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Assessing Equity in the Distribution of Fisheries Management Benefits: Data and Information Availability

Briefing to Gulf of Mexico Fishery Management Council SSC

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Thomas Miller, Committee Chair

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Statement of Task

An ad hoc Committee of the National Academies of Sciences, Engineering, and Medicine is undertaking a study to:

1. Determine the categories of information required to adequately assess **where and to whom** the **primary benefits** of commercial and for-hire fishery management accrue;
2. Determine what information currently exists within those categories and what additional information, if any, NMFS would need to collect;
3. Identify potential **obstacles** to collecting this additional data; and
4. Identify **methodologies** the agency could use to assess the relative distribution of benefits from federal commercial and for-hire fishery management based on available information.

Committee Composition

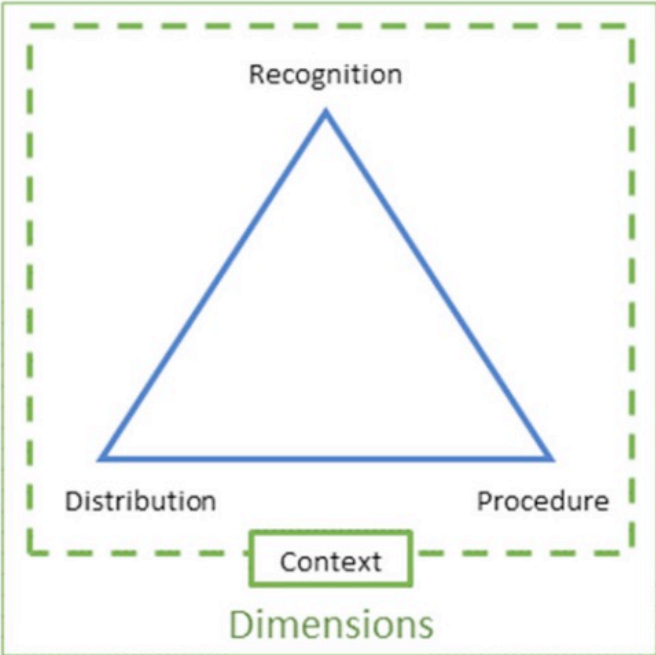
Committee

- **THOMAS J. MILLER** (*Chair*), Professor of Fisheries Science, Chesapeake Biological Laboratory, University of Maryland Center for Environmental Science
- **LISA M. CAMPBELL**, Rachel Carson Distinguished Professor of Marine Affairs and Policy, Duke University
- **RACHEL DONKERSLOOT**, Consultant, Coastal Cultures Research
- **KAILIN KROETZ**, Assistant Professor, Arizona State University
- **GRANT MURRAY**, Associate Professor of Marine Policy, Duke University
- **MATTHEW REIMER**, Associate Professor, University of California, Davis
- **JAMES N. SANCHIRICO**, Professor of Natural Resource Economics and Policy, University of California, Davis
- **STEVEN SCYPHERS**, Associate Professor of Marine & Environmental Sciences and Sociology, University of South Alabama
- **RASHID SUMAILA**, University Killam Professor and Canada Research Chair, University of British Columbia

Study Staff

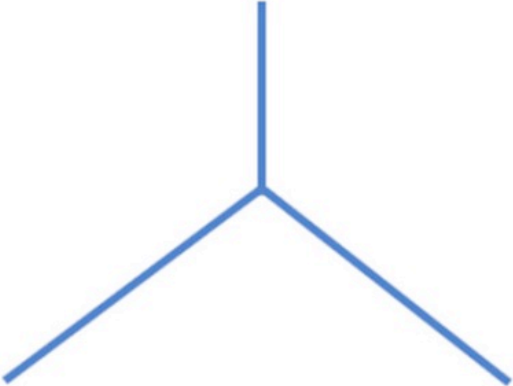
- **SUSAN ROBERTS**, Ocean Studies Board Director
- **CONSTANCE KARRAS**, Study Director
- **DARRYL ACKER-CARTER**, Research Associate
- **LEIGHANN MARTIN**, Associate Program Officer (Until January 2024)
- **ERIK YANISKO**, Program Assistant (until January 2024)

What is Equity?



Equity Subjects

- Individuals
- Groups
- Communities
- Future generations
- Non-human organisms, species, ecosystems



Criteria

Equal
Egalitarian
By need
Other approaches defined in Box 2.1

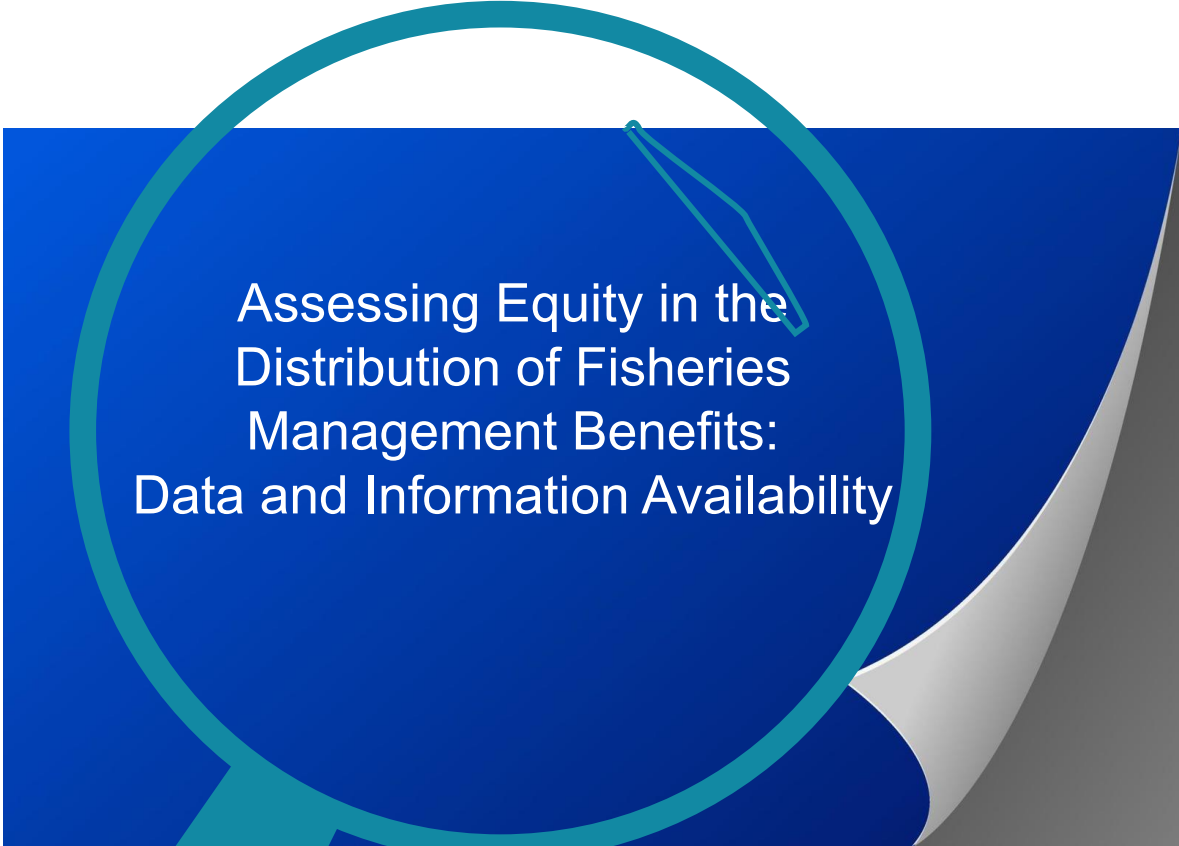
FIGURE 2-2 Dimensions, subjects, and criteria for equity. SOURCE: Modified from Sikor, 2013.

Approach



- The Committee took two approaches in the study. In one, the committee took a focused approach to the statement of task, considering only the distributional benefits that directly accrue for the issuance of permits and the assignment of quota

Approach



Assessing Equity in the Distribution of Fisheries Management Benefits: Data and Information Availability

- Accordingly, the Committee took two approaches in the study: in one considering only the distributional benefits that directly accrue for the issuance of permits and the assignment of quota
- In a second approach, the Committee recognizes a holistic and multidimensional definition of equity.

Select Recommendations

- RECOMMENDATION 2-1 The National Marine Fisheries Service should develop and implement a contextual, place-based, and participatory approach to identifying and integrating multi-dimensional equity considerations into decision-making processes in ways that balance previous and more recent mandates. Outcomes of these processes should include, among other things, clear identification of the criteria for, and appropriate subjects of, equity considerations.
- RECOMMENDATION 3-1 NMFS should take advantage of current opportunities both within the agency and in academia to expand work on equity by generating dashboards and data summaries that more fully express the distribution of permits and quota holdings in the nation's fisheries. Progress on these activities need not await more comprehensive discussion of equity or wider availability of data.
- RECOMMEDATION 3-2 NMFS should develop a guidance document(s) to inform and establish principles that lead to definitions of *equity* (see, e.g., Recommendation 2-1), and processes for measuring and assessing equity over time by NMFS, regional science centers, and Council staff. This document(s) should parallel guidance documents related to the Magnuson-Stevens Act. For example, NMFS has issued technical guidance that provides national, operational definitions of abundance and exploitation thresholds. Accordingly, even though regional methods for evaluating these thresholds may differ, an integrated, national summary of the status of fish stocks is possible. The committee views the suggested equity guidance documents as working in a similar fashion.

Key Findings and Recommendations (cont'd)

- RECOMMENDATION 3-3 NMFS should undertake a needs assessment in each region and at the national level that can provide guidance on different investment strategies for developing social science capacity and leadership within the agency. These investments could include staffing focused on early-career scientists or a mix of scientists at different career stages with diverse disciplinary expertise and skill sets, including in research design and qualitative and quantitative data collection and analysis. The committee recommends that increasing capacity needs to include, but not be limited to, the leadership level, such as a Senior Scientist for Social Sciences within the NMFS Directorate.
- RECOMMENDATION 3-4 Much of the current measurement and assessment work on equity in fisheries is conducted within a research framework within NMFS, academia, and NGOs. If NMFS is to meet the legislative mandate for equity within MSA and recent executive orders, work on equity must transition to operational data collection and assessment programs, supported and analyzed by the increased social science capacity as recommended in Recommendation 3-3.
- RECOMMENDATION 4-1 The National Marine Fisheries Service should commit to regular collection, analyses, and interpretation of social and economic data to characterize the full flow of benefits and beneficiaries from the nation's fisheries. The committee recommends collecting and, within the extent of the law, disseminating publicly this information at more regular intervals to adequately assess the impacts of management decisions and changes in fisheries.

Key Findings and Recommendations

- RECOMMENDATION 4-2 The National Marine Fisheries Service should continue developing community-level indicators of fishing engagement, dependence, and reliance. However, the committee also recommends further developing products that are not geographically constrained or limited by the spatial resolution of census data, which may not always align with the more holistic definition of *equity*.
- RECOMMENDATION 5-1 The National Marine Fisheries Service should continue its work on equity in the nation's fisheries, and it should move beyond a focus on distributional outcomes associated with permit and quota holdings to a more multidimensional assessment of equity. This will require addressing a range of complex challenges that can be informed by existing programs, projects, and frameworks, but will not likely be achieved by minor adjustments to existing efforts. Addressing these challenges will, among other things, demand a contextually based, multidimensional approach and a considerable expansion of the social science capacity within the agency as well as the development of partnerships across a range of governmental and non-governmental sectors.
- RECOMMENDATION 5-2 Qualitative data/methods and mixed method approaches to assessing procedural, recognitional, and contextual equity should be elevated in fisheries management decision-making.

Questions

Study Website: <https://www.nationalacademies.org/our-work/assessing-equity-in-the-distribution-of-fisheries-management-benefits-data-and-information-availability>

Publication Website: <https://nap.nationalacademies.org/catalog/27313>

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Mandates for Equity

- The Magnuson-Stevens Act – National Standards and associated guidance
 - National Standard 4 (Allocations) – “fair and equitable” distribution of allocations
 - National Standard 1 (Optimum Yield), National Standard 2 (Best Scientific Information Available), and National Standard 8 (Communities) are also relevant
- National Environmental Policy Act (NEPA)
 - NEPA requires meaningful participation in decision-making
 - Social Impact Assessment requirements
 - EO 12898 emphasizes that NEPA should be used to promote environmental justice
- NMFS’s *EEJS*
 - Sets forth the three aforementioned goals.
- A variety of Executive Orders
 - See box 2-2 in Report.

Distributional Equity of Fishery Permit and Allocation Benefits

- **Stylized Fishery:** Developed the stylized fishery to try to determine what *could* be done in a circumstance where you had an abundance of high-quality information
- **Regional Examples:** Used 3 Regional Examples from Northeast, Gulf of Mexico, and Northern Pacific to demonstrate regional variability and applied a 7-step approach for assessing data and information collection in the real world
- **Obstacles to Data Collection:** Identified a variety of obstacles to data collection, including:
 - Inconsistencies in permit requirements (e.g., whether permits are required and who can obtain them)
 - Administrative barriers (e.g., PRA, Privacy Act, politics)
 - Voluntary data collection has limitations
 - Unit of analysis
 - Lack of a guidance document
 - Capacity, which could be informed by regional needs assessments

Obstacles in Data and Information Collection and Measurement

- Not all federal commercial fisheries require permits, and in other cases permit holders can be a variety of entities (e.g., vessels, LLCs, individuals)
- Administrative barriers (e.g., PRA, Privacy Act, politics) limit the collection of important demographic data
- Voluntary data collection has limitations, particularly in cases of low response rates, this information, to be useful requires routine, systematic collection
- Unit of analysis
- Lack of a guidance document
- Capacity, which could be informed by regional needs assessments

What can NMFS do now?

- Despite the challenges, there are pathways for NMFS to move forward now.
- Expanding the presence of social science data on the dashboards and developing processes for continual updates to dashboard metrics
 - (e.g., Participation lists, patterns of ownership of permits and allocation of quota, periodic reviews of LAPPs)
 - CSMI Toolbox is a good example of progress on evaluating *where* benefits accrue
- Expand and enhance collaborations
 - (e.g., Community of Practice, expansion of NMFS-Sea Grant Fellowship program to include social sciences beyond economics, enhance partnerships with Academic and State institutions to acquire information that NMFS cannot otherwise collect)

Beneficiaries Beyond Permit and Quota Holders

- Identified common categories of recipients of benefits stemming directly from fishery management decisions (a linear chain from seafood harvest to sale):
 - Crew
 - Processing and Distributing Sector
 - Communities
- For each, provided a description of the category, relevant benefits, and data and measurement methodologies
- Also identify other *potential* beneficiaries (those that might benefit under a particular circumstances – beyond the linear trajectory) that may exist too
 - Two notable groups of *potential* beneficiaries highlighted in the report:
 - Underserved Communities
 - Tribal Nations and Indigenous Communities

Challenges to Developing a Comprehensive Approach to Equity?

- Operationalizing a comprehensive approach to equity will be challenging; however, NMFS is already taking steps toward this approach.
 - Notable example highlighted in the report:
 - *EEJS* outlines 6 specific barriers to “fair treatment and meaningful involvement” for underserved communities.
 - Examples of participatory approaches also exist in select fisheries.
- Emphasis on (easily) measurable indicators, reinforces the importance of what those indicators measure
 - Multidimensional equity considerations do not fit easily within this governance logic
- There is value to both quantitative and qualitative data/information/methods and there are also limitations associated with each

Moving Forward

- Examples exist in NMFS efforts as well as other fields that can be informative as NMFS moves forward in their work on Equity.
 - Committee highlights:
 - *EEJS*
 - *Guidelines for the Assessment of Social Impact of Fisheries Management Actions*
 - *Guidance for Implementing the California's Marine Life Management Act*
 - Site-Level Assessment of Governance and Equity
 - The Protocol for Identifying, Analyzing, and Incorporating Local Knowledge, Traditional Knowledge, and Subsistence Information into the North Pacific Fishery Management Council's Decision-making Process

Key Findings and Recommendations

- **FINDING 2-1** Equity is multidimensional and is more likely to be realized through an approach that accounts for each of the dimensions: distributional, procedural, recognitional, and contextual.
- **FINDING 2-3** Existing authority granted to NMFS by the MSA, the National Standards, NEPA, executive orders, and other instruments provides the agency with a clear mandate for a multidimensional and contextual approach to centering equity in its work.
- **RECOMMENDATION 2-1** The National Marine Fisheries Service should develop and implement a contextual, place-based, and participatory approach to identifying and integrating multi-dimensional equity considerations into decision-making processes in ways that balance previous and more recent mandates. Outcomes of these processes should include, among other things, clear identification of the criteria for, and appropriate subjects of, equity considerations.

Key Findings and Recommendations (cont'd)

- **FINDING 3-1** Comprehensive demographic data related to characteristics of permit and quota holders and their geographic locations are required if NMFS is to determine where and to whom the benefits of the issuance of permits and allocations of quotas accrue and to meet the intent of Congress expressed in the MSA for fair and equitable distribution of benefits, as well as to meet commitments made in recent executive orders.
- **FINDING 3-5** Because permits and quotas convey both monetary and nonmonetary benefits, measurement and assessment of to whom and where benefits accrue needs to include both.
- **FINDING 3-10** In spite of the challenges, NMFS scientists, in partnership with academics, council staff, and nongovernmental organizations, have made considerable advances in measuring and documenting analysis of to whom and where the benefits of permit and quota ownership accrue in particular case studies. Moving forward, the lessons learned from these regional case studies need to inform a national strategy for assessing the distribution of benefits and for increasing capacity for these efforts.

Key Findings and Recommendations (cont'd)

- **RECOMMENDATION 3-1** NMFS should take advantage of current opportunities both within the agency and in academia to expand work on equity by generating dashboards and data summaries that more fully express the distribution of permits and quota holdings in the nation's fisheries. Progress on these activities need not await more comprehensive discussion of equity or wider availability of data.
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Key Findings and Recommendations (cont'd)

- **FINDING 4-2** While challenging to measure, many of these potential beneficiaries receive both monetary and nonmonetary benefits from participating in fisheries. Nonmonetary benefits include, among other things, meeting social and cultural obligations, prestige, food security and sovereignty, life and occupational satisfaction, and spiritual practices and sites.
- **FINDING 4-3** Crew are important potential beneficiaries of fishery management decisions. The committee applauds NMFS's efforts in surveying this important group. Current challenges in obtaining data on crew include the lack of a sampling frame, which could be provided by a crew registry; infrequent and incomplete surveys of crew at the national level; and the often transitory and vagile nature of employment on fishing vessels. Information on crew at the individual, fishery, regional, and national levels would reflect the distribution of benefits of the issuance of permits and allocation of quota more fully and provide a foundation that would help understand linkages between crew, fisheries, and communities that would aid in the development of criteria for and measures of equity in fisheries.

Key Findings and Recommendations (cont'd)

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Key Findings and Recommendations

- **FINDING 5-1** The committee applauds NMFS for signaling a willingness to move toward a more comprehensive definition and assessment of equity that is critical to meeting its legislative mandate and stewardship responsibilities.
- **FINDING 5-3** A range of challenges is associated with moving towards comprehensively addressing and integrating equity concerns into fishery management decision-making processes and their realized outcomes. These challenges include those related to diversity and capacity within NMFS and other management bodies, as well as those that are features of the communities (fishing, underserved, Indigenous) whom NMFS impacts, those that are part of the larger social-ecological context, and those that stem from the unavoidably complicated nature of assessing equity itself.
- **FINDING 5-5** NMFS has signaled an intent to develop implementation plans, based on its EEJS, at the regional level. Given the variety of fisheries within each region, this may also demand fishery-by-fishery considerations that will in turn demand significant resources and guidance to move forward.

Key Findings and Recommendations

- **RECOMMENDATION 5-1** The National Marine Fisheries Service should continue its work on equity in the nation's fisheries, and it should move beyond a focus on distributional outcomes associated with permit and quota holdings to a more multidimensional assessment of equity. This will require addressing a range of complex challenges that can be informed by existing programs, projects, and frameworks, but will not likely be achieved by minor adjustments to existing efforts. Addressing these challenges will, among other things, demand a contextually based, multidimensional approach and a considerable expansion of the social science capacity within the agency as well as the development of partnerships across a range of governmental and non-governmental sectors.
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