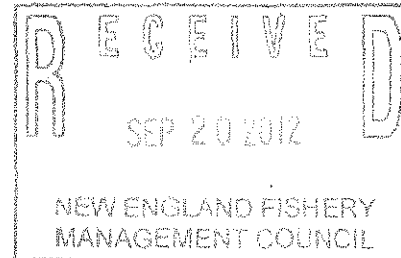




UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
 NATIONAL MARINE FISHERIES SERVICE
 Northeast Fisheries Science Center
 166 Water Street
 Woods Hole, MA 02543-1026

September 19, 2012

Dr. Laurence P. Madin
 Executive Vice President and Director of Research
 Woods Hole Oceanographic Institution
 139 Feeno House (MS#39)
 266 Woods Hole Road
 Woods Hole, MA 02543-1050



Dear Dr. Madin:

The Atlantic sea scallop fishery is one of the most valuable managed federal fisheries in the northeast US. The Northeast Fisheries Science Center (NEFSC) is planning to carry out a peer review of those sea scallop surveys and survey technologies that provide data on an annual basis for use in stock assessments at the NEFSC and in sea scallop management by the New England Fishery Management Council (NEFMC). The extensive data sets that are now available provide a strong scientific basis for assessing the stock and managing the fishery. The need for timely surveys, accurate stock assessments, and appropriate management advice has never been greater. We anticipate that this need will continue in the future.

The NEFMC and the NEFSC made the decision early in 2012 to have an evaluation of the relative merits of all of these surveys and their methodologies. In June 2012, Paul Howard (Executive Director of the NEFMC) sent me a letter acknowledging and supporting the NEFSC's plans to conduct "a broad and inclusive review of the sea scallop survey methodologies and their ability to support assessment information needs." The objectives of this broad-scope review will be to assess the relative merits of each sampling method, to identify complementary aspects among the survey methodologies, and to determine areas of future research and collaboration among scientists, managers and industry. This letter is being sent to inform you that a peer review of these surveys and their respective methods is being planned, to encourage you to participate in planning certain aspects of the peer review, and to provide appropriate scientific information related to scallop surveys for consideration during the peer review.

Survey data that are currently used in sea scallop assessments include:

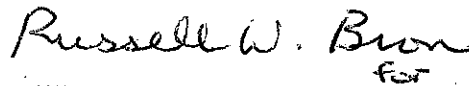
- scallop dredge surveys, led by the NEFSC, conducted on research vessels;
- scallop dredge surveys, led by VIMS, conducted on commercial vessels;
- the drop camera survey developed and carried out by SMAST; and
- the HabCam system developed by WHOI and the NEFSC.



We anticipate that this peer review will likely require 3 days and will take place in March-April 2013 here at the NEFSC in Woods Hole. The NEFSC intends to include all of the institutions mentioned above in providing feedback on the enclosed Terms of Reference for the peer review, determining who the reviewers will be, and establishing a timeline for providing relevant information as well as the date for the peer review meeting.

After you have had a chance to discuss this proposal with your colleagues, we would appreciate hearing from you about your commitment to participate in this review and the proposed target dates. A response by October 5, 2012, would allow us to begin contacting reviewers and other planning activities. We look forward to hearing from you.

Sincerely,

Handwritten signature of Russell W. Bron in cursive script.

for
William A. Karp, Ph.D.
Science and Research Director

Enclosure

cc: Scott Gallager, Ph.D.

COMPARISON OF FISHERY INDEPENDENT MONITORING METHODS FOR SEA SCALLOPS

DRAFT TERMS OF REFERENCE

1. Summarize historical scallop survey indices from the NEFSC sea scallop survey, the S Mast video survey, relevant VIMS cooperative industry surveys, and the WHOI HabCam surveys. For each, provide details on survey design and any relevant changes over time.
2. Review the biological sampling aspects of the surveys, including sub-sampling procedures and the ability to sample all size classes.
3. For each survey, evaluate measurement error of observations including shell height measurement, detection of scallops, determination of live vs. dead scallops, selectivity of gear, and influence of confounding factors (*e.g.*, light, turbidity, sea state, tide etc.)
4. For each survey, evaluate the utility of data to detect incoming recruitment, assess the potential ability to assess fine scale ecology (*e.g.*, Allee effect, predator-prey interactions, disturbance from fishing gear, etc.), and the utility of the survey in meeting other management needs including habitat identification and area-based management.
5. Evaluate the statistical design, relative precision and relative efficiency of each survey system:
 - a. Dredge surveys conducted on research vessels
 - b. Dredge surveys conducted on commercial vessels
 - c. S Mast video drop camera system
 - d. HabCam camera and sensor sled
6. Review methods for integrating results from each survey into sea scallop assessments. Evaluate and compare design and model-based estimators, and methods for combining estimates from multiple surveys.
7. Summarize the ability of the methods to meet mission critical objectives related to stock assessments, the development of management actions, and improving knowledge of scallop ecology and ecosystem properties. Additional factors to consider include stability of survey funding, availability of survey platforms, real-time processing capabilities, timeliness of survey results, and availability of survey results to support management actions and stock assessments.
8. Identify ways in which each survey complements and advances the objectives of other surveys.
9. Identify future research and areas of collaboration among investigators and institutions.

