the community as a whole. Agencies also should be aware that community participation must occur as early as possible if it is to be meaningful.
6. Agencies should seek tribal representation in the process in a manner that is consistent with the government-to-government relationship between the United States and tribal governments, the federal government's trust responsibility to federally-recognized tribes, and any treaty rights.²²

Other agencies have likewise adopted their own guidance and guidelines for incorporating environmental justice considerations in the NEPA process.²³

²² *Id.*

²³ *See, e.g.*, U.S. General Services Admin., PBS NEPA Desk Guide (October 1990), *available at* http://www.gsa.gov/graphics/pbs/PBS_NEPA_Deskguide.pdf. *See also* U.S. Env'tl. Prot. Agency, Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analysis (Apr. 1998), *available at* <http://www.epa.gov/compliance/resources/policies/nepa/#environmental-justice>.

4. 1994 NMFS GUIDELINES

In 1994, the National Marine Fisheries Service (NMFS) issued a technical memorandum presenting *Guidelines and Principles for Social Impact Assessment (NMFS SIA Guidelines)*.²⁴ The guidelines propose the following nine SIA principles:

1. Involve the Diverse Public—Identify and involve all potentially affected groups and individuals.
2. Analyze Impact Equity—Clearly identify who will win and who will lose, and emphasize vulnerability of under-represented groups.
3. Focus the Assessment—Deal with issues and public concerns that really count, not those that are just easy to count.
4. Identify Methods and Assumptions and Define Significance—Describe how the SIA is conducted, what assumptions are used, and how significance is determined.
5. Provide Feedback on Social Impacts to Project Planners—Identify problems that could be solved with changes to the proposed action or alternatives.
6. Use SIA Practitioners—Trained social scientists employing social science methods will provide the best results.
7. Establish Monitoring and Mitigation Program—Manage uncertainty by monitoring and mitigating adverse impacts.
8. Identify Data Sources—Analyze published scientific literature, secondary data, and primary data from the affected area.
9. Plan for Gaps in Data—Evaluate the missing information, and develop a strategy for proceeding.²⁵

The *Guidelines* primarily relate to SIA under NEPA, but also provide a framework for SIA more generally and present a brief overview of other laws and regulations requiring social or economic impact assessment.²⁶

²⁴ NOAA Technical Memorandum, NMFS-F/SPO-16, National Marine Fisheries Service, Guidelines and Principles for Social Impact Assessment (May 1994), available at http://www.nmfs.noaa.gov/sfa/social_impact_guide.htm.

²⁵ *Id.*

²⁶ *Id.*

1. REGULATORY FLEXIBILITY ACT (RFA)

While NEPA's EIS requirement is triggered by "major Federal actions significantly affecting the quality of the human environment," other statutes call for social or economic assessment in the process of administrative rulemaking. The Regulatory Flexibility Act (RFA), for example, requires that federal agencies consider the impact of new proposed regulations on the profitability of small business entities and, if the impacts would be significant, analyze regulatory alternatives that might mitigate such impacts.²⁸ Under the RFA, agencies must publish their small business impact assessment and allow small business entities an opportunity to comment on it.²⁹ The RFA only covers actions that qualify as administrative rulemaking.³⁰

Several Executive Orders have been issued to reinforce the RFA's mandates. Executive Order 13272 requires federal agencies to publish policies outlining how they intend to comply with the RFA.³¹ In addition, Executive Order 13563 directs each agency to take the following measures when promulgating new regulations:

1. Propose or adopt a regulation only upon a reasoned determination that its benefits justify its costs (recognizing that some benefits and costs are difficult to quantify);
2. Tailor its regulations to impose the least burden on society, consistent with obtaining regulatory objectives, taking into account, among other things, and to the extent practicable, the costs of cumulative regulations;
3. Select, in choosing among alternative regulatory approaches, those approaches that maximize net benefits (including potential economic, environmental, public health and safety, and other advantages; distributive impacts; and equity);
4. To the extent feasible, specify performance objectives, rather than specifying

²⁷ This section does not include an exhaustive list of laws that relate to SIA. Rather it includes the laws that were identified during the review of social impact analyses under the twenty-four NEPA documents that were reviewed for this project.

²⁸ 5 U.S.C. § 601.

²⁹ 5 U.S.C. § 603.

³⁰ *Atlantic Fish Spotters Ass'n v. Evans*, 206 F. Supp.2d 81, 93 (D. Mass. 2002).

³¹ Executive Order No. 13272, Proper Consideration of Small Entities in Agency Rulemaking. 67 Fed. Reg. 53,461 (Aug. 13, 2002).

- the behavior or manner of compliance that regulated entities must adopt;
and
5. Identify and assess available alternatives to direct regulation, including providing economic incentives to encourage the desired behavior, such as user fees or marketable permits, or providing information upon which choices can be made by the public.³²

The RFA, as originally enacted in 1980, offered no private right of action; however, Congress amended the statute in 1996 to afford small business entities adversely impacted by an agency action with the right to seek judicial review.³³

More than once, courts have found that NMFS has promulgated regulations in violation of the RFA. The 1998 case of *Southern Offshore Fishing Association v. Daley* concerned a NMFS regulation proposing to institute shark quotas amounting to a fifty percent reduction in the shark fishing industry.³⁴ NMFS had determined that the new shark quotas would not have a significant impact on a substantial number of small business entities. In a sternly worded opinion, the Florida District Court held that NMFS “illegally instituted the 1997 quotas by failing to minimize and account for the socio-economic impact of the quotas on small business, precisely in defiance of the Congressional mandate that NMFS wisely balance shark interests against human interests.”³⁵

In *North Carolina Fisheries Association v. Daley*, a Virginia district court held that NMFS failed to comply with the RFA requirements in setting the 1997 summer flounder fishery quota.³⁶ Notably, the decision came after the court remanded the flounder quota to the agency to “determine whether the quota had a significant economic impact on the North Carolina Fishery.”³⁷

³² Executive Order No. 13,563, 76 Fed. Reg. 3821 (January 21, 2011). Executive Order 12,866 outlines twelve principles an agency should consider when promulgating new regulations as well. Exec. Order No. 12,866, 58 Fed. Reg. 51,735 (Sept. 30, 1993).

³³ 5 U.S.C. § 611.

³⁴ *Southern Offshore Fishing Ass’n v. Daley*, 55 F.Supp.2d 1336 (M.D.Fla. 1999).

³⁵ *Id.*

³⁶ *North Carolina Fisheries Ass’n, Inc. v. Daley*, 27 F.Supp.2d 650, 668 (E.D.Va. 1998).

³⁷ *Id.* at 653.

2. REGULATORY ACTIONS UNDER THE MAGNUSON-STEVEN'S FISHERY CONSERVATION AND MANAGEMENT ACT

Regulatory actions pursuant to the Magnuson-Stevens Fishery Conservation and Management Act (MSA) must comply with both NEPA and the RFA. Under the MSA's provisions, the Regional Fishery Management Councils develop fishery management plans (FMPs).³⁸ FMPs must consider both conservation and fishing interests and must strive for the maximum sustainable yield for the fishery on a continuous basis.³⁹ Among other things, under MSA National Standard 8, FMPs must "take into account the importance of fishery resources to fishing communities by utilizing economic and social data . . . in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities."⁴⁰ In addition, National Standard 10 of the MSA requires the FMP to consider, to the extent practicable, the safety of human life at sea.⁴¹ FMPs constitute both major federal actions under NEPA and administrative rulemakings under the RFA.⁴²

The Ninth Circuit recently held in *Pacific Coast Federation of Fishermen's Associations v. Blank* that regulatory changes to a FMP for the trawl sector of the Pacific Coast groundfish fishery complied with both the MSA and NEPA.⁴³ In 2011, NMFS adopted Amendments 20 and 21 to increase efficiency and accountability and to minimize environmental impacts for the trawl sector of the Pacific Coast groundfish fishery. Concerned that the FMP amendments would limit their participation in the fishery, a coalition of non-trawl fishing groups brought suit against NMFS, challenging the adequacy of the agency's consideration of affected fishing communities. The plaintiffs alleged that NMFS violated provisions of the MSA requiring the agency to consider the "basic cultural and social framework of the fishery"⁴⁴ and to "take into account the importance of fishery resources to fishing communities by utilizing economic and

³⁸ 16 U.S.C. § 1852(h); 16 U.S.C. § 1854(e)(2); 50 C.F.R. § 600.310(e)(2).

³⁹ See 16 U.S.C. § 1851(a)(1); 16 U.S.C. § 1854(g)(1)(G)(ii)-(iii); 16 U.S.C. § 1852(1); 50 C.F.R. § 600.310(a); 50 C.F.R. § 600.310(c)(1)(i).

⁴⁰ 16 U.S.C. § 1851(a)(8).

⁴¹ 16 U.S.C. § 1851(a)(10).

⁴² See, e.g., *Associated Fisheries of Maine, Inc. v. Daley*, 127 F.3d 104, (1st Cir. 1997). NOAA Administrative Order 216-6 describes NOAA's policies for complying with NEPA; NOAA Fisheries' "Operational Guidelines, Fishery Management Plan Process" details the operative policies governing NOAA Fisheries' interaction with the Regional Fishery Management Councils in developing FMPs. NOAA, Dep't of Commerce, Administrative Order 216-6, Environmental Review Proceeding Implementing The National Environmental Policy Act (May 20, 1999), available at http://www.nepa.noaa.gov/NAO216_6_TOC.pdf; NOAA, Dep't of Commerce, Operational Guidelines, Fishery Management Plan Process (revised May 1, 1997), available at http://www.nmfs.noaa.gov/sfa/domes_fish/GUIDELINES.PDF.

⁴³ *Pacific Coast Federation of Fishermen's Associations v. Blank*, 693 F.3d 1084 (9th Cir. 2012).

⁴⁴ *Id.* at 1092 (citing 16 U.S.C. § 1853a(c)(3)(B)).

social data.”⁴⁵ The plaintiffs argued that the MSA demanded NMFS to affirmatively adopt measures to ensure the long-term participation of fishing communities.⁴⁶ NMFS countered that the MSA only required the agency to consider the participation of fishing communities and that the amendments included adequate safeguards to protect fishing communities.⁴⁷ The court held NMFS met its obligations to consider fishing communities under the MSA in crafting the amendments for the trawl sector of the Pacific Coast groundfish fishery.⁴⁸ The court reasoned,

NMFS recognized that fishing communities must be considered under the MSA; surveyed the current status of fishing communities (including observing that many are “faltering” under the status quo); described the effects of quota programs and other management tools on those communities; and explained how communities participated in the Pacific Council’s decisions. In addition, NMFS proposed, and the Council adopted, various measures to mitigate the impacts of trawl rationalization on fishing communities, including, among other things: an adaptive management program under which up to ten percent of quota shares would be reserved for communities; a two-year moratorium on share transfers; a five-year review that includes a community advisory committee; and limits on the accumulation of shares by single entities.⁴⁹

The plaintiffs also argued that the amendments violated NEPA by failing to adequately consider the impacts of the regulatory changes on the non-trawl community of Port Orford, Oregon.⁵⁰ The court noted that the Amendment 20 EIS specifically mentioned the Port Orford community “at several points” and held that NMFS’s general discussion of non-trawl communities adequately accounted for the Port Orford community, absent a showing to the contrary.⁵¹

3. ENDANGERED SPECIES ACT (ESA)

The Endangered Species Act (ESA) also includes an economic analysis provision.⁵² The ESA requires that critical habitat be established for any species that is listed as endangered or

⁴⁵ *Id.* at 1093 (citing 16 U.S.C. § 1851(a)(8)).

⁴⁶ *Id.* at 1092.

⁴⁷ *Id.*

⁴⁸ *Id.* at 1093.

⁴⁹ *Id.* at 1093–94.

⁵⁰ *Id.* at 1192.

⁵¹ *Id.*

⁵² 16 U.S.C. §§ 1531–1544.

threatened under the Act.⁵³ Critical habitat means the geographic area thought to be essential for the conservation of the species.⁵⁴ In 1978, Congress amended the ESA to require the United States Fish and Wildlife Service to consider “economic impact[s]” in addition to biological ones when designating “critical habitat” for imperiled species.⁵⁵ In 2001, in the case of *New Mexico Cattle Growers Association v. United States Fish and Wildlife Service*, the Tenth Circuit rejected the Fish and Wildlife Service’s standard method for conducting economic analyses for critical habitat designations—a decision which has led to more exacting economic assessment demands for critical habitat designations under the ESA.⁵⁶ New regulations issued in October 2013, clarify that the analysis of the economic impacts of designation of critical habitat is to consider only the additional costs (beyond species designation) of designating habitat.⁵⁷

D. LEGAL REQUIREMENTS SUMMARY

Table 3 provides a brief overview of the legal requirements that are relevant to social impact assessment and are either required by NEPA or otherwise have been used to inform NEPA social impact assessments.

Table 3. Legal and Policy Requirements Relevant to Social Impact Assessment

Law or Policy	Requirement
NEPA (42 U.S.C. § 4332)	An EIS is required for “major Federal actions significantly affecting the quality of the human environment,” and assessment should include an integrated natural and social science approach.
CEQ regulation (40 C.F.R. § 1508.14)	“[E]conomic or social effects are not intended by themselves to require preparation of an [EIS],” but when “economic or social and natural or physical environmental effects are interrelated, then the [EIS] will discuss all of these effects.”

⁵³ 16 U.S.C. § 1536(a)(2).

⁵⁴ *Id.*

⁵⁵ 16 U.S.C. § 1533(b)(2).

⁵⁶ *New Mexico Cattle Growers Ass’n v. U.S. Fish & Wildlife Serv.*, 248 F.3d 1277 (10th Cir. 2001); see also Amy Sinden, *The Economics of Endangered Species: Why Less Is More in the Economic Analysis of Critical Habitat Designations*, 28 HARV. ENVTL. L. REV. 129, 144 (2004).

⁵⁷ Endangered and Threatened Wildlife and Plants; Revisions to the Regulations for Impact Analyses of Critical Habitat, 78 Fed. Reg. 53,058 (Aug. 28, 2013).

Law or Policy	Requirement
<p>Executive Order 12898 “Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations” (1994) Section 1-101</p>	<p>“To the greatest extent practicable and permitted by law, and consistent with the principles set forth in the report on the National Performance Review, each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories and possessions, the District of Columbia, the Commonwealth of Puerto Rico, and the Commonwealth of the Mariana Islands.”</p>
<p>Presidential Memorandum “On Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations” (1994)</p>	<p>States that “[e]ach Federal agency shall analyze the environmental effects, including human health, economic and social effects, of Federal actions, including effects on minority communities and low-income communities, when such analysis is required by [NEPA].”</p>
<p>NOAA Technical Memorandum, NMFS-F/SPO-16, National Marine Fisheries Service, Guidelines and Principles for Social Impact Assessment (1994)</p>	<p>Recommends nine principles, including: (1) involve the diverse public; (2) analyze impact equity; (3) focus the assessment; (4) identify methods and assumptions and define significance; (5) provide feedback on social impacts to project planners; (6) use SIA practitioners; (7) establish monitoring and mitigation program; (8) identify data sources; and (9) plan for gaps in data.</p>
<p>CEQ, “Environmental Justice Guidance Under the National Environmental Policy Act” (1997)</p>	<p>Calls upon agencies to: (1) consider demographic composition of the affected area, to determine if there may be disproportionately high and adverse human health or environmental effects on minority populations, low-income populations, or Indian tribes; (2) consider relevant public health and industry data concerning the environmental hazards in affected populations; and (3) recognize the interrelated cultural, social, occupational, historical, or economic factors that may amplify the natural and physical environmental effects of the proposed agency action, among other things.</p>
<p>Regulatory Flexibility Act</p>	<p>Requires federal agencies to consider the impact of new, proposed regulations on the profitability of small business entities and analyze</p>

Magnuson-Stevens Fishery Conservation and Management Act	Councils must “take into account the importance of fishery resources to fishing communities by utilizing economic and social data ... in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities.” The MSA also provides that measures “shall to the extent practicable promote safety of human life at sea.”
Endangered Species Act	Before a final designation of critical habitat, the Secretary will consider the additional economic impacts of designating critical habitat.

The legal requirements cited to guide SIA have the potential to inform the conclusions in the document.⁵⁸ Understanding what drives a particular SIA is important, because it could influence its content and substance.

OBSERVATION 2: CONSIDERATION OF SOCIAL IMPACTS IS OFTEN SPREAD THROUGHOUT A NEPA DOCUMENT.

Rather than a separate chapter or analysis section, discussion of social impacts may be included in several sections of a NEPA document. These sections are summarized in Table 4.

Table 4. NEPA Document Sections with SIA Analysis

Section	Summary
Purpose and Need	Justifies the necessity of the proposed action that triggered the NEPA analysis, potentially including social triggers

⁵⁸ For an overview of legal requirements cited in NEPA documents reviewed, see Appendix B, Table 1. Legal Requirements that Relate to NEPA SIAs (as Identified by SIAs).

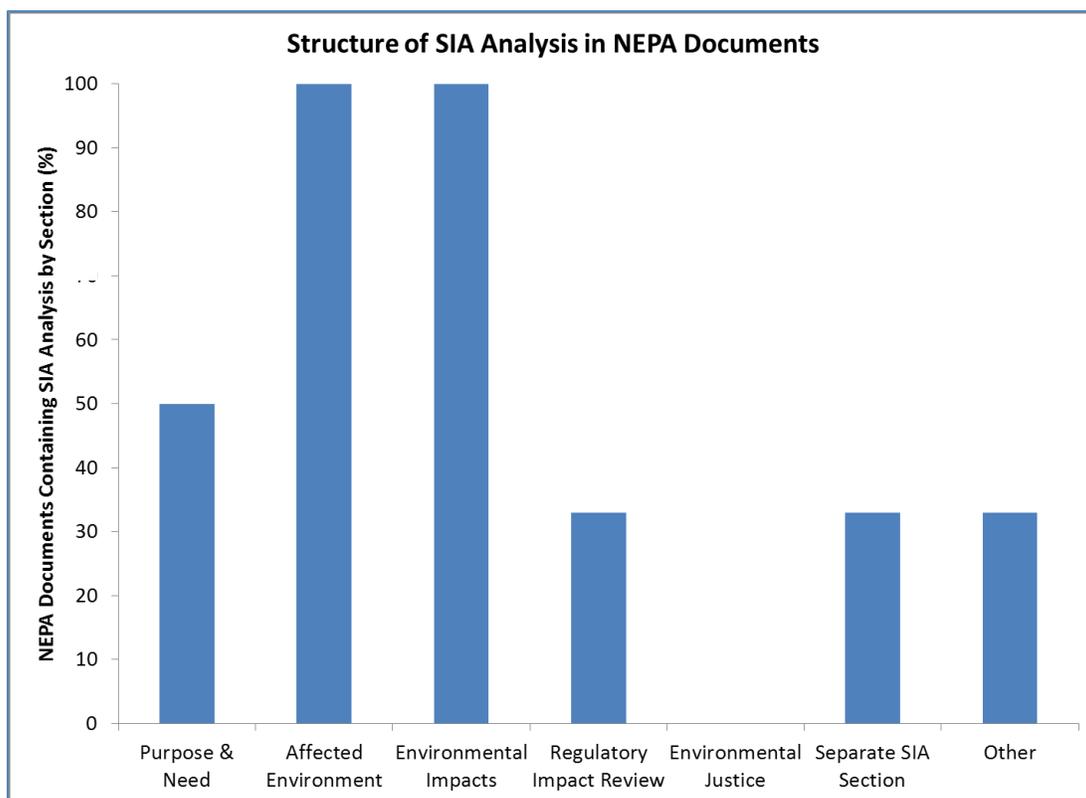
Section	Summary
Affected Environment	Focuses on the baseline conditions related to the proposed action, including social and economic conditions
Environmental Impacts	Considers how the proposed action and alternatives may impact a variety of variables, including social and economic impacts
Environmental Justice	Analyzes the environmental effects—including human health, economic, and social effects—of Federal actions on minority communities and low-income communities
Regulatory Impact Review	Considers the benefits and costs of proposed regulations and analyzes regulatory alternatives that might mitigate such impacts, which may relate (and be linked) to social and economic impact assessments

The sections above (and other sections that are unique to specialized actions) have overlapping goals. The Affected Environment chapters provide an overview of the baseline information, including environmental, economic, and social considerations. The Environmental Impacts chapters are prospective, analyzing how actions and alternatives could affect an area. Other sections contain elements relevant to SIAs, from cost-benefit analysis to evaluation of socioeconomic disparity.

We reviewed six NEPA documents for structural approach. We included four fisheries-related management actions (i.e., actions where NMFS or one of its fisheries councils served as the lead agency under NEPA)—Amendment 15, Amendment 26, Amendment 31, and the Alaska Essential Fish Habitat Fishery Management Plan—and two non-fisheries-related actions (i.e., actions where an agency other than NMFS served as the lead agency under NEPA)—the Atlantic Outer Continental Shelf Geological/Geophysical Survey and the Drake’s Bay Oyster Special Use Permit. The six selected NEPA documents are intended to give a sense of the various wide-ranging approaches NEPA practitioners use for structuring and presenting SIA in NEPA documents.⁵⁹

⁵⁹ Tables 2 and 3 in Appendix B summarize the structural details of SIA in the documents.

Chart 1 shows the occurrence of social impact information in different NEPA sections.



All Affected Environment and Environmental Impacts chapters contained the SIA components. Two documents included a separate SIA summary,⁶⁰ and three documents discussed social impacts in the Purpose and Need section. Environmental Justice information was usually incorporated in the Affected Environment section.⁶¹ Here, “Other” indicates project-specific section focused on requirements under the Magnuson-Stevens Act.⁶²

⁶⁰ These SIA sections were short summaries highlighting findings that were included in other chapters.

⁶¹ Environmental justice was included in the Affected Environment section of three of the documents: Amendment 31, the Atlantic OCS Geological/Geophysical Survey, and the Drake’s Bay Oyster Special Use Permit.

⁶² The Amendment 26 EIS includes a section on Magnuson-Stevens Act Provisions for Limited Access Systems, which provides a brief overview of the economics of the fishery and the cultural and social framework of the fishery in accordance with MSA requirements. The Amendment 31 EIS includes a Bycatch Practicability Analysis, which—in part—analyzes the socioeconomic status of the surrounding area.

OBSERVATION 3: ECONOMIC AND SOCIAL VARIABLES OVERLAP IN FISHERIES-RELATED NEPA DOCUMENTS.

Most of the documents reviewed involve several different actions and alternatives, and the economic and other social variables evaluated vary from document to document.⁶³ The following three observations summarize the types of variables presented and assessed in the SIAs and provide an overview of the scope of the assessment conducted.

Economic and social conditions are interdependent. In eleven fisheries-related NEPA documents reviewed,⁶⁴ economic and other social factors are considered in the Affected Environment and Environmental Impacts sections, often in the same paragraphs or using the same citation. For example, commercial fishing revenues and catch levels (an economic variable) directly affect a community summary (a social variable) when fishery-related activities involve the community studied.⁶⁵

As another example, one NEPA document, the Florida Keys Final Management Plan/EIS, states in the SIA that “[the] socioeconomic impact assessment summarizes the potential impacts of proposed management strategies on various user groups and the local economy.”⁶⁶ Because the local economy and the user groups are interdependent, that SIA evaluated the two sets of variables in tandem. Several SIAs conducted similar mixed socioeconomic analysis. Meanwhile, others—such as Amendment 16—make an effort to clearly distinguish social impacts and economic impacts, listing them separately.⁶⁷

⁶³ For the purpose of this report, “social” variables are considered distinctly from economic variables, despite the fact that economic variables are one of many social variables. The authors distinguish economic variables, because of the distinction between social impact assessment and economic impact assessment and the difference in how economic variables are treated versus other types of social variables.

⁶⁴ Those 11 NEPA documents are Amendment 15, Amendment 15, Amendment 5, Control Measures: American Lobster, Sea Turtle Bycatch, Amendment 14, Amendment 26, Amendment 11, Amendment 31, Amendment 20, and the Pacific Groundfish Allocation.

⁶⁵ See, e.g., AMENDMENT 15 TO THE SCALLOP FISHERY MANAGEMENT PLAN FINAL ENVIRONMENT IMPACT STATEMENT 216 (2010) (including community summary in the economic analysis).

⁶⁶ FLORIDA KEYS FINAL MANAGEMENT PLAN/ENVIRONMENTAL IMPACT STATEMENT 177 (1996).

⁶⁷ AMENDMENT 16 TO THE NORTHEAST MULTISPECIES FISHERY MANAGEMENT PLAN 481 (2009).

OBSERVATION 4: CERTAIN SOCIAL AND ECONOMIC FACTORS ARE CONSIDERED IN MULTIPLE SIAS.

Social impact and economic impact variables are considered to varying degrees in the Affected Environment chapters and Environmental Impact chapters. Review of the 11 NEPA documents identified five economic and seven social impact variables considered in the Affected Environment section (Table 5).

Table 5. Economic and Social Variables in Affected Environment Chapters

Economic Impact Variables	Social Impact Variables
<ul style="list-style-type: none"> Commercial fishing revenues, catch levels, and related data 	<ul style="list-style-type: none"> Community summary
<ul style="list-style-type: none"> Recreational fishing value, revenue, tourism, and related data 	<ul style="list-style-type: none"> Environmental justice (e.g., race, income data)
<ul style="list-style-type: none"> Indirect economic data (for example, value/revenues of related industries) 	<ul style="list-style-type: none"> Employment patterns and infrastructure-related variables
<ul style="list-style-type: none"> Administration, management, monitoring, enforcement 	<ul style="list-style-type: none"> Safety
<ul style="list-style-type: none"> Community vulnerability and/or resilience 	<ul style="list-style-type: none"> Community attitudes toward management
	<ul style="list-style-type: none"> Fairness and distribution of costs and benefits
	<ul style="list-style-type: none"> Social values related to environmental and cultural resources

Most variables found in the Environmental Impacts chapters are also found in the Affected Environment chapters (Table 6).

Table 6. Economic and Social Impact Variables in Environmental Impacts Chapters

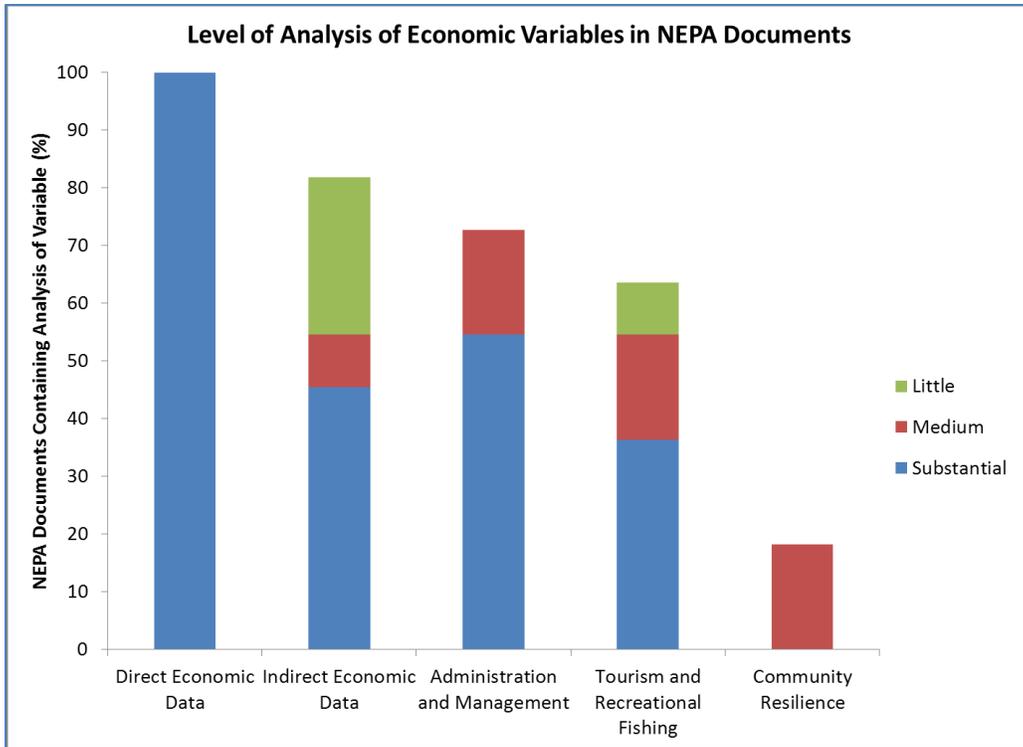
Economic Impact Variables	Social Impact Variables
<ul style="list-style-type: none"> Direct costs to fishermen, processors, and others (e.g. revenue or equipment change) 	<ul style="list-style-type: none"> Safety
<ul style="list-style-type: none"> Recreational fishing value, revenue, tourism, and related data 	<ul style="list-style-type: none"> Disruption of daily lives
<ul style="list-style-type: none"> Indirect economic data (for example, value/revenues of related industries) 	<ul style="list-style-type: none"> Changes in employment patterns and infrastructure-related variables

Economic Impact Variables	Social Impact Variables
<ul style="list-style-type: none"> Administration, management, monitoring, enforcement 	<ul style="list-style-type: none"> Community attitudes toward management Fairness and distribution of costs and benefits

In some instances, explanations were provided as to why certain impact variables were chosen, but often the rationale for including some variables and not others was vague or excluded.

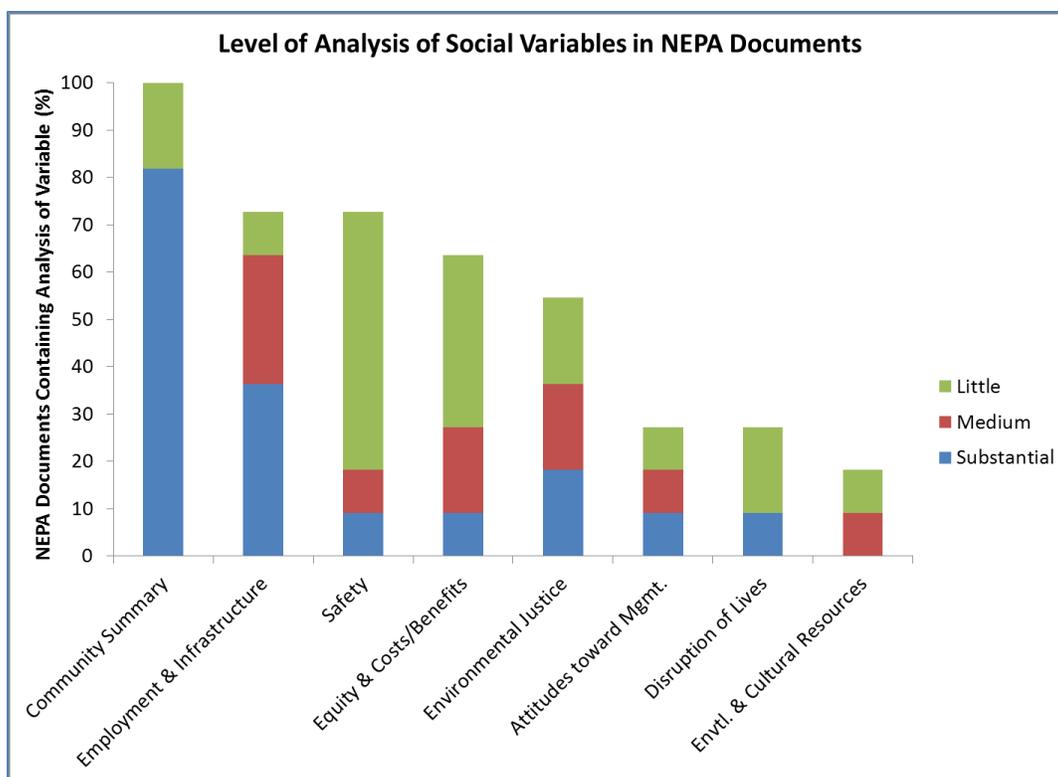
OBSERVATION 5: THE QUANTITY AND QUALITY OF ANALYSIS OF ECONOMIC AND SOCIAL VARIABLES VARIES WITH SUBSTANTIALLY GREATER FOCUS ON ECONOMIC VARIABLES.

For the economic and social variables identified, the authors evaluated the quantity of information included in the 11 fisheries-related SIAs as a proxy for depth of analysis of each of the variables. Looking across each NEPA document, Chart 2 presents the percentage of NEPA documents that contain each economic impact assessment variable, along with the quantity of analysis.



Economic impact assessment data, including catch levels and revenue, are included in every fisheries-related NEPA document. Analyses of tourism and recreational fishing, indirect economic data, and administration and management are included in greater than 60% of the documents reviewed. Community resilience is rarely discussed in the economic impact assessment section.

Chart 3 presents the same information for the social impact assessment variables identified.



Generally, analysis of SIA variables is less robust than analysis of economic impact assessment variables. Community summary and employment patterns and community infrastructure were most frequently covered in depth in the NEPA documents reviewed.

While not a variable on its own, the community summary was a section included in all of the NEPA documents. The community summary usually contains demographic and socioeconomic information. For example, Amendment 31 reviewed population density, median ages of users, ethnicity and race, education level, household income, poverty rate, home ownership rate, and the value of owner-occupied housing in order to characterize the social environment of representative communities.⁶⁸ In addition, the discussions of employment patterns and community infrastructure overlap with the economic impact assessment variables—particularly the direct and indirect economic data variables.

Environmental justice, equity and the distribution of costs and benefits, and safety are often analyzed with a little or medium amount of information.

⁶⁸ AMENDMENT 31 TO THE FISHERY MANAGEMENT PLAN FOR REEF FISH RESOURCES IN THE GULF OF MEXICO 92, 97 (2009).

Three variables are rarely discussed. Environmental and cultural resources, disruption of daily lives, and community attitudes are analyzed less than 30% of the time.

Less robust analysis of SIA factors could be due to data or capacity limitations.

In addition, information may be included but its relevance to understanding the social framework and impacts may not be adequately explained. For example, Amendment 31 charts demographic information for the most affected counties and includes quantitative census data on occupation sectors, home ownership, and educational attainment, but contains little explanation as to why those variables were chosen.⁶⁹

OBSERVATION 6: DATA GAPS RELATED TO SOCIAL VARIABLES WERE OFTEN IDENTIFIED AS A LIMITATION IN SIAS.

Conducting a robust SIA can be difficult because of lack of data. The Tortugas Reserve Management NEPA document, for example, references commercial activities because “commercial data are more readily available.”⁷⁰ In the Sea Lion/Fur Seal Research NEPA document, “information, especially quantitative or specific community/spatial information, on how researchers interact with communities, necessary for this analysis, was not readily available.”⁷¹

Table 7 presents the data needs identified in Amendment 31 EIS⁷² and the Amendment 26 EIS⁷³ NEPA documents as examples of the broad data needs for SIAs.

⁶⁹ See AMENDMENT 31 TO THE FISHERY MANAGEMENT PLAN FOR REEF FISH RESOURCES IN THE GULF OF MEXICO—DRAFT ENVIRONMENTAL IMPACT STATEMENT & REGULATORY IMPACT REVIEW 92, 97 (2009). Table 4 in Appendix B provides additional information on data gaps.

⁷⁰ TORTUGAS ECOLOGICAL RESERVE—FINAL SUPPLEMENTAL EIS/FSMP 289 (2000).

⁷¹ STELLER SEA LION AND NORTHERN FUR SEAL RESEARCH PROGRAM—FINAL PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT 3-115 (2007).

⁷² AMENDMENT 31 TO THE FISHERY MANAGEMENT PLAN FOR REEF FISH RESOURCES IN THE GULF OF MEXICO—DRAFT EIS & REGULATORY IMPACT REVIEW XII (2009).

⁷³ AMENDMENT 26 TO THE GULF OF MEXICO REEF FISH FISHERY MANAGEMENT PLAN TO ESTABLISH A RED SNAPPER INDIVIDUAL FISHING QUOTA PROGRAM—FINAL SUPPLEMENTAL EIS 118 (2006).

Table 7. Data Gaps Identified in Amendment 31 and Amendment 26⁷⁴

General Category	Specific Data Needs
Community Summary	Demographic information including population, age, gender, ethnicity/race, education, language, marital status, children (age and gender), residence, household size, household income (fishing/non-fishing), occupational skills, and association with vessels and firms (role and status)
Social Structure	Social structure information—historical participation, description of work patterns, kinship unit size and structure, patterns of communication and cooperation, etc.
Culture	Culture of communities dependent upon fishing—occupational motivation and satisfaction, attitudes and perceptions concerning management, etc.
Socioeconomic Information	Fishing community information (i.e. dependence on fishery resources and identifying businesses related to that dependence)

OBSERVATION 7: ASSESSMENT OF SOCIAL IMPACTS TO AFFECTED GROUPS VARIES BY GROUP.

In addition to structure and content, the identification of relevant affected groups can drive the SIA process. To examine affected groups, the authors examined seven fishery NEPA documents, representing the Northeast, Gulf of Mexico, and Pacific regions.⁷⁵ Table 8 presents the affected groups considered in the SIAs of five NEPA documents.

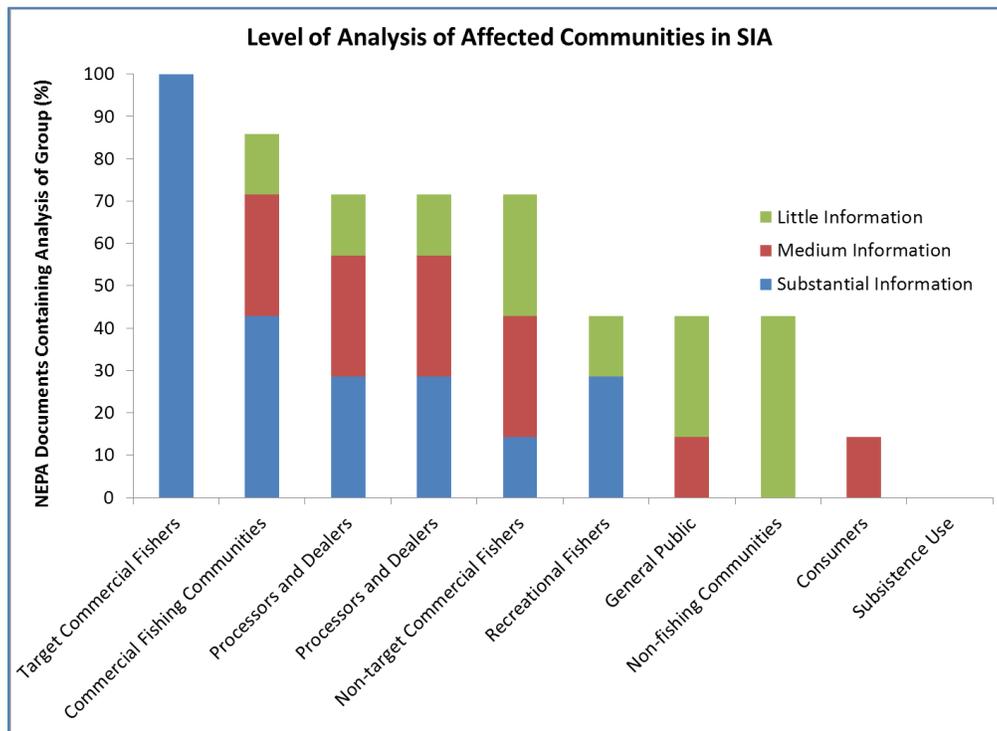
⁷⁴ Both Amendment 26 and Amendment 31 present the information in the table as a guideline to the types of data needed to complete an SIA, saying that the drafters “cannot obtain complete social and community information that will allow the full analysis of social impacts of the proposed action and its alternatives.”

⁷⁵ The NEPA documents analyzed are: Amendment 14, Amendment 16, Amendment 26, Amendment 31, Amendment 20, Pacific Groundfish Allocation, and Essential Fish Habitat NPFMC. Table 5 in Appendix B summarizes affected groups analyzed for each document.

Table 8. Affected Groups Considered in Fishery-Related NEPA SIAs

Consumptive Users	<ul style="list-style-type: none"> • Target Commercial Fishers • Non-target Commercial Fishers • Recreational Fishers and Anglers • Subsistence Users • Commercial Fishing Communities • Non-Fishing Communities • Processors and Dealers • Communities
Non-Consumptive Users	<ul style="list-style-type: none"> • Public (receivers of public goods)

Chart 4 presents the quantity of analysis regarding each affected group.



Target commercial fishers are the primary group evaluated in fisheries-related SIAs. In addition, SIAs often include some evaluation of social impacts to non-target commercial fishers, recreational anglers, and tourism-driven fishers. Social impacts to subsistence users, consumers, and non-consumptive users are more rarely evaluated.

OBSERVATION 8: CONFIDENTIALITY OF SOCIAL DATA CAN LIMIT COMMUNITY-LEVEL ASSESSMENT.

Half of the documents reviewed stated that SIA was constrained by data confidentiality requirements. Table 9 provides a brief summary of the NEPA documents that identify confidentiality restrictions on data usage.

Table 9. Confidentiality Limitations for SIA

NEPA Document	Confidentiality Concerns Identified
Amd 15 Scallop FMP	Some scallop landing data and port data are excluded for confidentiality reasons.
Amd 16 NE Groundfish	Landings associated with the “Small Vessel Exemption” category are not published due to confidentiality concerns. Some of the Days at Sea Transfer Program information is excluded for confidentiality purposes. In most states dealer reporting statistics are too small to report for confidentiality reasons.
Amd 5 NE Monkfish	Monkfish permits by port information are kept confidential in communities with fewer than three permits. Processor data are only available by county for confidentiality reasons. Separating occupations in farming, fishing, and forestry was not done, in part, due to confidentiality requirements.
Sea Turtle Bycatch in SE Shrimp Fishery	In communities with less than three dealers, landings and sales data are excluded to protect confidentiality. The same is true for processors and pounds, value, and employment. Furthermore the SIA states that “Because of the decline in the number of shrimp processors and the resulting fact that most communities only have one or two shrimp processors, and NOAA Administrative Order 216-100, which requires NMFS to protect businesses’ confidential information, very little detailed information regarding processing activities can be revealed at the community level.” (p. 98)
Amd 14 Snapper Grouper FMP	Landing, ex-vessel value, price, and effort data are averaged for confidentiality reasons.
Amd 20 Pacific Groundfish	Some economic information excluded from Affected Environment chapter as confidential due to small number of vessels in category. Some port processing values are excluded due to confidentiality issues. In a discussion of community resilience and dependence, the SIA notes that “confidentiality issues would prevent a detailed discussion of

individual community impacts.” (p. 532)

BSAI Crab FMP

The NEPA document states “there are fundamental problems with sector-based community discussions for a number of the sectors, based upon data confidentiality considerations.” (pp. 3-182)

It further states that “[t]he amount of community-specific information that can be shown for the processing sector is very limited due to confidentiality restrictions. For example, because other Alaskan communities have fewer than four processing entities, only Kodiak and Unalaska/Dutch Harbor can be discussed in stand-alone terms.” (pp. 3-202)

Of special note, the Amendment 20 EIS notes that “confidentiality issues would prevent a detailed discussion of individual community impacts.”⁷⁶ As discussed by the Sea Turtle Bycatch NEPA document, small-scale analysis of individual communities may be difficult because of NOAA Administrative Order 216-100, which requires NMFS to protect businesses’ confidential information.⁷⁷ Because of this confidentiality requirement, “very little detailed information regarding processing activities can be revealed at the community level.”⁷⁸

OBSERVATION 9: SIA ELEMENTS ARE OFTEN INCORPORATED BY REFERENCE TO OUTSIDE DOCUMENTS.

Of the eleven fisheries-related NEPA documents reviewed, eight incorporate substantial portions of the SIA by reference. For example, Amendment 16 incorporates “*Community Profiles for the Northeast U.S. Fisheries from the Northeast Fisheries Science Center* and Amendment 13 social impact community information meetings” because the issues identified are “likely to remain applicable.”⁷⁹ Amendment 14 also incorporates Amendment 13’s “more detailed description of the social and cultural environment.” Incorporation by reference provides a mechanism to bring important information into the NEPA document without have to duplicate it. However, it also prevents aggregation in one document for analysis, which could hamper public evaluation of social impacts.

⁷⁶ AMENDMENT 16 TO THE NORTHEAST MULTISPECIES FISHERY MANAGEMENT PLAN 5-532 (2009).

⁷⁷ TO REDUCE INCIDENTAL BYCATCH AND MORTALITY OF SEA TURTLES IN THE SOUTHEASTERN U.S. SHRIMP FISHERIES—DRAFT ENVIRONMENTAL IMPACT STATEMENT 98 (2012).

⁷⁸ *Id.*

⁷⁹ AMENDMENT 16, *supra* note **Error! Bookmark not defined.**

OBSERVATION 10: SEVERAL NEPA DOCUMENTS INCLUDE CREATIVE APPROACHES FOR EVALUATING SOCIAL IMPACTS AND SHARING RESULTS OF THE ASSESSMENT.

Creative methods for designing SIA analysis and presenting results are important because they could allow complex information to be summarized in a way that better informs management decisions. Several documents demonstrate interesting strategies.

During review of 24 NEPA documents, the authors noted creative approaches and/or robust approaches for evaluating social impacts and sharing results. For example, the EIS accompanying the Amendment 20 Pacific Groundfish Fishery Management Plan includes a table of policy guidance references and elements used to guide the development of the alternatives and effects of alternatives.⁸⁰ Key references include the Magnuson-Stevens Fishery Conservation and Management Act,⁸¹ Groundfish FMP objectives, and Amendment 20 objectives. Table 10 summarizes that reference document, along with considerations for each guidance subject.

Table 10. Amendment 20 SIA Policy Guidance

Guidance Subject	Considerations	References
Conservation	Allocations, overfishing, information flow, accounting, and biological stock structure	<u>MSA</u> : National Standard 4(b); § 303A(c)(1)(A), (c)(1)(C)(ii) <u>GF FMP</u> : Objectives 1, 4, and 5 <u>A-20</u> : Objectives 1 and 3; Constraints 1, 2, 3, and 4
Net Benefits and Efficiency	Efficiency, capacity, net economic benefit to nation, maximizing value, measurable economic benefits	<u>MSA</u> : National Standard 5; § 303A(c)(1)(B) <u>GF FMP</u> : Objective 6; Goal 2 <u>A-20</u> : Objectives 2 and 6
Disruption	Domestic fishing practices,	<u>GF FMP</u> : Objective 14

⁸⁰ AMENDMENT 20 RATIONALIZATION OF THE PACIFIC COAST GROUND FISH LIMITED ENTRY TRAWL FISHERY—FINAL ENVIRONMENTAL IMPACT STATEMENT 6-613–14 (2009).

⁸¹ 16 U.S.C. §§ 1801-1891(d).

Guidance Subject	Considerations	References
	marketing procedures, and the environment	
Excessive Shares	Geographic consolidation, inequitable concentration, antitrust	<u>MSA</u> : National Standard 4(a); § 303A(c)(5)(B)(ii), (c)(5)(D), (c)(1)(J) <u>A-20</u> : Constraint 6
Fairness and Equity	Initial allocations, current and historical harvests/participation, employment, investments, appeal process, environmental justice, power balance	<u>MSA</u> : National Standard 4(a); § 303A(c)(5)(A); (c)(5)(E); (c)(1)(J) <u>Executive Order</u> 12,898 <u>A-20</u> : Constraint 5
Sector Health	Viability and profitability, measurable economic benefits, avoid unnecessary adverse impacts on small businesses	<u>A-20</u> : Objectives 2 and 6 <u>GF FMP</u> : Goal 2; Objectives 7 and 15
Labor: Captains, Crew, Processors	Measures to assist entry-level and small vessel owners/operators, set-asides, economic assistance, safety, employment benefits	<u>MSA</u> : National Standard 10; § 303A(c)(5)(C) <u>A-20</u> : Objective 6 <u>GF FMP</u> : Objective 17
Communities	Sustained participation; minimize adverse impacts, cultural and social framework; concerns of geographic consolidation; economic assistance	<u>MSA</u> : National Standard 8; § 303A(c)(5)(B), (c)(5)(C) <u>A-20</u> : Objective 5 <u>GF FMP</u> : Objective 16

Notably, Amendment 20 has among the most thorough coverage of social impact assessment variables of the NEPA documents reviewed, with five of the seven variables analyzed.⁸²

⁸² Amendment 20 analyzed Safety, Disruption of Daily Lives (one of only 3 NEPA documents to do so), Employment Patterns and Community Infrastructure, Fairness and Distribution and Costs/Benefits, and Environmental Justice. It did not analyze Community Attitudes toward Management or Social Values of Environmental and Cultural Resources.

Table 11 lists creative design approaches in Amendment 20 and other documents that were used to collect and analyze social impact data.

Table 11. SIA Design Approaches

NEPA Document	Analytical Methods
Amendment 20	<p>Communities were assessed as to whether they are:</p> <ul style="list-style-type: none"> • engaged (use the resource), • dependent (use the resource sometimes above a threshold level), • resilient (adaptable to change), and/or • vulnerable. <p>The SIA reviewed the impacts on a community-by-community basis, considering vulnerabilities. The preferred alternative included provisions to respond to community concerns, including an adaptive management program.⁸³</p> <p>Amendment 20 uses game theory to illustrate potential differences in negotiation stance for harvesters and processors in order to show tradeoffs between potential action alternatives.⁸⁴</p>
Amendment 14	<p>A group of experts on the fishery used the Delphi discussion method to semi-quantitatively determine potential impacts and determine important factors to be considered.⁸⁵</p> <p>Amendment 14 also has charts comparing all of the biological, socio-economic, and administrative effects for each management alternative side-by-side.⁸⁶ It also compares effects over time: considering immediate, medium-run, and long-run relative weights of administrative; commercial, for-hire, recreational, ecosystem, and community and social effects.⁸⁷</p>

⁸³ Amendment 20, *supra* note 80, at 173.

⁸⁴ *Id.* at 252.

⁸⁵ AMENDMENT 14 FOR SNAPPER GROUPER AMENDMENT 14—FINAL ENVIRONMENTAL IMPACT STATEMENT, BIOLOGICAL ASSESSMENT, REGULATORY FLEXIBILITY ANALYSIS, REGULATORY IMPACT REVIEW, AND SOCIAL IMPACT ASSESSMENT/FISHERY IMPACT ASSESSMENT 174 (2007). The Delphi discussion method was used in other SIAs as well.

⁸⁶ *Id.* at 28–35.

⁸⁷ *Id.* at E-36.

Amendment 16

The SIA clearly distinguishes social and economic impacts, listing them separately. Economic impacts concern:

- the effects of proposed measures on revenues and costs in the fishery, and
- the impacts of those changes on other entities in coastal communities.

Social impacts concern:

- the effects of the proposed measures on fishing communities and
- the effects on the participants in the fisheries affected by the FMP.

Specifically, social impacts are defined as “the changes that a fisheries management action may create in people’s way of life (how they live, work, play, and interact), people’s cultural traditions (shared beliefs, customs, and values), and people’s community (population structure, cohesion, stability, and character).”⁸⁸

In part, the SIA defined the scope of the analysis based on surveys and meetings.

Amendment 11

Each coastal county in South Florida was geo-coded using the Social Vulnerability Index (SoVI), which was created by the Hazards Research Lab at the University of South Carolina. SoVI was created to understand social vulnerability to coastal environmental hazards, but is applied here to regulatory change. Vulnerabilities in SoVI include unemployment rates, poverty rates, and education levels, among other demographic characteristics.⁸⁹

Steller Sea Lion Research Program

Information for 61 communities was collected through interviews with persons in 1,209 Alaska Native households, chosen using three main designs, depending on the community being studied: census sampling, chain referral sampling (“snowball sampling”), and two-

⁸⁸ AMENDMENT 16, *supra* note 67 (2009).

⁸⁹ AMENDMENT 11 TO THE FISHERY MANAGEMENT PLAN FOR SPINY LOBSTER IN THE GULF OF MEXICO AND SOUTH ATLANTIC REGIONS—ENVIRONMENTAL IMPACT STATEMENT 41 (2012).

stratum random sampling. Interviews were conducted by local researchers who were hired and trained for the project.⁹⁰

A map-based geographic approach to impacts was another strategy identified. Amendment 20 mapped processing relationships between communities, linking geographic location with fishery inputs and outputs.⁹¹ The analysis also showed governance regime, gear types allowed, and communities on one map.⁹² Such geographic approaches could be used to summarize social impacts. Generally, creative approaches to SIA design and presentation could bring social analysis to the forefront, in order to optimize the decision-making process, including input from the public participation process.

⁹⁰ STELLER SEA LION AND NORTHERN FUR SEAL RESEARCH PROGRAM—FINAL PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT 3-89, 3-90 (2007).

⁹¹ Amendment 20, *supra* note **Error! Bookmark not defined.**, at 154–57.

⁹² *Id.* at 95.

III. CONCLUSION

Among SIAs reviewed, certain economic impact assessment and SIA variables are frequently evaluated. However, the choice of variables and the structure of analyses varies by NEPA document.

In addition, while economic and social impacts are connected, economic impact assessment tends to be more robust than SIA in the NEPA documents reviewed. For example, a document might discuss expected changes in revenue from a particular fishery without focusing on the implications to a particular community's occupational composition. Economic considerations, particularly economic ramifications related to commercial fishing, usually receive the most substantial discussion in fishery-related NEPA documents. Similarly, target commercial fishers receive more attention than other members of affected communities.

Finally, development of best practices and design approaches may need to consider data gaps and confidentiality. SIA is inherently not straightforward, but by analyzing how SIA policy is translated into practice, future SIAs can move toward optimal assessment of fishery-related economy, environment, and communities at issue.