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***Science and Technology***

***Internal Review and Approval of Fundamental Research Communications***

***NMFS Guidance on Internal Review and Approval of Fundamental Research Communications***

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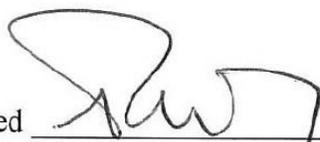
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## NMFS Guidance on Internal Review and Approval of Fundamental Research Communications

### 1. Background

Free and open scientific communication is a top priority of the National Marine Fisheries Service (NMFS) and the National Oceanic and Atmospheric Administration (NOAA), and is a fundamental element of the NOAA Scientific Integrity Policy (NAO 202-735D<sup>1</sup>). Clearly communicating science is an important responsibility of NOAA and its scientists. To achieve both open scientific communication and the high quality of that communication, the NOAA Research Council has issued the NOAA Framework for Internal Review and Approval of Fundamental Research Communications<sup>2</sup> as guidance<sup>3</sup> to the NOAA line offices and staff offices (L/SO), including NMFS, for use in the development of more standardized procedures for internal review and approval of certain fundamental research communications. Communications relevant to this policy, including fundamental research communications, are defined by Department of Commerce administrative order<sup>4</sup> (Appendix 1).

Primarily, the NOAA framework aims to ensure that manuscripts intended for the external peer-reviewed literature meet basic standards of clarity and scientific integrity.<sup>5</sup> However, the NMFS L/SO procedures aim to address a broader range of fundamental research communications as required by departmental policy.<sup>6</sup> The NMFS L/SO procedures require authors to respond to internal peer-review comments and receive approval prior to submitting a manuscript for publication. These procedures are not intended to inhibit publication by NMFS scientists or to prohibit NMFS scientists from freely expressing their scientific conclusions. An approved disclaimer is provided for use by NMFS authors when expressing their scientific conclusions that could be confused with agency policy. Therefore, decisions to approve or not approve a work for release to the public will be based solely on the scientific merit of the work.

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<sup>1</sup> NOAA Scientific Integrity Administrative Order:

[http://www.corporateservices.noaa.gov/ames/administrative\\_orders/chapter\\_202/202-735-D.html](http://www.corporateservices.noaa.gov/ames/administrative_orders/chapter_202/202-735-D.html). The Administrative Order includes the definitions of terms, including a Fundamental Research Communication.

<sup>2</sup> NOAA Framework for Internal Review and Approval of Fundamental Research Communications:

[http://nrc.noaa.gov/sites/nrc/Documents/Scientific%20Integrity/Framework\\_for\\_Fundamental\\_Research\\_Communications\\_June2013\\_FINAL.pdf](http://nrc.noaa.gov/sites/nrc/Documents/Scientific%20Integrity/Framework_for_Fundamental_Research_Communications_June2013_FINAL.pdf)

<sup>3</sup> These guidelines were developed per the principles in NAO 202-735D which were deemed consistent with Department of Commerce rules concerning public communications (DAO 219-1) that require NOAA to review Fundamental Research Communications. These guidelines are also consistent with NAO 201-32G: Scientific and Technical Publications.

<sup>4</sup> Department of Commerce rules concerning public communications (DAO 219-1).

<sup>5</sup> The NOAA Framework does not pertain to non-federally led scientific assessments (e.g., Intergovernmental Panel on Climate Change Assessment Report).

<sup>6</sup> Department of Commerce rules concerning public communications (DAO 219-1).

## 2. Purpose

Internal review and approval of manuscripts and other fundamental research communications produced by NMFS authors are standard practice. This guidance was developed to establish a NMFS-wide policy for internal review of fundamental research communications. This guidance is intended to ensure consistency in the review process while using previously established internal review mechanisms (e.g., technical review, information quality review, and editorial and policy reviews) that are consistent with this policy.

Internal peer review and approval must be:

- Consistent with NAO 202-735D on Scientific Integrity.
- Conducted by staff who are knowledgeable in the scientific area(s) being addressed in the work.<sup>7</sup>
- Designed to improve the scientific quality of the work by highlighting any inconsistencies or weaknesses in data, methodology, findings, or structure of the manuscript or fundamental research communication.

Internal peer review shall not be used to inhibit or excessively delay the publication of scientifically meritorious manuscripts (and other fundamental research communications), as described in NAO 202-735D, Section 7.03.

## 3. Applicability and Scope

All NMFS (federal) primary authors and NMFS co-authors—as well as NMFS contractors, recipients of NOAA financial assistance awards, NOAA Cooperative Institutes, and other research partners to whom NAO 202-735D applies—must follow this guidance regardless of order of authorship. This guidance also applies to other affiliated staff, who will publish fundamental research communications using NMFS as part of their affiliation (e.g., contractors and NMFS-sponsored researchers working under NOAA Cooperative Agreements). This guidance applies within the constraints of the contract or cooperative agreement; as such, these agreements should be written to include compliance with the principles of the NOAA Scientific Integrity NAO including specific language regarding disclaimer use or allowing for NMFS review.<sup>8</sup>

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<sup>7</sup> NMFS reviewers may request input from experts external to NMFS if warranted. External technical reviewers who are not federal employees may be asked to sign conflict of interest and confidentiality forms. External technical reviewers who are federal employees must follow federal ethics rules for conflict of interest and confidentiality.

<sup>8</sup> The NOAA Scientific Integrity Policy applies to recipients of NOAA financial assistance awards, including NOAA Cooperative Institutes, as well as other NOAA research partners and collaborators. These partners are responsible for abiding by the principles contained in this Order regarding NOAA's commitment to Scientific Integrity, as specified in award agreements or in other written agreements with NOAA. The NOAA Scientific Integrity Policy is clear in stating that Cooperative Institute scientists are governed by their home institution policy concerning

NMFS has opted to develop internal review guidance for all fundamental research communications. This guidance should be considered media neutral (e.g. does not matter if disseminated by paper, digital file, video, webpage or other formats) and will apply to any initial public release and publication of new research regardless of the method of publication. This includes, but is not limited to, manuscripts to be submitted to the peer-reviewed scientific literature; technical reports or memoranda; and web pages with new research content. Continuously updated data and research products, such as publicly disseminated online databases should have their data collection and aggregation protocols and publication processes reviewed at least every 3 to 5 years or whenever there is a significant change in the protocol or process. Documents written solely as part of the formal regulatory process or as part of regulatory consultations are generally excluded from the review procedures outlined here. However, if these documents contain the results of new scientific studies conducted in support of the regulatory document that have not been previously published elsewhere, then an internal review of the new scientific information for technical merit is warranted. Social media products, such as blogs, are covered under the Department of Commerce Policy on the Approval and Use of Social Media and Web 2.0 (SM/W2.0) and the NOAA Fisheries Social Media Policy. A decision tree to illustrate whether a scientific work product requires internal review is included in Appendix 2.

#### **4. Framework**

This policy describes a process that includes two levels of review and approval: full internal review and expedited approval. Included in Appendix 3 is a set of best practices authors may use to improve the quality of their FRCs prior to submission for internal review.

##### *4.1. Full Internal Review*

Full internal review includes evaluation for:

- Technical quality.
- Information Quality Act (Appendix 4).
- Policy statements and disclaimer requirements (Appendix 5).
- High profile or controversial content (Appendix 6).
- Editorial review (optional).<sup>9</sup>

Scientific work products subject to these guidelines may not be submitted to a journal or released by NMFS without signature approval. At a minimum all review and approval documents must be signed by 1) division lead<sup>10</sup> or their designee (for technical and IQA review), and 2) the approving official<sup>11</sup> or their

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allegations of scientific misconduct. NMFS does not view the internal review of scientific works to be a matter of scientific misconduct.

<sup>9</sup> Editorial review is an optional but encouraged review for formatting, grammar, writing style, clarity, and other similar non-technical issues.

<sup>10</sup> Depending on the organizational structure of the center, office, or program, the division lead may have the title division chief, division director, laboratory director, assistant regional administrator, program coordinator,

designee (for policy and high profile review). In cases where the division lead is not a first line supervisor, typically the division lead will designate the direct supervisor to fill the role; however, this is not required. In rare cases when the approving official is the science center or office director, or regional administrator, and is an author on the work, the final approval should be signed off by their direct supervisor, the NMFS Director of Scientific Programs and Chief Science Advisor or the Deputy Assistant Administrator for Regulatory Programs, as appropriate.

Individual science centers, offices, or programs may require additional signatures, and may use manuscript coordinators, publications units, or editorial offices, for example, to facilitate the internal review process. Appendix 7 contains the NMFS Fundamental Research Communication Review and Approval Form that is intended to track reviews and approvals through the review process.

The following are examples of fundamental research communications that would require full internal review:

- Peer-reviewed articles in professional journals.
- Articles in professional journals that are not peer-reviewed (e.g., some foreign journals and conference proceedings are not peer-reviewed).
- NOAA Technical Memoranda.
- Books.
- Technical book chapters.
- Chapters in popular books or magazine articles.
- Letters to peer-reviewed journals.
- Web pages with significant new research content that is accessible to the public.
- Cruise reports summarizing methods and reporting data made accessible to the public.

Full internal review requires the following:

*4.1.1. Technical review:* Review for scientific merit including such aspects as data quality, appropriateness of methodology, accuracy of findings, and overall quality. Elements of technical review include:

- Review by at least one NMFS scientist who is sufficiently knowledgeable in the relevant field. Reviewers shall be selected by the approving official or their designee (direct supervisor, program lead, branch chief, division lead). Authors may recommend appropriate reviewers to the approving official to consider for selection.

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program manager, or equivalent; and the division lead designee may have the title deputy division chief, branch chief, program manager, assistant regional administrator, or equivalent.

<sup>11</sup> Depending on the organizational structure of the center, office, or program, the approving official may have the title science director, deputy director, office director, program director, or regional administrator; and the approving official designee may have the title deputy director, deputy regional administrator, division chief, or senior scientist.

- Additional reviews by experts external to NMFS, or a more specialized review. These reviews may be sought when warranted (e.g., for data or statistical analysis).
- Authors must consider and respond to technical review comments prior to resubmission for a second review (if the document was deemed unsuitable for publication), submission for external publication, or other public release.
- Technical review must be signed off by the division lead or designee.

*4.1.2. Information Quality Act Review:* Review for Information Quality Act (IQA) compliance and identification of Influential Scientific Information (ISI) or a Highly Influential Scientific Assessment (HISA).

Typically, publications in a peer-reviewed journal are excluded from IQA requirements for pre-dissemination review<sup>12</sup>. However, for other documents such as technical memoranda, administrative reports, or other agency publications, the division lead must sign off that the product has been reviewed for information quality (utility, objectivity, and integrity) as required by the IQA. If the division lead was directly involved in producing the work, review must be completed by the division lead's supervisor.<sup>13</sup> A summary of the IQA requirements is provided Appendix 4.

If the work product is identified as ISI or HISA, there are additional peer-review and documentation requirements under the OMB IQA Peer Review Bulletin. In these cases, the author and the division lead must ensure the appropriate peer-review process is followed and that the office IQA contact is notified. It cannot be assumed that peer review in all journals meets the peer-review requirements for ISI/HISA outlined in the IQA Peer Review Bulletin. ISI is scientific information the agency reasonably can determine will have or does have a clear and substantial impact on important public policies or private sector decisions. HISA is a scientific assessment that: (i) has a potential impact of more than \$500 million in any one year on either the public or private sector or (ii) is novel, controversial, or precedent-setting. Authors are referred to Appendix 4 and to the NMFS policy directive on the Information Quality Act (PD 04-108) for more guidance on application of IQA and ISI/HISA standards, available online at:

[http://www.nmfs.noaa.gov/op/pds/categories/science\\_and\\_technology.html](http://www.nmfs.noaa.gov/op/pds/categories/science_and_technology.html)

*4.1.3. Policy and disclaimer review:* review of the work product for statements or findings with policy implications relevant to a science center or office, NMFS, or NOAA; factual correctness of statements regarding legal mandates or statutes; and whether disclaimers are required.

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<sup>12</sup> The NMFS Policy Directive on the Information Quality Act (PD 04-108) states that the Agency does not 'initiate' the dissemination of information when an Agency scientist or grantee or contractor publishes and communicates his or her research findings in the same manner as his or her academic colleagues, even if the Agency retains ownership or other intellectual property rights because the Federal Government paid for the research.

<sup>13</sup> IQA policy requires that the reviewing official be one level above the person generating the information product. If the direct supervisor is directly involved in generating the study, then it must be reviewed a level above the supervisor.

The director or their designee will review each work product for statements that deal with issues of agency policy or management (see examples Appendix 5). Consistent with departmental guidance (DAO 219-1) and NOAA Policy (NAO 202-735D) if these statements could reasonably be construed as representing the view of NOAA when they do not, then the following disclaimer must be used<sup>14</sup>:

“The scientific results and conclusions, as well as any views or opinions expressed herein, are those of the author(s) and do not necessarily reflect those of NOAA or the Department of Commerce.”

If a publication contains policy or management statements<sup>15</sup> that do represent the view of NOAA, then the publication should be considered an Official Communication<sup>16</sup> covered by DAO 219-1. Although this should be a rare occurrence, if it does happen Official Communications (Appendix 1) should be submitted to the NMFS Office of Communications through the science center, office, or program communications liaison. The NMFS Office of Communications will determine the appropriate review and whether the use of a disclaimer is required.

If a publication includes statements regarding legal mandates or statutes that may be factually incorrect, the center, office, or program deputy should consult the deputy regional administrator and, if needed, the NOAA General Council section of the regional office if he or she has questions regarding the accuracy of the statements.

Under NAO 202-735D and the NOAA FRC Framework, agency scientists are free to present viewpoints that extend beyond their scientific findings (e.g., to express expert or personal opinions about policy or management matters). However, these scientists must make it clear they are presenting their own opinions and include the above disclaimer. Appendix 5 presents several examples to help clarify when disclaimers should be used and when they are not required.

*4.1.4. High-profile or controversial information review: review of fundamental research communication for information that is likely to be high-profile or controversial.*<sup>17</sup>

Authors must alert their division lead and approving official (or designee) to fundamental research communications that may be high-profile or controversial in nature (Appendix 6) when the work is submitted for internal review. The approving official (or designee) must alert appropriate NMFS and NOAA leadership to ensure the high-profile or controversial work is tracked and reported to the NOAA

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<sup>14</sup> NOAA Framework for Internal Review and Approval of Fundamental Research Communications Part 1: Guidance for Line and Staff Offices on the internal review of manuscripts to be submitted to the peer-reviewed scientific literature.

<sup>15</sup> Policy or management statements refer to the agency’s official position on matters of policy or management.

<sup>16</sup> Although, by definition, an Official Communication is not a Fundamental Research Communication, for an Official Communication that deals with the products of basic or applied research in science or engineering, the role of the public affairs office is to assist with presentation, style, and logistics of the science or engineering information, not to alter its substance in any way.

<sup>17</sup> Scientific Assessments that are “novel, controversial, or precedent setting, or of significant inter-agency interest” qualify as HISA under the OMB Peer Review Bulletin and may trigger heightened peer-review requirements.

Administrator. For manuscripts submitted to the peer-reviewed publication process, this notification to NMFS leadership can occur once the paper has been accepted for publication.

*4.1.5. Editorial Review:* Is an optional but encouraged review for formatting, grammar, writing style, clarity, and other similar non-technical issues.

#### *4.2. Expedited Approval*

An expedited approval process may be used for documents that do not require a thorough internal review. The expedited review focus is primarily on review for policy statements, high-profile or controversial content, and the determination of whether a disclaimer is required. Expedited approval requires:

- Information quality review,
- Policy and disclaimer review, and
- High-profile or controversial information review

as defined in the full internal review section.

The following do not need to go through full internal review but do need policy and disclaimer review and approval by the division lead or their designee:

- Letters to the editor of a newspaper.
- Newspaper articles.
- Book reviews.

In some cases IQA may not be required. Documents may go through expedited approval without IQA review if the division lead determines that the document does not contain:

- New data,
- New interpretations of data
- Information that has not had peer review that meets IQA standards
- Information that has not been previously disseminated.

The following do not need to go through full internal review but do need policy and disclaimer review and approval by the division lead or their designee. These also may be exempt from IQA review:

- Working group and professional meeting documents.
- White papers.
- Abstracts for oral presentations or posters presented at conferences or professional symposia.
- PowerPoint presentations at professional conferences and meetings.

White papers or technical documents prepared for discussion at stock assessment workshops or other technical review meetings are of particular interest. If the review meeting is open to the public and the

working documents are made available to the public, then this is considered a dissemination of the scientific information and the IQA applies. Because of this, the papers must go through at least expedited review with IQA ahead of the meeting. Conversely, if the review meeting is not open to the public and the documents are released after the review meeting, then the review meeting itself likely can be considered adequate internal peer review. However, the IQA pre-dissemination review would still be required at the time the documents are disseminated after the review meeting. Fundamental research communications developed as part of a publicly accessible workshop or working group should be submitted for expedited review at the termination of the meeting.

## **5. Documentation**

Prior to submission for publication or public release, authors must ensure that the completion of the review and approval process has been sufficiently documented. The NMFS Fundamental Research Communications Review Form (Appendix 7) is to be used for this purpose until an online electronic documentation system is implemented.

## **6. Non-primary Authorship**

NMFS encourages its authors to engage with and publish work with scientific colleagues external to the agency. NMFS co-authors are responsible for seeking pre-submission internal review and approval regardless of their role in the manuscript. In cases where the NMFS author is not the primary author, they may not have the ability to make changes as recommended by the internal reviewer. Nevertheless, the NMFS internal review will enable NMFS approving officials to determine whether use of a disclaimer is warranted. In the event that the primary author is unwilling to submit a disclaimer or change language appropriately concerning conservation and management opinions, then the NMFS author should withdraw their name from the paper.

NMFS authors should submit work products for internal review prior to submission for publication. NMFS co-authors are responsible for keeping abreast of the progress of manuscripts under primary control of another author and ensuring the final draft meets with their approval. Nevertheless, occasionally a non-primary author is unaware of being listed as an author until shortly before publication of a paper or oral presentation of the work by the primary author, or until after the work is submitted. In such cases the NMFS author should immediately notify their division lead or designee. If there is insufficient time to conduct the required reviews, a disclaimer should be added to the paper or the NMFS co-author should request that their name be removed from the manuscript.

## **7. Timeline**

The NOAA Framework recommends that the normal timeframe for internal review should be no longer than 30 days. NMFS requires full internal reviews be completed within 30 days and expedited reviews within 10 days. Exceptions (e.g., complex or lengthy documents, when substantial revisions are required, or the approver is on travel) must be explained to the author in writing within 10 days of the manuscript

entering the review cycle and include the date by which the review will be completed. All staff involved in the review process should complete the required steps in the review process in a timely manner.

## 8. Tracking and Notification

Upon acceptance of a manuscript by a journal, the NMFS author must promptly report it to their division lead and the science center's science publications contact for inclusion in the NMFS weekly report of science publications. The following information should be included for all manuscripts that have been accepted for publication in peer-reviewed journals, and any other documents that are of high scientific importance, are highly controversial, or will have a formal press release:

- Journal name.
- Acceptance date.
- Expected publication date.
- Authors (NOAA authors in bold plus affiliation (Line Office and Program or Lab)).
- Title of paper.
- Abstract.
- Link to full text paper (if applicable).
- Significance of scientific conclusions for management, policy, or the broader scientific community (three bullets or less).
- Degree of controversy: (high, medium, low; if medium or high, please state why this is controversial).
- Press release (yes or no).
- Roll-out plan (yes or no).

## 9. Responsibilities

### 9.1. Authors

- Select public outlet for work product.
- Prepare work products to conform to requirements of their science center and the publication outlet, including proper use of NMFS address as author affiliation (Appendix 8).
- Initiate internal review process for work products at the appropriate level for their work unit.
- Ensure that all steps of the internal review are fully completed and documented, including signature approval of the approving official (or designee) before submitting the approved draft manuscript to the journal. This includes work products for which the author is not the primary author (Appendix 8).
- During the review process, re-submit work product for internal review as required or if significant changes are made based on initial reviewer comments.
- After final approval, submit signed documents required to track the review of the work product to the division lead or designee.
- Ensure a disclaimer is applied to work products as directed by the approving official.
- Upon acceptance by an outlet, complete and monitor progress of the NMFS publications report.

- When it becomes available, update the appropriate tracking system with current information on publication status (e.g., accepted, early view, or published).
- Upon acceptance of the manuscript by the journal, promptly report details to the division lead and science center's science publications contact [as described above].

Science centers and offices having a publications unit or editorial office responsible for routing manuscripts through the review process may continue to use their existing process. In this case, some responsibilities assigned to authors may fall on the staff of publications units or editorial offices.

### *9.2. Technical Reviewers*

- Assess scientific soundness and originality of contribution.
- Assess methodology and adequacy of data.
- Provide comments on the completeness and clarity of the information presented in the manuscript.
- Make recommendations to improve the manuscript.
- Examine the manuscript for technical errors.

### *9.3. Division Lead or Designee*

- Review work product or designate at least one internal reviewer to review it.
- Approve or not approve the work product based on reviewer comments.
- Sign off on Technical and Information Review documentation (including IQA certification).
- Maintain records for all division publications, including all approval and tracking forms.

### *9.4. Approving Official or Designee(s)*

- Sign off on Policy and Disclaimer Review documentation.
- Provide final approval of work product prior to submission for publication or public release.
- May designate responsibility (e.g., to deputy director or senior scientist).

### *9.5. Science Center or Office*

- Develop or update existing unit-specific guidance to authors.
- Ensure guidance is consistent with NMFS guidance provided here and the NOAA Framework for Internal Review and Approval of Fundamental Research Communications.

## **10. Procedures for Redress**

Decisions to approve or not approve a work product for submission to peer-reviewed publications and other public issuance may only be made on the basis of scientific merit of the work. The decision to approve or not approve is based on reviewer comments and judgments of the division lead and approving official or their designees.

- If a work is not approved, the author must either revise the work according to reviewer comments or make a convincing written rebuttal to the reviewer comments. Revisions and rebuttals must be reviewed and approved by the division lead within 10 days of receipt.
- If the division lead does not approve the revision or rebuttal, they must provide the reason(s), supported by clear examples, in writing to the author within the 10-day timeframe. The author may then consult their direct supervisor whether to retire the work from the review process (which may include temporarily withdrawing the document then substantially revising it), or they may appeal to the approving official.
- The approving official must provide the author with a written decision approving or disapproving the work within 30 days of receipt of the appeal request.
- If the work is not approved by the approving official, further appeal may be made to the NMFS Director of Scientific Programs and Chief Science Advisor according to the provisions of Departmental Administrative Order 219-1 Public Communications Section 12.02.
- To appeal, the author must provide the NMFS Director of Scientific Programs and Chief Science Advisor or Deputy Assistant Administrator for Regulatory Programs with all written materials associated with the work (e.g., revisions, rebuttals, and previous decisions). Additional information may be requested from the author and all other parties who disapproved the work. The NMFS Director of Scientific Programs Chief Science Advisor or Deputy Assistant Administrator for Regulatory Programs must provide to the author a written decision approving or disapproving the work within 60 days of receipt of the appeal.
- If all attempts to resolve the conflict result in disapproval of the work, the author may still publish the work but must use the approved disclaimer.

## **11. Effective Date/Revisions**

NMFS will review and amend this guidance as needed to meet further NOAA guidance on internal review of fundamental research communications or the needs of NMFS.

## Appendix 1: DAO 219-1 Definitions

### SECTION 6. DEPARTMENTAL PUBLIC COMMUNICATIONS.

01 Public Communication. This means any communication that is intended for, or should reasonably be expected to have, broad distribution outside the U.S. Government, including without limitation:

- a. Public speeches, news releases and advisories, news conferences, broadcast appearances, and interviews or discussions with journalists;
- b. Public writings, such as articles or papers in publications or other writings distributed through mass-mailing, e-mail, or posting on a website;
- c. Public educational instruction and/or lectures, conferences, seminars, etc.; and
- d. Public distribution of audiovisual works, including without limitation slide sets, PowerPoint presentations, multimedia (i.e., any combination of two or more media productions), and exhibits.

02 Fundamental Research Communication. Reflecting the Department's commitment to broad and open dissemination of research results, Fundamental Research Communications are not, and will be treated differently from, Official Communications (i.e., Sections 8 and 9 will not apply). Based on National Security Decision Directive No. 189, National Policy on the Transfer of Scientific, Technical, and Engineering Information (September 21, 1985), "Fundamental Research Communication" means a Public Communication that relates to the Department's programs, policies, or operations and takes place or is prepared officially (i.e., under Section 6.03a.1-4) and that deals with the products of basic or applied research in science or engineering, the results of which ordinarily are published and shared broadly within the scientific community, so long as the communication does not contain information that is proprietary, classified, or restricted by federal statute. If a communication also includes matters of policy, budget, or management, then it is not a Fundamental Research Communication.

### 03 Official Communication.

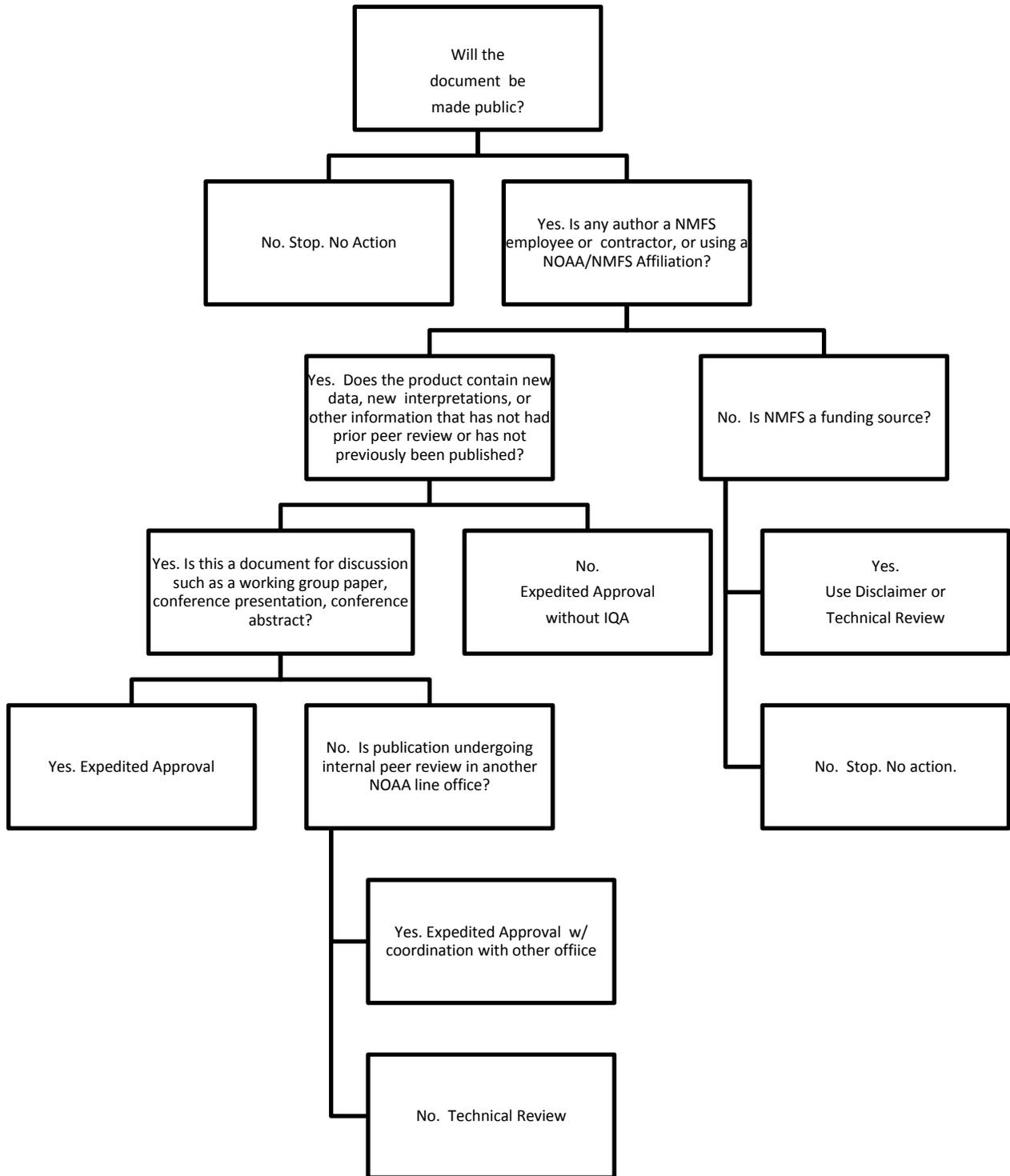
a. Definition. This means any Public Communication by an employee that relates to the Department's programs, policies, or operations and takes place or is prepared:

- 1. At the direction of a superior of the employee;
- 2. Substantially during the official working hours of the employee;
- 3. With the substantial use of U.S. Government resource(s); or
- 4. With substantial assistance of U.S. Government employee(s) on official duty.

All news releases and similar documents are Official Communications.

b. Protection of Science. Although, by definition, an Official Communication is not a Fundamental Research Communication, for an Official Communication that deals with the products of basic or applied research in science or engineering, the role of the public affairs office is to assist with presentation, style, and logistics of the science or engineering information, not to alter its substance in any way.

**Appendix 2: Internal Review Decision Tree**



### **Appendix 3: Best Practices for Fundamental Research Communication Content**

This checklist is intended for both authors and reviewers to aid in the development and review of NMFS scientific works intended for public release in manuscript, abstract, or web page content formats. This represents a basic list of topics that should be considered and answered either “yes” or in some cases “not applicable” for any document considered ready for submission to a journal, publisher, conference, or website manager. This form does not need to be filled out and submitted with the document being reviewed.

#### **Author Requirements**

1. I am either the sole author or I am designated the author responsible (e.g., for multi-authored works) for review, clearance, and publication of this work, and I have considered all the points listed in the checklist prior to review.
2. If applicable (e.g., multi-agency works), I have obtained permission to release copyright on behalf of all authors or individual permission from co-authors to waive copyright.

#### **Reviewer Requirements**

1. I have read this work with sufficient attention to detail and understand the salient points.

#### **Manuscript Best Practices Checklist**

##### *Merit*

1. Have the data or findings been previously published?
2. Have the principal limitations of the hypotheses, methods, and results been accounted for?
3. Is the logic sound?
4. Are the data and conclusions adequately referenced and presented in context?
5. Does the manuscript contain sufficient data and information to document its statements?

##### *Methods and Data Analysis*

1. Are base data, analytical methods, and statistical tests clearly presented?
2. Are base data and quantitative/statistical methods appropriate?
3. Are interpretations of the data and statistics in line with results?
4. Were established guidelines or practices used, regulations followed, and permits obtained for the care and handling of animal subjects if required?

##### *Figures and Tables*

1. Are all tables and figures mentioned in the needed order in the text?
2. Do tables and figures support the conclusions?
3. Are the captions of tables and figures self-explanatory and able to stand alone from the text?

4. Are all abbreviations or acronyms re-defined in each table or figure, as well as in the text?
5. Are all figures and tables essential to the text?
6. Do tables and figures adequately display data and/or relationships?

*Overall Writing Quality*

1. Are sections well organized?
2. Is the text concise? Are there paragraphs, sentences, awkward phrases, or words that can be edited or omitted?
3. Does the text match the journal's guidelines on style and requirements for submission?
4. Are objectives and conclusions clearly presented?
5. Are all references cited and are all citations referenced?

**Web Page Content Best Practices Checklist**

1. Is a web page an appropriate medium for conveying the information to the intended audience?
2. Is the arrangement of the information (i.e., the layout) simple and clean?
3. Are the embedded links active, accurate, and appropriate? Should some be added or removed?
4. Does the web page have a unique and descriptive title located at the top?
5. Is there sufficient information (i.e., e-mail address, postal address, or telephone number) listed on the web page to permit others to contact the agency for additional information?
6. If this is a new web page or a significant modification of an existing one, is the posting date (i.e., month, day, year) of the new or modified web page listed on the web page?
7. If replacing an existing webpage, has technical information that is potentially citable in a scientific, management, or legal context been appropriately archived?
8. Is there a link back to the main web page?
9. Do all subpages have "Return to top page" links leading back to the top document?

**Abstract Best Practices Checklist**

1. Is the main topic of the research identified in the abstract as it is in the title?
2. Does the abstract state the basic purpose of the research, the methods used, and the results and conclusions?
3. Is the abstract of a length permitted by the journal or meeting?
4. If appropriate, are the best possible keywords appended to the abstract?

## Appendix 4: Information Quality Act Summary

Section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Public Law 106-554, aka the Data Quality Act or Information Quality Act) directed the Office of Management and Budget (OMB) to issue government-wide guidelines that “provide policy and procedural guidance to federal agencies for ensuring and maximizing the quality, objectivity, utility, and integrity of information (including statistical information) disseminated by federal agencies.”

The guidelines apply to a wide variety of government information products and all types of media, including printed, electronic, broadcast, or other. The guidelines define “information” as “any communication or representation of knowledge such as facts or data, in any medium or form, including textual, numerical, graphic, cartographic, narrative, or audiovisual forms.” For example, this definition includes information that an agency disseminates from a web page. The guidelines define “dissemination” as “agency initiated or sponsored distribution of information to the public.” Explicitly not included within this term is distribution limited to “government employees or agency contractors or grantees; intra- or inter-agency use or sharing of government information; and responses to requests for agency records under the Freedom of Information Act, the Privacy Act, the Federal Advisory Committee Act or other similar law.” It also does not include distribution limited to correspondence with individuals, press releases, archival records, public filings, subpoenas, or adjudicative processes.

Additionally, the NMFS Policy Directive on the Information Quality Act (PD 04-108 ) states that “Agency initiated distribution of information to the public” refers to information that the Agency distributes or releases which reflects, represents, or forms any part of the support of the policies of the Agency. In addition, if the Agency, as an institution, distributes or releases information prepared by an outside party in a manner that reasonably suggests that the Agency agrees with the information, this would be considered Agency initiated distribution and hence Agency dissemination because of the appearance of having the information represent Agency views. By contrast, the Agency does not “initiate” the dissemination of information when an Agency scientist or grantee or contractor publishes and communicates his or her research findings in the same manner as his or her academic colleagues, even if the Agency retains ownership or other intellectual property rights because the Federal Government paid for the research.

### Pre-Dissemination Review

Before information is disseminated, it must be reviewed for compliance with the NOAA Sec. 515 Information Quality Guidelines.

**Utility** means that disseminated information is useful to its intended users. “Useful” means that the content of the information is helpful, beneficial, or serviceable to its intended users, or that the information supports the usefulness of other disseminated information by making it more accessible or easier to read, see, understand, obtain, or use.

**Integrity** refers to security—the protection of information from unauthorized access or revision—to ensure that the information is not compromised through corruption or falsification. Prior to

dissemination, NOAA information, independent of the specific intended distribution mechanism, is safeguarded from improper access, modification, or destruction, to a degree commensurate with the risk and magnitude of harm that could result from the loss, misuse, or unauthorized access to or modification of such information. All electronic information disseminated by NOAA adheres to the standards set out in Appendix III, "Security of Automated Information Resources," OMB Circular A-130; the Computer Security Act; and the Government Information Security Reform Act.

**Objectivity:** Information is presented in an accurate, clear, complete, and unbiased manner, and in proper context. The substance of the information is accurate, reliable, and unbiased; in the scientific, financial, or statistical context, original and supporting data are generated and the analytical results are developed using sound, commonly accepted scientific and research methods. "Accurate" means that information is within an acceptable degree of imprecision or error appropriate to the particular kind of information at issue and otherwise meets commonly accepted scientific, financial, and statistical standards.

Specific objectivity standards for categories of information products disseminated by NOAA are listed in the NMFS IQA Guidance.

### **Peer Review Bulletin**

In addition to the pre-dissemination review requirements, the OMB also issued the Peer Review Bulletin (PRB) which establishes minimum peer-review standards, a transparent process for public disclosure, and opportunity for public input. The PRB applies when the agencies disseminate "influential scientific information."

"Influential scientific information" (ISI) means scientific information the agency reasonably can determine will have or does have a clear and substantial impact on important public policies or private sector decisions. As noted in the NOAA Information Quality Guidelines, a clear and substantial impact is one that has a high probability of occurring. If it is merely arguable or a judgment call, then it would probably not be clear and substantial. In other words, if there is disagreement over whether an impact has a high probability of occurring, then the impact is probably not clear and substantial, and therefore not influential.

Highly influential scientific assessments (HISA) are a subset of influential scientific information. A HISA is a scientific assessment that: (i) has a potential impact of more than \$500 million in any one year on either the public or private sector (the economic test); or (ii) is novel, controversial, or precedent-setting, or of significant interagency interest (the narrative test). Peer-review requirements for HISAs are set out in Section III of the PRB.

The determination as to whether an information product is subject to the PRB should be made early in the process of developing the information so that a peer-review plan can be developed and posted well in advance of the release of the information.

## Appendix 5: Examples of Disclaimer Use

Disclaimers are required when FRC goes beyond scientific conclusions or includes matters of policy, management, or budget. Departmental and agency policies allow and require:

- 1) Scientists may draw scientific conclusions based on research, but if a scientific conclusion may be interpreted as NOAA/NMFS view but is not, the author must clearly state this.
  - a) Example statement that does not require disclaimer: Zwolinski and Demer 2012 “A cold oceanographic regime with high exploitation rates in the Northeast Pacific forecasts a collapse of the sardine stock.” This paper draws a scientific conclusion, “Consequently, the sardine population has been reduced to two cohorts that are unlikely to produce an appreciable new cohort.”
- 2) A science paper with a policy statement must have a disclaimer.
  - a) Example with appropriate disclaimer: Zwolinski and Demer 2012 “A cold oceanographic regime with high exploitation rates in the Northeast Pacific forecasts a collapse of the sardine stock.” This paper makes what can be interpreted as a policy statement, “Thus, a near-term recovery of this important stock is unlikely, depending on the return of warmer oceanographic conditions, reduced pressure from mackerel species, and perhaps the adoption of a more precautionary strategy for managing the residual sardine population.”
  - b) Example that should have had a disclaimer: Collette et al. 2011 “High Value and Long Life—Double Jeopardy for Tunas and Billfishes.” This paper makes what can be interpreted as a policy statement, “Southern and Atlantic bluefin populations have been so reduced that the most expeditious way to rebuild abundances and avoid collapse with great certainty is to shut down the fishery until stocks are rebuilt to healthy levels.”
- 3) A work that suggests changes in fundamental NOAA/NMFS policy must be reviewed and also cleared at the NOAA level.
  - a) Example with agency clearance: Waples 1991 “Pacific Salmon, *Oncorhynchus* spp., and the Definition of “Species” Under the Endangered Species Act.” This paper describes a fundamental change in approach to the use of ESUs in ESA determinations, “This paper outlines such an approach and explains in some detail how it can be applied to ESA evaluations of anadromous Pacific salmonids.”
- 4) Disclaimers are also required when:
  - a) Agency work is published by a third party but not at NMFS’ direction or oversight (IQA).
  - b) Cooperative Institutes do not submit works to NMFS for IQA review (IQA).

## **Appendix 6: High-Profile and Controversial Content**

Determining whether a research publication contains high-profile or controversial content is an assessment initially left to the lead author and the responsible division chief.

In making this determination, specific consideration should be given to the novelty and complexity of the science in the report, the relevance of the information to managed species, the importance of the information to decision-making, and the relationship of the study to agency strategic planning.

Low-priority items would include studies that have a relatively minor impact on management or legislation, studies related to experimental methods, or other studies intended to advance best practices.

Moderate-priority items would include items that may note concern about the status of a population or contribute to an ongoing debate about management strategies.

High-priority items would include items that relate to fishery interactions with protected species or that present findings on high-profile or economically valuable fisheries that could potentially suggest the need for a review of agency management strategies. Additionally, high-priority items include studies that are novel, precedent-setting, or of significant interagency interest. Appendix 5 discusses disclaimer use and provides examples of high-profile and priority papers.



**Technical Review:**

This is required for documents that must undergo FULL review. To be filled out by division lead or designee. Place a check beside appropriate review action.

No additional review needed (Technical review completed by division lead or designee)

Additional review needed (Technical review requires additional expertise)

**Reviewers:**

A minimum of one reviewer is required. If needed additional reviewers may be consulted.

1. Reviewer Name and Title: \_\_\_\_\_

Mailing address and telephone number (if outside NMFS): \_\_\_\_\_

\_\_\_\_\_

2. Reviewer Name and Title: \_\_\_\_\_

Mailing address and telephone number (if outside NMFS): \_\_\_\_\_

\_\_\_\_\_

3. Reviewer Name and Title: \_\_\_\_\_

Mailing address and telephone number (if outside NMFS): \_\_\_\_\_

\_\_\_\_\_

**Division Approval:**

To be filled out by division lead or designee. Place a check beside appropriate action(s).

Not suitable for publication/presentation/display/posting (Type explanation below)

Suitable for publication/presentation/display/posting:

As is

With corrections as indicated (does not need my further review); or

Suitable with rewrite as indicated (does need my further review)

Rewrite approved: as is/with corrections/with further rewrite (circle one)

Rewrite not approved (attach explanation)

Information Quality Act review not required. Will submit to peer-review journal that meets IQA requirements.

Division lead (Designee)'s signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Information Quality Act Compliance:**

Required for FULL review and EXPEDITED approval. To be filled out by Division lead or designee.

Is this Influential Scientific Information (ISI) or a Highly influential Scientific Assessment as defined by the Office of Management and Budget Peer-Review Bulletin?  No  Yes  
 If yes, has this been posted on the NOAA Peer Review Agenda?  No  Yes

**Information Product Category:** Place a check mark by appropriate category or categories.

- |  |  |
|--|--|
| <input type="checkbox"/> Original Data       | <input type="checkbox"/> Experimental Product              |
| <input type="checkbox"/> Synthesized Product | <input type="checkbox"/> Corporate and General Information |
| <input type="checkbox"/> Interpreted Product | <input type="checkbox"/> Natural Resource Plan             |

**Product Standards Certification:** Each standard must be checked in order for the work to be cleared for dissemination. Provide any and all necessary descriptions, explanations, etc., in the “Comments” section below.

**Utility Standard:** Is the information product, helpful, beneficial and serviceable to the intended user? Is the information product an improvement over previously available information? Is the product made available in a standard data format? Describe below.

**Integrity Standard:** How does the information product meet the standards for integrity? Check one:

- A)  All electronic information disseminated by NOAA adheres to the standards set out in the Appendix III, Security of Automated Information Resources, OMB Circular A-130; the Computer Security Act; and the Government Information Security Reform Act.
- B)  If information is confidential, it is safeguarded pursuant to the Privacy Act and Titles 13, 15, and 22 of the U.S. Code (confidentiality of census, business and financial information).
- C)  Other/Discussion (e.g.) Confidentiality of Statistics of the Magnuson-Stevens Fishery Conservation and Management Act; NOAA Administrative Order 216-100 – Protection of Confidential Fisheries Statistics; 50 CFR 229.11,(confidentiality of information collected under the Marine Mammal Protection Act.) Provide comments below.

**Objectivity Standard:** Describe how this information product meets the applicable objectivity standards. See the Information Quality Act Documentation and Pre-Dissemination Review Guidelines for assistance.

Division lead’s (designee’s) signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Policy and Disclaimer Review:**

Required for FULL review and EXPEDITED approval. Review of the work product for statements or findings with policy implications relevant to a Science Center or Office, NMFS, or NOAA, and for determination of disclaimer requirement. To be filled out by director or designee. Place a check beside appropriate action(s).

Has a NMFS/NOAA policy statement?  Yes  No (Director must determine if disclaimer required)

Disclaimer Required?  Yes  No

Has NMFS/NOAA policy implication?  Yes  No (If yes, requires leadership notification)

Reviewed for informational purposes only

Suitable for publication/presentation/display/posting:

As is

With corrections as indicated (does not need my further review); or

Suitable with rewrite as indicated (does need my further review)

Rewrite approved: as is/with corrections/with further rewrite (circle one)

Rewrite not approved (attach explanation)

Director (Designee)'s signature: \_\_\_\_\_ Date: \_\_\_\_\_

**High Profile or Controversy Review:**

Required for FULL and EXPEDITED approval. The purpose of this review is to identify content that relates to sensitive, controversial, and high profile topics so that NMFS/NOAA leadership can be notified prior to release of such content in a timely manner. To be filled out by director or designee. Place a check beside appropriate action(s).

Please indicate which of the following applies to the content:

Topic is likely to be high profile or controversial  No  Yes (requires leadership notification)

Director (Designee)'s signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Comments:**

**Editorial/ Publications Review:**

Optional, determined by center or office

1) Editorial Reviewer Name and Title: \_\_\_\_\_

Date Received: \_\_\_\_\_ Date Signed: \_\_\_\_\_

2) Editorial Reviewer Name and Title: \_\_\_\_\_

Date Received: \_\_\_\_\_ Date Signed: \_\_\_\_\_

**Appendix 8: Affiliations**

The form and content of the affiliations are dictated by the NMFS Science Board. They are as follows:

**For FTE (NOAA) employees:**

[Division]  
 [Center or Office e.g., Southwest Fisheries Science Center]  
 National Marine Fisheries Service [Do not abbreviate]  
 National Oceanic and Atmospheric Administration [Do not abbreviate]  
 [street address, city, ZIP]  
 USA

**Contractors should not use NMFS as primary affiliation. A correct example:**

[Author(s)]  
 [Contracting Firm]  
 Under contract to [Center or Office e.g., Southwest Fisheries Science Center]  
 National Marine Fisheries Service  
 National Oceanic and Atmospheric Administration  
 [street address, city, ZIP]  
 USA

**Cooperative Institute and other grantees should not use NMFS as primary affiliation. An acceptable example:**

[Author(s)]  
 University or home institution  
 Cooperative Institute or other granting organization (e.g., Sea Grant)  
 Award number

**Visiting scientists should not use the NMFS as primary affiliation. A correct example:**

[Author(s)]  
 [Home institution]  
 Footnote: Visiting Scientist at [Center or Office e.g., Southwest Fisheries Science Center]  
 National Marine Fisheries Service  
 National Oceanic and Atmospheric Administration  
 [street address, city, ZIP]  
 USA

The journal may shorten the affiliation for purposes of publication.

**Appendix 9: Submission for Approval Matrix for NMFS Scientists**

Lead author (institution)	Does the paper need to go through home center or office NMFS internal review process?	Does the paper need NMFS approval (NMFS FRC <sup>19</sup> Review and Approval Form)?	Comments
NMFS	Yes	Yes	
NMFS (other than NMFS co-author's home center or office)	Yes, all works with a NMFS non-lead author must go through <b>expedited review</b> and tracking in that author's center or office	Yes (without reviewers' names)	The most senior NMFS author is expected to verify that another NOAA Line Office or NMFS Center is conducting internal review; assumes other Line/Staff offices have a similar review process
Non-NMFS	Yes	Yes	NMFS coauthor is responsible for ensuring that all internal pre-submission review and/or notification comments are addressed and resolved with the lead author
Non-NMFS lead author with a "more senior" (earlier in the authorship list) NMFS author	Yes, all works with a NMFS non-lead author must go through <b>expedited review</b> and tracking in that author's center or office	Yes (without reviewers' names)	The most senior NMFS author is expected to verify that another NOAA Line Office or NMFS Center is conducting internal review; assumes other Line/Staff offices have a similar review process

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<sup>19</sup> Fundamental Research Communication is defined in Appendix 1.

## Appendix 10: Frequently Asked Questions

### NMFS Guidance on the Internal Review and Approval of Fundamental Research Communications Frequently Asked Questions

#### GENERAL:

**Q: An author can go through this entire review process, get denied by supervisors for submission, but as long as you include a disclaimer you can still submit it for publication. If this is an option, then why doesn't everyone just add the disclaimer and skip the entire internal review process?**

**A:** NMFS leadership feels that adding disclaimers to all publications gives the impression that NOAA/NMFS does not support the work of their scientists. As such, the use of disclaimers should be minimized. Further, the goal of the Scientific Integrity Policy (NAO 202-735D) and the NOAA Framework on Fundamental Research Communications are to promote the highest quality of research while allowing free and open scientific communication. Internal peer review is intended to strengthen the quality of the research publications. However, NOAA/NMFS does not wish to prohibit scientists from freely expressing their opinions scientific or otherwise. If issues arise in the internal review process that cannot be resolved, then the scientist is still free to publish their work using the disclaimer to indicate the paper does not represent the NOAA/NMFS view.

**Q: Journals have a peer review process. Why does NOAA think it needs its own peer review process?**

**A:** The NOAA Framework, which this policy implements, aims to ensure that manuscripts intended for peer reviewed literature meet basic standards of clarity and scientific integrity. Further, internal peer review is intended to raise the quality of scientific publication submitted by NOAA authors.

Additionally, it is important to note that this guidance applies to more than just journal articles and is attempting to ensure that all outlets for NMFS research meet the same basic standards of technical merit and scientific integrity.

#### APPLICABILITY AND SCOPE:

**Q: The guidance says that webpages now need to go through this internal clearance process; does this apply to all web pages?**

**A:** This guidance is intended to be media neutral. If a researcher chooses to publish their research on a website rather than through more traditional outlets then the same standards for technical quality apply. For an example please see: <http://www.noaa.gov/iea/CCIEA-Report/index.html>. This does not apply to publications that are not new research publications. If the webpage is a summary of research that has been published and peer reviewed elsewhere then further internal technical review is not required.

General overviews of the research conducted in a lab or office also do not qualify as a Fundamental Research Communication and do not need review under this policy.

Organizational charts and other administrative information also do not qualify as a Fundamental Research Communication do not need peer review under this policy.

**Q: Where do invited seminars (e.g., university hosted) or webinars (e.g., OneNOAA Science seminars) fit into this guidance?**

**A:** These qualify as a public dissemination of fundamental research and considered the equivalent of a conference presentation and would require 10 day expedited review. If it is purely internal NOAA seminar with no members of the public, then it is not considered a public dissemination of the research and this guidance does not apply, and no internal review is required.

## **MULTI-OFFICE or MULTI-AGENCY PAPERS:**

**Q: What about when the primary non-NOAA author is another Federal employee and the document has gone through OMB-required review as part of that federal agency's process? It seems like only NOAA-specific policy and disclaimer review should be required then.**

**A:** The NOAA Division Lead can designate the technical reviewer to be the technical reviewer at the other Federal Agency, essentially giving responsibility for the technical review to that agency. IQA review should be performed by the agency that is disseminating the information

**Q: Does this mean any external scientist (academic, state, etc.) who receives a NOAA grant (S-K, ESA, etc.) would be required to have their manuscripts peer reviewed internally by NOAA prior to submission to a journal? If so, that seems over-burdensome and unnecessary"**

**A:** Existing DOC and NOAA policy clearly include NMFS contracts and grantees in the requirements for peer review within the constraints of the contract or cooperative agreement. As such, language should be included in the contract to address this issue, stating that either a disclaimer will be used on the publications (most likely the preferred option), or the publication must go through internal NMFS review.

**If a contractor chooses not to use NMFS as their affiliation (instead using their own contracting company or affiliation), does this apply? Or do we need to ensure that all contracts have language included that the contractor will use NMFS as their affiliation?**

**A:** As above, existing DOC and NOAA policy includes contractors, as constrained by their contracts. Contractors who are working directly in support of NMFS scientists, (i.e. side by side, in NMFS offices) would be expected to put their publications through this internal review, and their contracts should reflect this.

## **OPERATIONAL:**

**Q: “Continuously updated research products, such as online databases should have their data collection and publication processes reviewed at least every two years or whenever there is a significant change in the process”. What is the purpose of a review every two years? Why not limit this review to instances when there have been significant process changes for the online database have occurred?**

**A:** Technology or best practices may change. Requiring a recurring review will ensure that opportunities to improve the process are identified. Please bear in mind that the review requirement is for a single internal reviewer, potentially the researcher’s direct supervisor, so we do not expect that this should present a burden.

**Q: Conference presentations need to be reviewed? Most people don’t even finish their PowerPoints until 5 minutes before their presentation!”**

**A:** Current Department of Commerce and NOAA policy requires review of all presentations by the employee’s immediate supervisor (DAO 219-1 and <http://www.noaa.gov/mediaguidance.htm>). This does not represent a change in policy.

**Q: 30 day timeline...is longer than what most NMFS scientists are accustomed to/....is too short on average it takes 3 to 9 months to get an article through internal clearance.**

**A:** The NOAA Framework clearly states that technical review should be completed in 30 days or less where possible. Further it states that internal peer review should not be used to inhibit or excessively delay the publication of scientifically meritorious manuscripts. There is a wide diversity of opinions on this time limit. Many have stated that it is too short and many have stated that it is far too long. A 30 day time limit will be in line with the NOAA requirements and will bring consistency to the review process across NMFS. If internal reviews routinely drag on for several months then they present an unreasonable barrier to publishing.

**Q: In our office the author picks the peer reviewers, why the change?**

**A:** Current practices vary widely between offices. This policy seeks to make the review processes more uniform across NMFS and bring them into alignment with NOAA and DOC policy (DAO 219-1 and NAO 202-735D). The division lead or their designee is responsible for the peer review and selecting the peer reviewers. Authors are free to suggest people who they think would be appropriate.

**Q: Can the form use check boxes rather than free text entry on the Information Quality Act Compliance Utility/Objectivity standard certification?**

**A:** General Counsel has indicated that free text entry is preferred and improves compliance with IQA.

**Q: Division leaders are not consistent positions in NMFS or NOAA. We have programs, branches, and offices with and without divisions. Perhaps there could be a better way of indicating who the first line reviewer is?**

**A:** Organizational structure is not consistent between NMFS offices, and it has been difficult to draft language that captures the diversity that is possible. It is envisioned that in most cases the author's direct supervisor will be responsible for coordinating the review. The language in the policy has been written to allow most responsibilities to be designated as needed. The Research Publication Tracking System (RPTS) that is being developed to implement this policy, will allow for customization of organizational structure within each FMC.

**INFORMATION QUALITY ACT:****Q: How do I know what type of information product I have?**

**A:** The IQA defines information product types as:

- Original Data – Original Data are data in their most basic useful form. These are data from individual times and locations that have not been summarized or processed to higher levels of analysis. While these data are often derived from other direct measurements (e.g., spectral signatures from a chemical analyzer, electronic signals from current meters), they represent properties of the environment.
- Synthesized Products - Synthesized Products are those that have been developed through analysis of original data. This includes analysis through statistical methods; model interpolations, extrapolations, and simulations; and combinations of multiple sets of original data. While some scientific evaluation and judgment is needed, the methods of analysis are well documented and relatively routine.
- Interpreted Products - Interpreted Products are those that have been developed through interpretation of original data and synthesized products. In many cases, this information

incorporates additional contextual and/or normative data, standards, or information that puts original data and synthesized products into larger spatial, temporal, or issue contexts. This information is subject to scientific interpretation, evaluation, and judgment. Examples of interpreted products include journal articles, scientific papers, technical reports, and production of and contributions to integrated assessments.

- Hydrometeorological, Hazardous Chemical Spill, and Space Weather Warnings, Forecasts, and Advisories - Time-critical interpretations of original data and synthesized products, prepared under tight time constraints and covering relatively short, discrete time periods. As such, these warnings, forecasts, and advisories represent the best possible information in given circumstances. They are subject to scientific interpretation, evaluation, and judgment.
- Experimental Products - Experimental products are products that are experimental (in the sense that their quality has not yet been fully determined) in nature, or are products that are based in part on experimental capabilities or algorithms. Experimental products fall into two classes. They are either (1) disseminated for experimental use, evaluation or feedback, or (2) used in cases where, in the view of qualified scientists who are operating in an urgent situation in which the timely flow of vital information is crucial to human health, safety, or the environment, the danger to human health, safety, or the environment will be lessened if every tool available is used.
- Natural Resource Plans - Natural Resource Plans are information products that are prescribed by law and have content, structure, and public review processes (where applicable) that will be based upon published standards, e.g., statutory or regulatory guidelines. Natural Resource Plans are a composite of several types of information (e.g., scientific, management, stakeholder input, and agency policy) from a variety of internal and external sources.
- Corporate and General Information – Corporate or general information includes all non-scientific, non-financial, non-statistical information. Examples include program and organizational descriptions, brochures, pamphlets, education and outreach materials, newsletters, and other general descriptions of NOAA operations and capabilities.

More information and further definition can be found on the NOAA ICIO website at [http://www.cio.noaa.gov/services\\_programs/info\\_quality.html](http://www.cio.noaa.gov/services_programs/info_quality.html)

**Q: How do I know if a peer review journal meets the IQA requirement?**

**A:** The question of whether or not you need to do an IQA for a peer reviewed journal publication can be complex, but usually it isn't. There are two parts of the IQA; the Section 515 Pre-Dissemination Review, and the Peer Review Bulletin. For pre-dissemination review the NOAA IQA guidance includes the following definition:

**Agency initiated distribution of information to the public** refers to information that the Agency distributes or releases which reflects, represents, or forms any part of the support of the policies of the Agency. In addition, if the Agency, as an institution, distributes or releases information prepared by an outside party in a manner that reasonably suggests that the

Agency agrees with the information, this would be considered Agency initiated distribution and hence Agency dissemination because of the appearance of having the information represent Agency views. By contrast, the Agency does not "initiate" the dissemination of information when an Agency scientist or grantee or contractor publishes and communicates his or her research findings in the same manner as his or her academic colleagues, even if the Agency retains ownership or other intellectual property rights because the Federal government paid for the research.

This means publications in journals are not Agency releases of information but rather the Journal is releasing it so IQA doesn't apply. However, if released in a government journal (e.g. Fishery Bulletin), then it is "agency initiated" and IQA pre-dissemination review is required. The adequacy of the peer review in the journal comes into play if the Agency releases a document that has the same scientific information that was in the journal article, including posting the manuscript on a NMFS website.

If the Agency is disseminating a document that has information that was previously released and peer reviewed then the Agency may determine that the prior peer review was adequate and no further review is needed. However, the OMB Peer Review Bulletin states:

Publication in a refereed scientific journal may mean that adequate peer review has been performed. However, the intensity of peer review is highly variable across journals. There will be cases in which an agency determines that a more rigorous or transparent review process is necessary. For instance, an agency may determine a particular journal review process did not address questions (e.g., the extent of uncertainty inherent in a finding) that the agency determines should be addressed before disseminating that information. As such, prior peer review and publication is not by itself sufficient grounds for determining that no further review is necessary.

The Agency is given fairly broad latitude to determine the adequacy of the peer review. The OMB Guidance also states:

agencies are directed to choose a peer review mechanism that is adequate, giving due consideration to the novelty and complexity of the science to be reviewed, the relevance of the information to decision making, the extent of prior peer reviews, and the expected benefits and costs of additional review.

If the publication qualifies as Influential Scientific Information (ISI) then further peer review and documentation requirements apply. The term "influential scientific information" means scientific information the Agency reasonably can determine will have or does have a clear and substantial impact on important public policies or private sector decisions. For peer review of ISI, the peer reviewers cannot be anonymous. The names and positions of the reviewers must be public, and the comments of the peer reviewers must be public. Reviewers must be evaluated for conflicts of interest following National Academy of Sciences standards or the Office of Government Ethics (for Federal Reviewers). Many journal peer reviews will not meet these standards and cannot be considered adequate prior peer review.

NMFS guidance on the IQA and Peer Review bulletin can be found here: [http://www.nmfs.noaa.gov/op/pds/categories/science\\_and\\_technology.html](http://www.nmfs.noaa.gov/op/pds/categories/science_and_technology.html)