Terms of Reference for a Review of the Proposed Changes to the NEFSC Clam Survey

A NEFSC Working Group drafted a report that proposes substantial revisions to the survey design for surfclams and ocean quahogs. The NEFSC, with agreement by MAFMC leadership, requested the SSC to undertake a critical review of the report and its recommendations. A subcommittee of the SSC conducted the review, guided by the following Terms of Reference:

TOR 1 A. Will the alternative survey design options recommended in the NEFSC report substantially improve 1) survey data, 2) stock assessment model results and 3) management advice for surfclams and ocean quahogs?

B. Review the report’s justifications, evaluations, and recommendations to conduct separate surveys for surfclams and ocean quahogs. Will the recommended design improve the Council’s ability to assess and manage these resources?

TOR 2. Are recommended options for the redesign of the NEFSC clam survey appropriate based on 1) life history and biology of surfclams and ocean quahogs, 2) ongoing climate induced distributional shifts and 3) fishery patterns? Do answers differ for surfclams and ocean quahogs?

TOR 3. Critique the report’s recommendations for surfclams and ocean quahogs, with respect to proposed changes in survey scheduling and the reduction in survey spatial coverage.

TOR 4. Review and evaluate proposed stratifications in the sampling design recommended by the NEFSC WG. Are the recommended strata, primarily defined by depth and location, appropriate or would an alternative stratification plan, e.g., based on clam abundances, be preferable?

TOR 5. Will the proposed changes in the surfclam and ocean quahog survey compromise ability to utilize the lengthy historical time series of survey data in future assessments?

TOR 6. Will the recommended changes in survey design affect observation and estimation of biological characteristics, such as length-weight relationships and growth rates? What are the likely effects?
Key Questions Considered by the NEFSC Survey Design WG

1) Should clam surveys target surfclams and ocean quahogs separately rather than simultaneously?
2) Should sampling in poor habitat areas cease, particularly if the two species are surveyed separately?
3) Should new species-specific stratification schemes be used if the two species are surveyed separately?
4) Is it feasible to survey the entire stock (GBK plus south) for surfclams or ocean quahogs in one survey year if the species are separated and sampling area reduced?
5) What scheduling options (number, location and frequency of surveys for both species) should be considered if surveys for the two species are separated?
6) Can rough ground with risk to equipment damage be avoided?
7) Should new strata be constructed from current strata or built from scratch using smaller building blocks?
8) How heavily should location and depth information vs. survey catch data be weighted in developing new strata?
9) Should new strata schemes with discontiguous strata be considered or should strata be defined traditionally as single contiguous areas?
10) What are the recommended stratification options (method, location, shape and number of strata) for each species and area?
11) Will the recommended changes affect observation and estimation of biological characteristics, such as, length to weight relationships and growth rates?
12) How would potential changes in the clam survey (e.g. lower survey frequency and increased precision) affect management advice and stock assessment modeling?
13) How often should future changes in stratification be considered?
14) What types of additional research would benefit the clam survey?