



## **Request for Proposals**

### **Longfin Squid Stock Assessment**

**Proposal Submission Deadline:** July 14, 2023

**Term of Contract:** 27 months: January 2024 - March 2026

The Mid-Atlantic Fishery Management Council (Council) seeks a contractor to collaboratively participate in the upcoming longfin squid (*Doryteuthis (Amerigo) pealeii*) research track stock assessment.

#### **Background**

A Research Track Stock Assessment for longfin squid is scheduled to be peer reviewed in March 2026. Research Track Stock Assessments are carried out over several years and can consider extensive changes in data, models, or stock structures. They are intended to provide the basis for future Management Track Stock Assessments, which are used to determine stock status and project future sustainable catches. See [Research Track Assessments](#) for additional background on the stock assessment process used for Council-managed species.

The longfin squid stock is not assessed with an analytical model. Magnitude and trends in catchability-adjusted, swept-area biomass estimates, based on the Northeast Fisheries Science Center (NEFSC) spring and fall surveys, are used to assess stock status and set catch levels. For additional background, see the longfin squid materials listed on the [July 2020](#) and [May 2022](#) SSC Meeting pages and this [overview of world squid assessment and management](#). Historic longfin squid assessment documents are also available on the NEFSC's [Stock Assessment Documents page](#) (search for loligo squid).

#### **Scope of Work**

The contractor will work with the Longfin Squid Research Track Assessment Working Group. The group will be formed later this year, and their efforts will be centered on organizing available data and developing and reviewing models to estimate biomass, fishing mortality, and future sustainable catch levels. The contractor will participate in working group discussions, conduct relevant data analyses, and develop analytical models as appropriate in support of the workgroup efforts. The generic Terms of Reference (TORs) for research track stock assessments are provided in Appendix 1 – it is expected that the contractor would focus on TORs 3-6. The contractor will also collaborate on the development of technical working papers that advance the state of longfin squid assessment science, and which are independently peer reviewed at the conclusion of the assessment. It is anticipated that the contractor will average 24 hours per month for 27 months (648 hours total), with approximately 2-5 of those monthly hours in working group meetings. The remaining time will be used to conduct analytical tasks on behalf of the working group. Work in 2026 will be focused on preparation for, and participation in, the scheduled March 2026 peer review.

## **Contractor Qualifications**

Applicants should have demonstrated quantitative expertise with fisheries stock assessments. Preference will be given to individuals with assessment experience involving short-lived, data poor, and/or model-resistant species.

## **How to Apply**

Applicants should submit a proposal to Dr. Chris Moore, Executive Director, by email ([cmoore@mafmc.org](mailto:cmoore@mafmc.org)) by 11:59 pm on Friday, July 14, 2023. Proposals should include the following elements:

- A description of potential analytical approaches the applicant might consider.
- A curriculum vitae detailing the experience and qualifications of the applicant.
- A detailed budget, including the basis for the proposed charges (e.g., hourly rates, fixed fees).

## **Proposal Evaluation Criteria**

Proposals will be evaluated based on scientific merit, prior experience and qualifications of the contractor, and budget. The Council may request additional information or negotiate modifications to proposals.

## **Requests for Further Information**

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## **Disclaimers**

1. All costs associated with the preparation and presentation of the proposal will be borne by applicants.
2. Proposals and their accompanying documentation will not be returned but will be retained as confidential material.
3. Respondents must disclose any relevant conflicts of interest and/or pending civil/criminal legal actions.
4. The Council reserves the right to accept or reject any or all applications received, negotiate with all qualified applicants, cancel or modify this request for proposals in part or in its entirety, or change the application guidelines.
5. References may be required after the Council has reviewed any submitted proposals.
6. All relevant data and code must be provided to the Council at the end of the contract so that the NEFSC can integrate results into future assessments, as appropriate given the outcomes of the March 2026 peer review.

## Appendix 1 - Generic NEFSC Research Track Stock Assessment Terms of Reference

(v. 2/17/2022)

1. Identify relevant ecosystem and climate influences on the stock. Characterize the uncertainty in the relevant sources of data and their link to stock dynamics. Consider findings, as appropriate, in addressing other TORs. Report how the findings were considered under impacted TORs.
2. Estimate catch from all sources including landings and discards. Describe the spatial and temporal distribution of landings, discards, and fishing effort. Characterize the uncertainty in these sources of data.
3. Present the survey data used in the assessment (e.g., indices of relative or absolute abundance, recruitment, state surveys, age-length data, application of catchability and calibration studies, etc.) and provide a rationale for which data are used. Describe the spatial and temporal distribution of the data. Characterize the uncertainty in these sources of data.
4. Use the appropriate assessment approach to estimate annual fishing mortality, recruitment and stock biomass (both total and spawning stock) for the time series, and estimate their uncertainty. Compare the time series of these estimates with those from the previously accepted assessment(s). Evaluate a suite of model fit diagnostics (e.g., residual patterns, sensitivity analyses, retrospective patterns), and (a) comment on likely causes of problematic issues, and (b), if possible and appropriate, account for those issues when providing scientific advice and evaluate the consequences of any correction(s) applied.
5. Update or redefine Status Determination Criteria (SDC; point estimates or proxies for BMSY, BTHRESHOLD, FMSY and MSY reference points) and provide estimates of those criteria and their uncertainty, along with a description of the sources of uncertainty. If analytic model-based estimates are unavailable, consider recommending alternative measurable proxies for reference points. Compare estimates of current stock size and fishing mortality to existing, and any redefined, SDCs.
6. Define appropriate methods for producing projections; provide justification for assumptions of fishery selectivity, weights at age, maturity, and recruitment; and comment on the reliability of resulting projections considering the effects of uncertainty and sensitivity to projection assumptions.
7. Review, evaluate, and report on the status of research recommendations from the last assessment peer review, including recommendations provided by the prior assessment working group, peer review panel, and SSC. Identify new recommendations for future research, data collection, and assessment methodology. If any ecosystem influences from TOR 1 could not be considered quantitatively under that or other TORs, describe next steps for development, testing, and review of quantitative relationships and how they could best inform assessments. Prioritize research recommendations.
8. Develop a backup assessment approach to providing scientific advice to managers if the proposed assessment approach does not pass peer review or the approved approach is rejected in a future management track assessment.
9. Identify and consider any additional stock specific analyses or investigations that are critical for this assessment and warrant peer review, and develop additional TOR(s)\* to address as needed.