

**Terms of Reference (TOR) for NMFS
2017 Economics & Human Dimensions Science Program Review**

Purpose of the Review

The National Marine Fisheries Service (NMFS) mission includes the stewardship of ocean and coastal ecosystem through science-based conservation and management aimed at sustaining the long-term use and benefits from these resources for the Nation. To ensure NMFS achieves this mission, it is appropriate to conduct periodic reviews of its economic and human dimensions science program.

Reviews of science programs at the NMFS Regional Science Centers (including associated laboratories) and, when appropriate, the Office of Science & Technology (ST), are conducted to:

- Evaluate the quality, relevance, and performance of science and research conducted in NMFS Regional Science Centers (Centers) and associated laboratories
- Strategically position the Centers and ST in planning future science and research.

Objective

The NMFS Economics & Human Dimensions Science Program conducts research and provides science advice that can be used to evaluate the consequences of management actions and to design policy that maximizes societal benefits from ocean and coastal ecosystems. Within this context, NMFS conducts economics and sociocultural research on commercial and recreational fisheries and fishing communities to provide information on the potential effects of fishery management options on people. Increasingly, this work takes into account ecosystem approaches and ecosystem based fisheries management considerations, by including species and fishery interactions and a changing coastal and marine environment due to climate change, eutrophication, oil spills, habitat extent and quality, severe storms, etc. In addition to supporting fisheries management, socioeconomic research undertaken by the program also informs conservation measures implemented to protect and recover marine protected species and restore habitat.

The objective for these reviews is to evaluate the current human dimensions and economic science programs of the Centers/ST. These programs are directed to provide social and economic information essential to the management, protection and restoration of ocean and coastal ecosystems, and ensuring sustainable benefits to the Nation. The work is done to support economic and human dimensions-related needs of the NMFS Regional Offices, the Offices of Sustainable Fisheries, Protected Resources, Habitat Conservation and Aquaculture. The data and analysis done by the program is also used by Fishery Management Councils, Fisheries Management Commissions, state agencies, and non-governmental organizations. These reviews will assess the extent to which current science programs are focused on the priority information needs required to complete the NMFS mission, assess the quality and effectiveness of these programs, and make recommendations for the future.

Overarching Questions for Reviewers

Science Center staff will provide information that describes their socioeconomic programs. The Office of Science and Technology will present information relevant to the program at a national level. The reviewers will use this information (and any ensuing discussion) to provide advice on the quality and relevance of the science program towards meeting management needs in the region. The reviewers should consider these overarching questions:

1. Does the Center/ST have clear goals and objectives for an economic and sociocultural science program? Do the Center's/ST's Programs provide information to address the priority needs of the Regional Offices, other NOAA managers, Fishery Management Councils, Fisheries Management Commissions, and other stakeholders that require economic and human dimensions-related information to achieve their mission? Do the Center's/ST's Programs have a strategic research agenda that anticipates evolving and long-term economic and sociocultural science needs including research to support adapting to climate change and implementation of ecosystem-based fishery management?
2. Are the Center's economic and sociocultural programs appropriately integrated with each other and with other science activities within the Center? Are research efforts integrated, where relevant, with efforts at the regional offices and headquarters?
3. Is the status of data collection related to commercial fisheries, recreational fisheries, fishing participants, and communities adequate to fulfill economic and sociocultural science research needs? Has the Center/ST developed strategies to obtain, manage, and make data accessible? Are there barriers that impede data collection and access to data held by other entities (e.g. states, commissions, other federal agencies, etc.) that could be used to support the Center/ST's research, and how can these barriers be overcome?
4. Are the Centers/ST using appropriate models and research tools to analyze data and provide management advice? Are they developing and using methods and models that contribute to the evaluation and exploration of ecosystem based fisheries management and other emerging issues? Are their barriers to adapting to address emerging issues?
5. Is the Center's/ST's social and economic information being used in living marine resource management advice? Are the existing mechanisms sufficient for ensuring this information is used appropriately? Are there barriers to the uptake of science provided by the Center and what steps can be taken to overcome these?
6. Is the Center providing the Best Available Science? Are the Center/ST's economic and sociocultural research products adequately peer-reviewed? Are the appropriate processes being used to ensure that scientific products meet professional standards and are of high caliber?
7. Does the Center's/ST's program use the best tools to appropriately communicate research results to various managers, partners, stakeholders and the public?

In all cases, the reviewers should note areas where the Center's Economics and Human Dimensions Science Program is doing well and provide recommendations for areas that need improvement.

Format

The meetings will last 3-5 days depending on the complexity of individual Center's programs. The venue will allow public access to open sessions and have wireless internet access, audio visual capability (e.g., overhead projector, microphone amplification). The Centers and ST will endeavor to provide access to open sessions of the review for the public and remotely located staff who are unable to attend in person. Prior to the review, a teleconference between Center leadership and the review panel will be held to discuss and clarify the charge to reviewers, the scope of the review, focus questions provided in the scope, background documents provided, and products of the review.

A typical review is structured with presentations that address topics related to the review's overarching questions but may be organized differently e.g. by mandate, theme or discipline. These presentations will draw upon background material provided by the Center. The schedule below is tentative but will be finalized well in advance of the review.

- Day 1
 - Presentations about the Center by Center leadership
 - Theme 1: Economic and Human Dimension science activities and regional management needs, including strategic planning and prioritization. This is a high level overview by the Center Director, or Deputy Director followed by program leads who will give an overview at the program level). (Q1)
 - Theme 2: Commercial Fisheries Economics Program (Q2,3,4,5) Program (Q2,3,4,5) Theme 3: Recreational Fisheries Economics Program (Q2,3,4,5)
 - Public comment (variable)
 - Panel deliberation (closed session, 1+ hr)
- Day 2
 - Theme 4: Human Dimensions
 - Theme 5: Ecosystem Research (Q2,3,4,5)
 - Public comment (variable)
 - Panel deliberation (closed session, 1+ hr)
- Day 3
 - Theme 6: Communication of research results and peer review process (Q6,7)
 - Public comment (variable)
 - Preparation of the panelists' recommendations (closed session, 3+ hr)
- Day 4
 - Preparation of panelists' recommendations (closed session, as needed)
 - Report preparation
 - Panel and Center leadership discuss the results of the review (i.e., debrief, closed session)

Stakeholders will be invited to participate as observers and to comment during the daily public comment sessions. Stakeholders providing comment during the review public comment sessions may also submit written public comments to the point of contact listed on the Center's program review website. These comments will be provided to the review panel. Public comments are for the reviewers' edification and will not necessarily be specifically responded to by the agency or the review panel.

At the close of the review, the panel and Center/ST leadership will discuss the results of the review in closed session. Additional personnel (e.g. Chief Scientist, Senior Scientist for Economics, ST Director, Center and ST staff, and program review coordinator) are expected to attend the closed session and this will be communicated to the panel prior to the start of the review.

Briefing and Background materials

All background materials prepared by the Center/ST will be provided to the panel electronically through the Center/ST website no later than 2 weeks prior to the review. All presentations will be provided to the panel, through the website, 1 week before the review. Briefing books may be provided at the request of the panel chair.

Products

Each panelist will produce a succinct report detailing his or her observations of and recommendations for the themes provided within the TOR for the program review. (See Appendix 1 for template.) The chair may submit an individual report, but this is not a requirement. Individual reports are required for NMFS to comply with the Federal Advisory Committee Act (FACA, 1972). Draft reports will be submitted to the Center/ST Director at the close of the review. Final versions will be submitted by the panelists 1 week after the review concludes.

The panel chair will summarize the program review proceedings (e.g. what happened, salient issues, and recurring themes) in a report submitted to the Center/ST Director at the close of the review. The report will not represent a consensus of panelists' observations and recommendations (FACA).

Review Team Resources

NMFS will pay for the travel cost and per diem for all review panelists external to NMFS and a set fee for the services of non-governmental panelists. Each Center/ST will assist review panel members in making travel arrangements.

During the review the Center/ST will provide the review panel with wireless broadband services and space to convene closed working sessions. If requested in advance, the Center will, within reason, provide other items (e.g. desktop computers, printers, copiers) to assist the review panel with report preparation.

The review panel will, if needed, be provided 1 full day to write draft review reports at the conclusion of presentations by Center staff.

Review Panel

The scientific review panel will include 4-7 independent PhD-level or equivalent scientists with demonstrated familiarity with the topic. Panels should include:

- 1 scientist from NOAA Fisheries
- 1 scientist from another NOAA line or staff office (optional).
- 3- 5 (the majority) scientists external to NOAA.
- 1 Science Center Director (optional)

NMFS requires the chair not be a NMFS employee and encourages that the chair of the panel be a federal scientist external to NOAA. The NMFS program review coordinator will attend and provide guidance to the panel on complying with FACA. To ensure a majority of independent reviewers, reviewers who are members of committees that are involved in NMFS science (e.g. science and statistical committees, science review groups) will be from a different region than the Center being reviewed, and use of recently retired and former NMFS employees will be limited. Other potential perceived or real conflicts of interest shall be avoided. The NMFS Assistant Administrator or their designee shall approve the Panel selections.

Agency Response

The Center/ST Director will send the chair's summary report and the panel members' individual reports to the NMFS Chief Science Advisor when the reports are received. The Center/ST Director will also prepare a brief response, including agency actions, to the chair's summary report within 10 weeks of receipt of the chair's review report package by the NMFS Chief Science Advisor. The response can include clarifying information and respond to controversial points within individual reports even if not mentioned in the chair's summary.

The NMFS Chief Science Advisor will send the package to the NMFS Assistant Administrator for clearance.

At end of 90 days after the review, all documents (chair's summary report, director's response, individual reviewers' reports) will be posted on the Center/ST websites. Authorship of the individual review reports will remain anonymous to the public.

Material to be Provided by the Center

The Centers will provide presentations made by staff and background materials in order to facilitate the independent review. All materials (e.g. power point presentation, word files, pdfs) will be named such that the file names indicate the main topic the material covers.

Materials will be provided in an interactive agenda format (i.e. materials will be linked to the talks listed on the agenda) and will be marked as required primary references (must read) and secondary references (optional for further detailed information).

Appendix 1. Program Reviewer Report Templates

Chair's Summary¹ of Program Review of Economics and Human Dimensions Program Science Center Address Dates

Review Panel Members

- Name, Affiliation, Chair
- Name, Affiliation, Reviewer (as many as needed)

Background and Overview of Meeting General Observations and Recommendations

Panel Member's Major Recurrent Observations and Recommendations

1. Theme 1 – Management Context and Strategic Planning

Observations

Recommendations to address issue

2. Theme 2 – Commercial Fisheries

Observations

Recommendations to address issue

3. Theme 3 – Recreational Fisheries

Observations

Recommendations to address issue

4. Theme 2 – Human Dimensions

Observations

Recommendations to address issue

5. Theme 5: Ecosystem Research

Observations

Recommendations to address issue

6. Theme 6- Communication and Peer Review

Observations

Recommendations to address issue

7. Other

Observations

Recommendations to address issue

8. Conclusions

¹ Notes: This report is a summary by the chair NOT consensus. Summarized findings and recommendations should be reported as "Panel members said" NOT "Panel concluded".

Reviewer Report on Program Review of Economics and Human Dimensions Program

Science Center

Address

Dates Background

General Observations and Recommendation

Key (Specific) Findings and Recommendations (as reviewer has comments on)

1. Theme 1 – Management Context and Strategic Planning

Observations

Recommendations to address issue

2. Theme 2 – Commercial Fisheries

Observations

Recommendations to address issue

3. Theme 3 – Recreational Fisheries

Observations

Recommendations to address issue

4. Theme 4 – Human Dimensions

Observations

Recommendations to address issue

5. Theme 5 – Ecosystem Research

Observations

Recommendations to address issue

6. Theme 6- Communication and Peer Review

Observations

Recommendations to address issue

7. Other

Observations

Recommendations to address issue

8. Conclusions

Specific information to be provided by each Center to the review committee:

Provide an overview of information needs for economics and human dimensions research at the Center. Identify the two to three important and typical research programs run by the Center and explain why they are a) important and b) typical. Identify the types of research that are atypical for the Center.

Centers should provide reviewers material that:

1. Describes the programmatic structure and composition of the Economics & Human Dimensions Program at the Center; note strengths, challenges, solutions, and areas for growth
2. Describe the commercial fisheries economic science—data collection, databases, data analyses, modeling, and syntheses—at the Center. Include structure (number of FTEs, contractors) and a description of their workload and research opportunities. In addition, describe and provide examples of research to improve assessments, including integrated modeling.
3. Describe the recreational fisheries economic science—data collection, databases, data analyses, modeling, and syntheses—at the Center. Include structure (number of FTEs, contractors) and a description of their workload and research opportunities. In addition, describe and provide examples of research to improve assessments, including integrated modeling.
4. Describe the sociocultural science—data collection, databases, data analyses, modeling, and syntheses—at the Center. Include structure (number of FTEs, contractors) and a description of their workload and research opportunities. In addition, describe and provide examples of research to improve assessments, including integrated modeling.
5. Describe the integrated ecosystem behavioral science—data collection, databases, data analyses, modeling, and syntheses—at the Center. Include description and examples of research to improve assessments and a description of the workload and research opportunities of the Program’s integrated modelers.
6. Describes the economic and human dimensions management advice needed in the region(s) the Center supports.
7. Describes how this advice is included in framing management issues, developing management options, and/or evaluating management alternatives
8. Describes the partnerships used by the Center in its economics and human dimensions science enterprise and where there is significant leveraging of outside resources.
9. Describe the peer review process and communication strategies.

List of potential generic information to be provided by each Center to the review committee:

During the review, the Center should address the following questions as related to the thematic areas under review:

- What does the Center do? What does the RO do? To what extent does the RO inform Center science priorities? What is the nature of the relationship with ST and OHC, OPR, SF?
- How does the Center work to assure common objectives are being effectively and efficiently addressed across multiple NMFS and NOAA organizations?
- What's the societal significance of the Center's research?
- What are the linkages to NOAA Strategic and Research Plans, NMFS Strategic Plan for Fisheries Research, NMFS AGM and the Center's science plan?
- What are the key scientific questions being addressed?
- How are they linked to regulatory or management needs?
- What are the key 5-Year Strategic Plan milestones and what is the Center's progress in achieving them?
- Who are the Center's customers and partners and how does the Center work with them?
- What are the products of the Center's research?
- What is the Center's approach for increasing the use of ecosystem information into the Center's informational products, starting with species assessments and other existing products used to inform management decisions?
- What innovative or transformational research is being conducted?
- What science and applications will be transitioned to operations?
- What are the future directions of the Center?
- How does the Center set priorities? What are the core research priorities of the Center?
- What research activities have been dropped in recent years due to budget limitations or as a result of prioritization efforts?