

Statement of Work

External Independent Peer Review by the Center for Independent Experts

River Herring (Alewife and Blueback Herring) Stock Structure and Extinction Risk Analysis

Scope of Work and CIE Process: The National Marine Fisheries Service's (NMFS) Office of Science and Technology coordinates and manages a contract providing external expertise through the Center for Independent Experts (CIE) to conduct independent peer reviews of NMFS scientific projects. The Statement of Work (SoW) described herein was established by the NMFS Project Contact and Contracting Officer's Technical Representative (COTR), and reviewed by CIE for compliance with their policy for providing independent expertise that can provide impartial and independent peer review without conflicts of interest. CIE reviewers are selected by the CIE Steering Committee and CIE Coordination Team to conduct the independent peer review of NMFS science in compliance the predetermined Terms of Reference (ToRs) of the peer review. Each CIE reviewer is contracted to deliver an independent peer review report to be approved by the CIE Steering Committee and the report is to be formatted with content requirements as specified in **Annex 1**. This SoW describes the work tasks and deliverables of the CIE reviewer for conducting an independent peer review of the following NMFS project. Further information on the CIE process can be obtained from www.ciereviews.org.

Project Description: NOAA's National Marine Fisheries Service (NMFS) was petitioned to list alewife (*Alosa pseudoharengus*) and blueback herring (*Alosa aestivalis*), collectively referred to as river herring, under the Endangered Species Act (ESA) on August 5, 2011. NMFS reviewed the petition and published a positive 90-day finding determining that the information in the petition, coupled with information otherwise available to the agency, indicated that the petitioned action may be warranted. As a result of the positive finding, the agency is required to review the status of the species to determine if listing under the ESA is warranted. River herring are commercially important US-Canada transboundary species that have an expansive coast-wide range; therefore, determinations from this process have the potential to be highly controversial.

Approximately three years ago, the Atlantic States Marine Fisheries Commission (ASMFC) technical committee began working on a river herring stock assessment. The ASMFC is scheduled to complete the assessment in May 2012. NMFS is collaborating with ASMFC on this effort and intends to use the information in the stock assessment as a primary source of information in making the 12-month listing determination. Because the stock assessment does not contain all elements needed to make a listing determination under the ESA, NMFS has identified the missing required elements and intends to hold specific workshops focused on addressing these information gaps. Two of the workshops organized for this purpose will address River Herring Stock Structure and Extinction Risk Analysis, and reports from each workshop will be compiled this summer.

The extinction risk and stock structure meetings will bring together appropriate scientists to discuss the available information and perform the necessary analyses. The invited participants for these meetings will not come to a consensus; rather, they will provide their individual expert opinions related to stock structure and various methods to determine extinction risk of these two species. NMFS will take this information as compiled in the reports and determine which extinction risk method and stock structure analysis will best inform the listing determination. These reports will not contain any listing advice or reach any ESA listing conclusions – such synthesis and analysis is solely within the agency’s purview. NMFS will use these reports along with the ASMFC river herring stock assessment to develop an ESA listing determination and is required to publish its finding in the *Federal Register* on or before August 5, 2012 (within 12 months of receiving the petition).

Given the significant public interest in river herring, it will be critical for NMFS to obtain a transparent and independent review of the associated meeting reports. The information and analysis in these reports will likely contain essential factual elements upon which the agency may base its ESA listing determination. Accordingly, it is critical that these reports contain the best available information on the stock structure and extinction risk of the species, and that all scientific findings be both reasonable and supported by valid information contained in the documents. Therefore, we seek a CIE review of the scientific information in the workshop reports on river herring based on the Terms of Reference (ToRs) to be developed. The CIE reviewers will help to ensure an independent, scientific review of information for a management process that is very public and is likely to be highly controversial no matter what NMFS’ listing decision is. The Terms of Reference (ToRs) of the peer review are attached in **Annex 2**.

Requirements for CIE Reviewers: Three CIE reviewers shall conduct an impartial and independent peer review in accordance with the SoW and ToRs herein. CIE reviewers shall have combined working knowledge and recent experience in one or all of the following: 1) fisheries population dynamics, expertise in stock assessment and life history of anadromous species; and/or 2) expertise in extinction risk analysis and population modeling; and/or 3) expertise in stock structure and genetics analysis. It is desirable that the extinction risk analysis expertise be familiar with applications in fisheries, particularly anadromous species. Each CIE reviewer’s duties shall not exceed a maximum of 10 days to complete all work tasks of the peer review described herein.

Location of Peer Review: Each CIE reviewer shall conduct an independent peer review as a desk review, therefore no travel is required.

Statement of Tasks: Each CIE reviewers shall complete the following tasks in accordance with the SoW and Schedule of Milestones and Deliverables herein.

Prior to the Peer Review: Upon completion of the CIE reviewer selection by the CIE Steering Committee, the CIE shall provide the CIE reviewer information (full name, title, affiliation, country, address, email) to the COTR, who forwards this information to the NMFS Project Contact no later than the date specified in the Schedule of Milestones and Deliverables. The CIE is responsible for providing the SoW and ToRs to the CIE reviewers. The NMFS Project Contact is responsible for providing the CIE reviewers with the background documents, reports,

and other pertinent information. Any changes to the SoW or ToRs must be made through the COTR prior to the commencement of the peer review.

Pre-review Background Documents: Two weeks before the peer review, the NMFS Project Contact will send (by electronic mail or make available at an FTP site) to the CIE reviewers the necessary background information and reports for the peer review. In the case where the documents need to be mailed, the NMFS Project Contact will consult with the CIE Lead Coordinator on where to send documents. CIE reviewers are responsible only for the pre-review documents that are delivered to the reviewer in accordance to the SoW scheduled deadlines specified herein. The CIE reviewers shall read all documents in preparation for the peer review.

Desk Review: Each CIE reviewer shall conduct the independent peer review in accordance with the SoW and ToRs, and shall not serve in any other role unless specified herein. **Modifications to the SoW and ToRs can not be made during the peer review, and any SoW or ToRs modifications prior to the peer review shall be approved by the COTR and CIE Lead Coordinator.** The CIE Lead Coordinator can contact the Project Contact to confirm any peer review arrangements.

Contract Deliverables - Independent CIE Peer Review Reports: Each CIE reviewer shall complete an independent peer review report in accordance with the SoW. Each CIE reviewer shall complete the independent peer review according to required format and content as described in Annex 1. Each CIE reviewer shall complete the independent peer review addressing each ToR as described in Annex 2.

Specific Tasks for CIE Reviewers: The following chronological list of tasks shall be completed by each CIE reviewer in a timely manner as specified in the **Schedule of Milestones and Deliverables**.

- 1) Conduct necessary pre-review preparations, including the review of background material and reports provided by the NMFS Project Contact in advance of the peer review.
- 2) Conduct an independent peer review in accordance with the ToRs (**Annex 2**).
- 3) No later than 4 September 2012, each CIE reviewer shall submit an independent peer review report addressed to the “Center for Independent Experts,” and sent to Mr. Manoj Shivlani, CIE Lead Coordinator, via email to shivlanim@bellsouth.net, and CIE Regional Coordinator, via email to Dr. David Sampson david.sampson@oregonstate.edu. Each CIE report shall be written using the format and content requirements specified in Annex 1, and address each ToR in **Annex 2**.

Schedule of Milestones and Deliverables: CIE shall complete the tasks and deliverables described in this SoW in accordance with the following schedule.

9 August 2012	CIE sends reviewer contact information to the COTR, who then sends this to the NMFS Project Contact.
13 August 2012	NMFS Project Contact sends the stock assessment report and background documents to the CIE reviewers. Background documents may be sent to the CIE reviewers one week earlier.

20 August – 2 September 2012	Each reviewer conducts an independent peer review as a desk review.
4 September 2012	CIE reviewers submit draft CIE independent peer review reports to the CIE Lead Coordinator and CIE Regional Coordinator.
18 September 2012	CIE submits the CIE independent peer review reports to the COTR.
25 September 2012	The COTR distributes the final CIE reports to the NMFS Project Contact and regional Center Director.

Modifications to the Statement of Work: This ‘Time and Materials’ task order may require an update or modification due to possible changes to the terms of reference or schedule of milestones resulting from the fishery management decision process of the NOAA Leadership, Fishery Management Council, and Council’s SSC advisory committee. A request to modify this SoW must be approved by the Contracting Officer at least 15 working days prior to making any permanent changes. The Contracting Officer will notify the COTR within 10 working days after receipt of all required information of the decision on changes. The COTR can approve changes to the milestone dates, list of pre-review documents, and ToRs within the SoW as long as the role and ability of the CIE reviewers to complete the deliverable in accordance with the SoW is not adversely impacted. The SoW and ToRs shall not be changed once the peer review has begun.

Acceptance of Deliverables: Upon review and acceptance of the CIE independent peer review reports by the CIE Lead Coordinator, Regional Coordinator, and Steering Committee, these reports shall be sent to the COTR for final approval as contract deliverables based on compliance with the SoW and ToRs. As specified in the Schedule of Milestones and Deliverables, the CIE shall send via e-mail the contract deliverables (CIE independent peer review reports) to the COTR (William Michaels, via William.Michaels@noaa.gov).

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Support Personnel:

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Key Personnel:

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Annex 1: Format and Contents of CIE Independent Peer Review Report

1. The CIE independent report shall be prefaced with an Executive Summary providing a concise summary of the findings and recommendations, and specify whether the science reviewed is the best scientific information available.
2. The main body of the reviewer report shall consist of a Background, Description of the Individual Reviewer's Role in the Review Activities, Summary of Findings for each ToR in which the weaknesses and strengths are described, and Conclusions and Recommendations in accordance with the ToRs.
3. The reviewer report shall include the following appendices:
 - Appendix 1: Bibliography of materials provided for review
 - Appendix 2: A copy of the CIE Statement of Work

Annex 2: Terms of Reference for the Peer Review

River Herring (Alewife and Blueback Herring) Stock Structure and Extinction Risk Analysis

Provide a scientific peer review of Stock Structure and Extinction Risk Analysis reports on river herring (alewife and blueback herring) in accordance to the following terms of reference:

1. Is the information regarding the life history and population dynamics of the species the best scientific information available? If not, please indicate what information is missing and if possible, provide sources.
2. Does the information on river herring genetics, physiological, behavioral, and/or morphological variation presented for the species' range represent the best scientific information available? If not, please indicate what information is missing and if possible, provide sources.
3. Based on the scientific information presented, are the conclusions regarding species, subspecies, or distinct population segment delineations supported by the information presented? If not, please indicate what scientific information is missing and if possible, provide sources.
4. Based on the scientific information presented in the extinction risk analysis report, does this analysis consider all of the best available data and are the conclusions appropriate and scientifically sound? If not, please indicate what information is missing and if possible, provide sources.
5. In general, are the scientific conclusions in the reports sound and interpreted appropriately from the information? If not, please indicate why not and if possible, provide sources of information on which to rely.
6. Where available, are opposing scientific studies or theories acknowledged and discussed? If not, please indicate why not and if possible, provide sources of information on which to rely.
7. In general, is the best scientific and commercial data available for the stock structure and extinction risk analysis of river herring presented in the reports? If not, please indicate or provide sources of information on which to rely.