

Atlantic States Marine Fisheries Commission
Pilot Regional Industry-Based Bottom Trawl Survey (RIBTS) - Phase II
Request for Proposals (RFP)

Total Available Budget: \$2,584,000

Funding Opportunity Description

I. Summary

The Northeast Trawl Advisory Panel (NTAP), the NOAA Fisheries Northeast Fisheries Science Center (NEFSC), and the Atlantic States Marine Fisheries Commission (ASMFC) seek applicants to execute Phase II of the pilot Regional Industry-Based Bottom Trawl Survey (RIBTS). The ASMFC will issue a funding contract to support the leadership of Phase II RIBTS, including but not limited to purchasing of required supplies and equipment, execution of field work, collection of catch, biological, and oceanographic data, support for digital data acquisition, completion of survey design and data analysis tasks, facilitation of industry outreach and gear inspection workshops, and production of best practices documentation for a long-term RIBTS. The target timeframe to conduct the Phase II Survey is fall 2027, with data processing completed and standard operating procedures drafted within six months of field work completion.

II. Background

Standardized surveys of marine fisheries species are crucial for conducting stock assessments that inform fishery management and for tracking ecosystem changes over time. Motivated by the critical need to identify mitigation actions for marine development and establish viable contingency options for the NEFSC bottom trawl survey (BTS), the NEFSC is collaborating with the NTAP to develop a Regional Industry-Based Bottom Trawl Survey (RIBTS). The long-term goal of the RIBTS program is to reduce uncertainty and increase accuracy in resource assessments with an annual collaborative fishing industry-based regional trawl survey. RIBTS is being developed with a phased approach to manage technical, logistical, and design risks.

Phase I, conducted by the Virginia Institute of Marine Science (VIMS) and the F/V Darana R, successfully evaluated day/night operational feasibility inside and outside of an offshore wind energy development area, established minimum vessel and scientific staff requirements, evaluated trawl performance across depth range (22-160 fathoms), defined sampling limitations within offshore wind development infrastructure, and documented time-on-station requirements for catch, biological, and oceanographic sampling. The Phase I team is currently drafting a final report and standard operating procedures (SOPs) that summarize the major Phase I findings and recommendations for Phase II.

While Phase I was underway, the NTAP Working Group (WG) met at least once per month to discuss plans for Phase II (see <https://www.mafmc.org/ntap> for meeting schedule and agendas). The NTAP WG developed recommendations for Phase II on program management, spatiotemporal scope, station allocation across and within strata, stratification, fishing gear and operations, scientific data collection elements, net mensuration, and data acquisition, management, and analysis. Phase II will address NTAP WG recommendations by expanding operations to two fishing vessels, surveying across a wider

geographic area, developing tools for data acquisition and analysis, and producing best practices documentation for a long-term RIBTS.

III. Goal

The goal of Phase II is to inform development of a full-scale survey, with focus on operational feasibility on multiple vessels and across a wider geographic area, including offshore wind areas, and the creation of reproducible methods and tools for a long-term RIBTS.

IV. Scope of Work:

A. Program Management

Successful execution of Phase II will require close coordination between an interdisciplinary team that includes scientists and the fishing industry. To maximize flexibility in executing funds and fostering collaboration across industry, government, and research institutions, Phase II will be managed jointly by the Phase II grantee and the NEFSC, in close coordination with the ASMFC and the NTAP.

The ASMFC will administer the grant and support data pipeline development. The NTAP will provide feedback and recommendations during regular Phase II WG meetings. The NEFSC will co-lead WG meetings and work in close collaboration with the Phase II grantee to achieve the objectives outlined in this RFP. Finally, the Phase II grantee will be responsible for:

1. Overall program management of Phase II
2. Co-leadership of NTAP WG RIBTS planning meetings with the NEFSC
3. Leadership of SOP development for expanding RIBTS to multiple fishing vessels
4. Execution of the Phase II field program, including sub-contracting with collaborating research institutions and fishing vessels as necessary
5. Maintenance of a detailed accounting of expenditures
6. Planning and leadership of RIBTS outreach workshops with the fishing industry
7. Development of new or modification of existing data acquisition systems and data pipelines
8. Purchasing required fishing gear and scientific equipment
9. Acquisition of necessary permits to complete the objectives of this research
10. Development of analytical products to inform the long-term RIBTS design
11. Planning and leadership of a workshop to develop SOPs for the inspection, maintenance, and storage of fishing gear and scientific equipment for long-term RIBTS
12. Development of a RIBTS Knowledge Transfer Strategy to guide long-term operations
13. Completion of required reporting and data delivery

The target timeframe to conduct the field program for Phase II is fall 2027, with a minimum of 30 days on two fishing vessels (~15 days/vessel). However, the Phase II grantee is expected to begin working on Phase II tasks and deliverables as soon as the institution is awarded the contract. Between issuance of the RFP and selection of the Phase II grantee, interested applicants are strongly encouraged to participate in monthly NTAP WG RIBTS planning meetings. The schedule for NTAP meetings can be found at <https://www.mafmc.org/ntap>.

B. Data Acquisition, Management, and Analysis

Data Acquisition

The Phase II grantee will be responsible for identifying, purchasing, and using a reliable electronic data acquisition system for the collection of survey effort, net mensuration, catch, and biological data during RIBTS. NEFSC support for Phase II does not include provision of or technical support for a data acquisition system for survey, catch, or biological data. The data acquisition system selected by the Phase II grantee must be capable of collecting all data elements defined by the NTAP WG as required for the RIBTS initiative. This includes, but is not limited to survey effort (tow start and end location, date, time), net mensuration (wing and door spread, headline height, bottom contact), catch data (aggregate weights and counts), individual lengths and weights, and biological data (reproductive stage, otolith samples, stomach samples). Required quantities and specifications of data acquisition equipment and supplies are provided in Section V (Personnel and Gear Requirements).

Applicants must submit a detailed plan for data acquisition, including costs for equipment for digital data collection, costs for customizing existing, or building new, data acquisition software to fit RIBTS requirements for data elements, data structures, and on-deck data collection workflows, and costs for training staff on data acquisition protocols, and data collection workflows, as needed. Applicants are strongly encouraged to meet with a data acquisition software provider before drafting a plan and submitting their application to the RFP.

The Phase II grantee will also be responsible for purchasing the necessary hardware and supplies for the oceanographic data collection system for Phase II. Required quantities and specifications of oceanographic equipment and supplies are provided in Section V (Personnel and Gear Requirements).

The NESFC will provide the software (OASIS) for collecting and storing oceanographic data as well as training and technical support for the Phase II grantee.

Data Management

The Phase II grantee will be responsible for managing the survey effort, net mensuration, catch, and biological data collected through Phase II in a secure relational database. While at sea, a minimum of daily data backups are required. The Phase II grantee will also be responsible for working with the NEFSC and ASMFC to develop and test a data pipeline for transferring survey effort, catch, and biological data to NEFSC databases for long term storage.

One of the objectives of Phase II is the development of a data pipeline that brings survey data directly into NEFSC databases, making them accessible to NEFSC stock assessment scientists in a standardized format. The Phase II grantee will be required to work with the NEFSC at the beginning of Phase II to identify the data elements, data structures, and on-deck workflows required for RIBTS data to be compatible with NEFSC databases and stock assessments. The Phase II grantee will also be required to work with a technical team at NEFSC and ASMFC to develop a data pipeline for ingesting RIBTS data into existing NEFSC survey databases. This includes operational, catch, and biological data. The Phase II grantee will be responsible for ensuring that RIBTS data acquisition software collects the required data elements and structures for transmission into NEFSC databases.

The Phase II grantee will also work with the NEFSC to transfer all oceanographic data collected through RIBTS directly to NEFSC databases using existing pipelines.

Data Analysis

The Phase II grantee will be responsible for developing the statistical frameworks, simulation tools, and spatio-temporal models required to optimize long-term RIBTS survey design and maximize data uptake into stock assessments. The NEFSC will work in close collaboration with the Phase II grantee to complete these tasks. The NTAP WG identified the following set of analytical research objectives for Phase II that will inform long-term RIBTS survey design and support long-term integration of RIBTS data into NEFSC stock assessments:

1. Develop and apply spatio-temporal mixed models (eg. tinyVAST, R-INLA) to integrate data from multiple vessels and sweeps and across different habitats and depths.
2. Identify optimal spatiotemporal overlap of vessels/sweeps to facilitate estimation of relative catchability coefficients.
3. Establish reproducible analytical workflows and operational assessment products for integrating single-vessel survey data (e.g., NEFSC Bottom Trawl Survey, NEAMAP) with the new multi-vessel RIBTS data stream.
4. Fit Species Distribution Models (SDM) using existing NEFSC BTS data and apply SDMs to evaluate the impact of alternative RIBTS sample allocation schemes across (e.g., proportional, Neyman allocation, adjusted average Neyman Allocation, Bethel algorithm) and within (e.g., systematic, random, spatially-balanced) strata on accuracy of indices of abundance and biomass. This will include collaboration with the NEFSC to build upon ongoing research efforts.
5. Communicate complex Phase II statistical methodologies and project outcomes to diverse scientific and industry stakeholders through written progress reports every three months and presentations to the NTAP WG and regional management bodies, including the ASMFC, NEFMC, MAFMC, as requested.

Applicants are required to include a detailed description of how they plan to address each analytical task, including personnel, funds, and anticipated timelines. Applicants should also indicate whether they plan to address these analytical tasks with current personnel, by sub-contracting with another institution, or by dedicating funds to hire a data analyst.

C. Field Program

Shakedown Trips

The Phase II Field Program consists of shakedown training trips and the Phase II pilot survey on two fishing vessels in the Gulf of Maine, George's Bank, and Southern New England. A total of six shakedown sea days will be split evenly between two contracted fishing vessels, providing three days per vessel for gear testing and knowledge transfer with the Phase I grantee (VIMS and F/V Darana R). At least two representatives from the Phase I team will accompany these shakedown trips to provide hands-on training for scientific data collection and standardized fishing operations. Applicants are required to include costs associated with contracting one chief scientist from VIMS and the captain of the F/V Darana R to assist with planning, coordinating, and executing the shakedown component of the Phase II field program. Applicants are encouraged to work with the Phase I team to develop the plan and budget for the shakedown and knowledge transfer trips (VIMS: Dr. Jim Gartland - jgartlan@vims.edu; F/V Darana R: Captain Robert Ruhle - Robertptcapt@aol.com).

Anticipated Sampling Effort and Spatiotemporal Scope

Applicants are required to include costs in their proposal for at least 30 days at sea (15 days per vessel). Applicants may budget more than 30 sea days if it would be required to meet the objectives in this RFP. The field program should occur in fall 2027 in the Gulf of Maine, Georges Bank, and southern New England. Data collected on the timing of fishing operations and scientific data collection during Phase I suggests 30 days at sea will allow a total sampling effort of approximately 180 stations, which is sufficient for the operational assessments and analyses targeted in Phase II. The final sampling effort for Phase II, however, will be determined by the Phase II grantee in collaboration with the NEFSC and NTAP. Applicants are encouraged to consider weather days, dockage fees, and fuel costs when developing a sea day budget for Phase II.

Stratification and Station Allocation

The NTAP WG discussed options and made recommendations for Phase II stratification and station allocation. To align with the redesign of the NEFSC BTS strata and increase sample density in larger, historically undersampled strata, the NTAP WG recommended using a strata map that consolidates some of the more narrow, deeper/shallower strata along the edges of the NEFSC BTS sampling domain. The WG also recognized some of the potential advantages of a spatially-balanced approach to station allocation over the more common random stratified approach, including distributing sampling effort more evenly across a stratum.

Therefore, Phase II will use consolidated NEFSC BTS strata and a spatially-balanced sample allocation scheme. The NEFSC will provide shapefiles for NEFSC consolidated strata to the Phase II grantee. The Phase II grantee will be required to develop the analytical process for selecting stations using the NEFSC consolidated strata, separate strata for offshore wind development areas, and a spatially balanced sample allocation approach. The Phase II grantee will present proposed stations and target strata to the NTAP WG group for approval at least three months before the Phase II field work begins. Final selection of target strata for each vessel and allocation of total sampling effort across strata will be the responsibility of the Phase II grantee, but will occur in close collaboration with the NEFSC and the NTAP WG and will be informed by the analytical tasks listed in this RFP.

Bottom Trawl Gear

The NTAP WG reviewed results from the Phase I field program and discussed options for bottom trawl gear for Phase II. Given that the NEAMAP gear package performed well across a wide range of depths, the NTAP WG recommended using the same gear package for Phase II. However, there was a strong recommendation from the WG to pilot a two-sweep design for Phase II to optimize sweep performance across a range of habitats. One fishing vessel therefore must be equipped with the standard NEAMAP gear package, including a four-seam, three-bridle bottom trawl, Thyboron Type IV 66" doors, #551 floats, and a cookie sweep ([Bonzek et al. 2008](#)). This vessel will occupy stations in more southern/western strata where the bottom is relatively flat. A second vessel must be equipped with the same gear package except it will replace the cookie sweep with a rockhopper sweep. The NTAP WG will meet between the issuance of this RFP and when the Phase II grantee is selected to determine the design and specifications for the rockhopper sweep. The vessel with the modified rockhopper sweep will occupy more northern/eastern strata where the bottom is rocky and more complex. The two vessels will overlap in a predetermined number of strata so that data from the two vessels/sweeps can be compared and integrated using the tools developed as part of the analytical tasks described in the RFP. The Phase II grantee will work with the NEFSC to develop a proposal for the exact number of strata, and stations

within a strata, where the two sweeps will overlap, which will be presented to the NTAP WG for approval at least three months prior to field work.

Fishing Operations and Data Collection

At each station, the vessel team will complete a 20-minute tow, during which the captain will maintain a consistent net geometry ([Bonzek et al. 2008](#)) by adjusting wire scope, towing speed, and other factors to fall within the acceptable ranges determined during Phase I. Simultaneously, the science team will collect station-level data, including at a minimum: beginning and ending tow location and time, date, depth, air temperature, wind speed and direction, sea state, and net mensuration, including door spread, wing spread, headline height, and bottom contact, vessel speed over ground and heading, and winch data (wire out, tension). Vessels participating in Phase II are required to deploy a net mensuration system with equivalent capabilities as commercially available net mensuration systems such as Simrad PX systems and Scanmar ScanBas systems to record and store net mensuration data and use in real time to validate tows. Required quantities and specifications of fishing gear and equipment are provided in Section V (Personnel and Gear Requirements).

Oceanographic Sampling

At each station, the scientific and vessel team will work collaboratively to complete a water column profile with a CTD that has capabilities equivalent to or exceeding a Sea-Bird Scientific Conductivity, Temperature and Depth (CTD) instrument. A bongo net will be used to sample for plankton at a subset of stations each day, with samples labeled and preserved in formaldehyde at sea. A Niskin bottle will be used to collect a minimum of 1L surface and bottom water samples for salinity calibration once per day. The Phase II grantee will be responsible for transporting plankton samples to the NEFSC Narragansett Lab. The NEFSC will store and process plankton samples collected during Phase II. Required quantities and specifications of oceanographic equipment are provided in Section V (Personnel and Gear Requirements).

Catch Sampling

Aggregate weights and counts will be recorded for each species. Individual fish lengths and weights will be recorded for a subsample of individuals from all species. The Phase II grantee will provide all necessary data acquisition systems, including electronic measuring boards, motion-compensated scales, computers or tablets, and software to efficiently collect and store data. Applicants are required to provide details on where they plan to set up work stations, scales, measuring boards and computers/tablets to sample the catch on each collaborating fishing vessel. Required quantities and specifications of catch sampling equipment are provided in Section V (Personnel and Gear Requirements).

Biological Sampling

Biological sampling will include the collection, storage, and processing of otoliths and stomach samples from priority species within pre-defined length bins. Priority species and sample number per strata and length bin will be determined in consultation with the NEFSC and the NTAP WG. Applicants are required to provide details on dedicated space available on the contracted fishing vessels to set up a biological sampling workstation, including a motion compensated scale, measuring board, barcode printer, and computer/tablet to collect biological samples. Applicants must also indicate how much space is available on the fishing vessels to store otoliths and stomach samples. Required quantities and

specifications of biological sampling equipment and supplies are provided in Section V (Personnel and Gear Requirements).

Operational Efficiency Documentation

Well-documented measures of sampling efficiency are an important component in defining the long-term operational requirements for RIBTS. Therefore, the Phase II grantee will collect detailed data on begin time, end time, and total duration (minutes) for at least each task listed below for each station sampled:

1. Time between arrival on station and setting out bottom trawl gear for each station
2. Time from set to haul of bottom trawl gear for each station
3. Time from haul back to completion of sorting, weighing, counting, and measuring the catch (not including biological sampling) for each station
4. Time from beginning to end for all biological sampling (extraction, labeling, and storage of otoliths and stomachs) for each station
5. Time from start to end for preparing, deploying, and retrieving the CTD at each station
6. Time from start to end for preparing, deploying, retrieving, and processing bongo catch for each station
7. Time from start to end for deploying, retrieving, and analyzing Niskin water samples for each station

The Phase I grantee has established protocols for collecting data on sampling efficiency. Those protocols will be included in the Phase I final report and will be communicated clearly to the Phase II grantee during the shakedown training part of the field program.

D. Industry Outreach Workshops

To ensure transparency and foster collaboration, the Phase II grantee will be required to plan and execute two regional outreach workshops with the fishing industry. These sessions will aim to engage the fishing industry in the survey development process and communicate Phase II objectives and outcomes effectively. One workshop should be held prior to Phase II field work and one workshop should be held after Phase II field work. Applicants are required to provide a detailed plan, target number of participants, costs, timing, and locations for these workshops. Stipends for industry participation are encouraged.

E. Fishing and Scientific Gear Inspection, Maintenance, and Storage

In collaboration with the NEFSC, the Phase II grantee will be required to develop SOPs for gear inspection, maintenance, and storage to maintain consistent net geometry and fishing power across the vessels participating in RIBTS and throughout all RIBTS phases. While NEFSC staff will participate in inspections of fishing gear and scientific research equipment before Phase II fieldwork begins, the Phase II grantee is responsible for organizing, leading, and documenting these inspections. To facilitate development of these SOPs, the Phase II grantee will be required to hold a technical workshop at least four months before the Phase II field program to share knowledge and review best practices. Applicants must include a detailed plan and costs for this workshop that includes intended survey participants and

including but not limited to gear experts and representatives from other long-term trawl survey programs.

F. Knowledge Transfer Strategy

A long-term RIBTS is expected to include participation from multiple institutions and fishing vessel owners/operators and these participants will change over time. Therefore, prospective grantees should describe the transferability of digital tools, training frameworks, and operational SOPs that promote standardization across RIBTS survey years, institutions, and fishing vessels in their proposal. The successful grantee will be required to develop a RIBTS Knowledge Transfer Strategy (KTS) during Phase II that will serve as a formal training curriculum to ensure consistent methods for fishing operations, data acquisition, gear and equipment inspection and maintenance, and data management and analysis. Prospective grantees must include a plan for how they intend to develop the KTS in their proposal. The NEFSC and the NTAP WG will collaborate on developing, drafting, and finalizing the KTS, but the Phase II grantee will be expected to lead this effort.

G. Meetings and Reporting Requirements

Project Teams and Meeting Requirements

The Phase II grantee is expected to work in close collaboration with the NEFSC and NTAP WG to form a set of teams that collaborate on the major objectives within this RFP. This would include at least a data analysis team, a data acquisition/management team, a gear inspection/maintenance team, and an industry workshop planning team. The Phase II grantee will be encouraged to solicit participation on these teams from individuals with relevant expertise outside their own institution. It is expected that the Phase II grantee will establish regular check-ins for each team and that each team will report at monthly NTAP WG meetings on progress. Applicants are required to include a draft schedule, including frequency and list of topics, for team meetings and NTAP WG meetings that will result in timely achievement of the objectives within this RFP. In addition, the Phase II grantee will be required to present research results to regional management and advisory bodies, including the NEFMC, MAFMC, and ASMFC as requested.

Reporting Requirements

In addition to leading regularly scheduled team meetings and providing progress updates at monthly NTAP WG meetings, the Phase II grantee will be required to submit progress reports every six months addressing progress on elements IV.A and IV.C-IV.F, above. As indicated in Section IV.B., written progress reports will be due every 3 months for data analysis objectives. Any delays must be identified and justified in the progress reports.

A final report is due within six months of completion of the field component. The Phase II final report must include lessons learned and SOPs for a long-term, full-scale RIBTS and outcomes for all major deliverables outlined in this RFP. Contents of the resulting RIBTS SOP should include recommendations for at least each of the following survey elements:

- Program management
- Scientific staffing
- Vessel staffing
- Vessel requirements

- Station selection
- Data acquisition system
- Fishing effort, including metrics for defining acceptable tows
- Gear performance monitoring
- Catch processing
- Biological sampling
- Oceanographic sampling
- Gear maintenance, inspection and standardization
- Data analysis (as described in Section IV. B)
- Communications
- Knowledge Transfer Strategy (as described in Section IV. F)

V. Personnel and Gear Requirements

The Phase II grantee and contracted fishing vessels are expected to provide or procure the following personnel, supplies, and equipment to complete the tasks described in Section IV.

Personnel

- 1 program manager, who will coordinate between all parties contributing to Phase II, including the NTAP WG and NEFSC
- At least 5 sea-going scientists (per vessel), including one chief scientist, to conduct operations concurrently.
- 3 vessel crew (per vessel), including 1 captain with experience conducting standardized bottom trawls
- Sufficient personnel to complete data acquisition tasks as described in Section IV.B
- Sufficient personnel to complete data analysis tasks as described in Section IV.B

Fishing Gear

- 2 four-seam, three-bridle bottom trawls with a cookie sweep that meet NEAMAP standards
- 2 four-seam, three-bridle bottom trawls with a rockhopper sweep, that meet NEAMAP standards
- 1 sets of Thyboron Type IV 66" doors (per vessel)
- Tow wire for deploying the standardized bottom trawl gear to 200 fathoms (per vessel)
- 1 net mensuration system, including headrope, wingspread, and bottom contact inclinometer sensors meeting or exceeding specifications of a Simrad PX 80 system (per vessel)
- 1 net geolocation system meeting or exceeding specifications of a SimradTP90 system (per vessel)

Catch and Biological Sampling Equipment and Supplies (per vessel)

- 3 workstations for on-deck sampling
- Fish totes, baskets, and bins for sorting catch
- Personal protective and safety equipment necessary for catch and biological sampling, including but not limited to boots, gloves, waterproof outerwear, personal floatation devices, survival suits, and strobes.
- Equipment and software to support data acquisition, including but not limited to:
 - a. 6 computers with data acquisition software that meets the requirements of RIBTS

- b. 2 high-capacity motion compensated scales (capacity: 60 kg, precision: 10 g) for aggregate weights
 - c. 5 lower capacity motion compensated scales (capacity: 6 kg, precision: 0.5 g) for individual weights and biological sampling
 - d. 5 electronic measuring boards (capacity: 100 cm; precision: 0.5 mm)
 - e. A networking system to simultaneously collect and standardize date/time and data across work stations
- Labeling and storage supplies for otolith and stomach samples, including chemicals for preservation
- Dissection tools for biological sampling (otoliths, stomachs, gonads)

Oceanographic Sampling Equipment and Supplies (per vessel)

- 1 Conductivity Temperature and Depth (CTD) instrument that is compatible with the NEFSC's oceanographic data collection software (SeaBird SBE 19 or equivalent)
 - a. Pressure rating: 500 m or better
 - b. Conductivity: +/- 0.0005 S/m or better
 - c. Temperature: +/- 0.005 °C or better
 - d. Sampling rate: 4 Hz or better
 - e. Communication: supports real time communication via winch with conducting wire
 - f. Power: internal batteries and/or powered via conducting wire and deck unit
 - g. Deck units, power, and data interface modules (PDIM) are dependent on CTD model, communication capabilities, and power delivery methods. These peripherals may be required, depending on the proposed configuration..
- 1 spool of conductive wire and winch (can be portable)
 - a. Number of conductors: must be compatible with selected CTD model
 - b. Winch: must be compatible with vessel capabilities (e.g. mounting, power) and selected conducting wire and CTD model
 - c. Safe working load: 3000 pounds or greater
 - d. Wire in rate: 20 meters/minute or better
 - e. Wire out rate: 50 meters/minute or better
 - f. Wire length: 900 meters or more; must allow for remaining wraps on drum at maximum required scope with extra to allow for future trimming and re-termination of wire end
- 1 Niskin bottle
 - a. 1.7 liters or larger
 - b. Must have capability to be triggered by a messenger weight; clamps and messenger must be compatible with wire type and diameter selected for CTD
- 1 bongo frame and 2 bongo nets
 - a. Bongo net frame (length: 145 cm, width: 21 cm; height: 61 cm; net opening: 61cm; material: aluminum)
 - b. 2 bongo nets (specifications identical for both nets)
 - i. Size: 61 cm mouth diameter
 - ii. Mesh size: 333 microns
 - iii. Net length: 3 meters
 - c. Bongo weight: 45 kilograms
 - d. Plankton sieves: 3-4, 12 in stainless steel sieves with #60 mesh (250 microns, 0.0098 inches)

- 100 plankton sample jars
 - a. 1 quart (32 ounces) glass jars with plastic lids
- 10 L of formaldehyde (37% concentration)
- 1 laptop computer
 - a. Windows-compatible PC to run CTD software
 - b. Compatible with selected CTD with appropriate ports or converters (e.g. USB to serial converter if required for chosen CTD model)
- 1 source of NMEA GPS data (e.g. stand alone GPS connected to the computer or a NMEA feed from the vessel's navigation system)
- 1 label printer
 - a. Chemical resistant labels and ink that are compatible with Windows 11 or equivalent
 - b. Label size: 3X2 inches

VI. Fishing Vessel and Personnel Requirements

Vessel Personnel

Two fishing vessels and captains with interest in and experience with conducting scientific research using standardized bottom trawls, including maintaining stable net geometry, are needed as partners for this research. Participating fishing vessels will be required to be at sea for multiple, consecutive days and therefore must have a minimum of three (3) crew (one Captain, two mates) that are capable of and committed to working with the scientific team to conduct Phase II field work. The Captain shall have a minimum of five (5) years of experience as Master of a comparable-sized vessel fishing with bottom trawl gear in North Atlantic waters, and at least ten (10) years total fishing experience as a Master. The captain must commit to following scientific protocols at sea, including but not limited to standardizing fishing operations and towing pre-selected stations to adhere to RIBTS survey design.

Meeting Participation

Participating vessel owners and captains will be integral members of the Phase II team, including planning, execution, and reporting out. Thus, participating vessel owners and captains should maintain regular attendance at monthly NTAP WG meetings to gain familiarity with the RIBTS program, share expertise during the design process, and report out on lessons learned from Phase II. Captains will also be required to participate in additional meetings with the Phase II team to plan logistics for field work. Participant captains must be responsive to communications (phone, text, email) from the scientific team and NTAP WG to ensure planning and reporting efficiency. Finally, participating vessel owners and captains will be required to participate in the two workshops to share the plan for Phase II and report out on results (see section IV.D).

Vessel Requirements

The two contracted fishing vessels must meet the following minimum requirements to qualify for participation in Phase II:

1. Minimum length of 80 ft, minimum beam of 20 ft, and a draft between 10 ft and 16 ft.
2. Sound, seaworthy, and U.S. Coast Guard certified to carry at a minimum 8 passengers (5 scientific crew, the Captain and 2 mates).
3. Capable of safely deploying and recovering bottom trawl nets for fishing on the continental shelf in water depths up to 200 fathoms.

4. Fuel capacity to sustain a trip of greater than 300 nautical miles (150 nautical miles one way) from port and remain at sea for a minimum of 10 days.
5. Generated power capacity for scientific sampling equipment, computers, and communications.
6. Freezer storage (minimum 20 cubic feet, -10°F) for the exclusive use of storage of scientific samples.
7. Necessary storage space and permitting to carry formaldehyde on board for sample preservation.
8. Sorting table at chest height or conveyor to expedite processing of the catch.
9. Seawater washdown capability for plankton nets, catch sampling areas, and deck washdowns
10. Instrumentation to provide precise depth and location (latitude and longitude) information and radar.
11. A VHF and UHF radio.
12. Satellite internet connection, such as Starlink.
13. Necessary personal and safety protective equipment for fishing operations for captain and crew.

Accommodation and Provision Requirements

The two contracted fishing vessels must provide the following accommodations and provisions during Phase II:

1. Living and sleeping space for 5 scientific crew and 3 vessel crew.
2. At least one functional marine toilet and shower.
3. Sufficient drinking water and coffee for 5 scientific crew and 3 vessel crew.
4. 3 meals per day (breakfast, lunch, and dinner) for 5 scientific crew and 3 vessel crew. Meals shall be provided during each day of vessel operation under this contract and must include protein, carbohydrates, and vegetables/fruits.

The ASMFC will not be responsible for oil, repair, maintenance, losses, or any other expenses or liabilities sustained in the operation of the vessel in connection with this contract. Fuel costs and slip fees are to be included in the daily charter rate.

VII. Equipment Purchasing and Ownership Requirements

Equipment Provision

The Phase II grantee will be required to purchase all of the fishing gear and scientific equipment, including backups, needed to conduct Phase II on at least one fishing vessel (as detailed in Section V). If the Phase II grantee already has the necessary gear and equipment to conduct Phase II on a second fishing vessel, purchasing new equipment for a second fishing vessel is not required. However, applicants choosing to purchase only one set of fishing and scientific equipment, instead of two, must provide detailed documentation and specifications demonstrating they have all necessary gear and equipment for the second vessel. At minimum this documentation must include item name, date of purchase, estimated number of sea days the item was used, and current condition.

All new and institution-owned gear and equipment used during Phase II will be inspected according to the protocols developed as part of this RFP. If upon inspection, gear or equipment is found to be inadequate to conduct Phase II, it will be the responsibility of the Phase II grantee to repair or purchase new gear/equipment that meets RIBTS standards in time for a second gear inspection 1 week prior to conducting field work.

Equipment Ownership

All non-expendable fishing gear and scientific equipment purchased for Phase II will be the property of the ASMFC and will be transported by the Phase II grantee to the Northeast Fisheries Science Center's Narragansett Lab (28 Tarzwell Drive, Narragansett, RI) for future RIBTS phases and long-term storage.

VIII. Content and Form of Application

Proposals must be in a format with at least **12-point font, single spaced with 1 inch page margins**. **Submissions should be brief and must adhere to the page limits identified below for each section** to assist reviewers in efficiently evaluating proposals.

Proposals should include the following information from the applicant:

- A detailed description of how the grantee will meet the requirements of this research, as outlined in this RFP, including:
 - Data Acquisition Plan (max 1 page)
 - Data Analysis Plan (max 1 pages)
 - Shakedown and Training Plan (max 1 page)
 - Field Program Execution (max 3 pages)
 - Diagrams, drawings, or photos of the two fishing vessels showing where work stations and data acquisition equipment will be located for catch processing and biological sampling
 - Industry Outreach Workshop Plan (max 1 page)
 - Gear Inspection/Maintenance Workshop Description and Plan (max 1 page)
 - Knowledge Transfer Strategy Plan (max 1 page)
 - NTAP Working Group Calendar and Anticipated Topics (max 1 page)
 - Team Meeting Calendars and Anticipated Topics (max 1 page)
 - Roles and Responsibilities for all major contributors (max 1 page)
 - Phase II GANTT chart (1 page max; must include estimated timeline to begin/complete each major objective within this RFP)
- A detailed budget and budget justification, including sub-contracts with vessels and other institutions (no page limit)
- List and specifications of existing equipment that will be used for Phase II (see section VII)
- A brief summary describing previous work with the partner vessel(s) or other cooperative research partners (max 1 page)
- Two-page Curriculum Vitae (CVs) for each Principal Investigator from the scientific team (no page limit)
- Name, experience, and relevant certifications (e.g., Coast Guard license) of the F/V owners and captains (no page limit)

Proposals should include the following information for the two contracted fishing vessels (no page limit):

- Vessel Owner
- Vessel Captain
- Vessel Crew (2)

- Type of Vessel
- Homeport (Port, State)
- Vessel Length (Feet)
- Estimated Cabin Space - Length x Width (Feet)
- Deck Space - Length x Width (Feet)
- Number of Bunks
- Gear Types
- Target Fisheries
- Depth and Areas Fished (depth range in feet and general geographic area)
- Fuel Capacity
- Ability of the vessel to deploy all scientific equipment used for this research, including all computing and catch processing equipment, and the oceanographic sampling system.
- Experience participating in cooperative research and following scientific protocols at sea.
- Photo(s) of the inside and outside of proposed partner vessels, including but not limited to the deck, below-deck space, galley, wheelhouse, bunk rooms, head.

Instructions, Conditions and Notices to Proposers

- Questions regarding the RFP should be submitted via phone or e-mail to:

Anna Mercer
 Northeast Fisheries Science Center
 Email: anna.mercer@noaa.gov
 Phone: (774) 392-7603

- Submission, Modification, Revision, and Withdrawal of Proposals
 1. The deadline for proposals is **11:59 PM EST, December 4, 2026:**
Proposals should be submitted to Jainita Patel at jpatel@asmfc.org
 2. ASMFC reserves the right to consult with and to consider information from its own sources, including information from state and federal agencies regarding the proposer's prior performance or the status of outstanding investigations or warrants involving the proposer.
 3. Late proposals: Any proposal, modification, or revision received after 11:59 PM EST on December 4, 2026 is "late" and will not be considered.
 4. ASMFC is not liable for any costs incurred by vendors/contractors in developing or submitting their response to this RFP

Proposal Evaluation

1. All proposals received in accordance with the RFP instructions will be evaluated to determine if they are complete and meet the specified requirements.
2. All proposals that meet the above criterion will be reviewed, analyzed, evaluated, and scored by the Proposal Review Committee, composed of representatives from the NEFSC, ASMFC, and NTAP.

3. During the evaluation period, ASMFC may request additional information in order to fairly evaluate a proposal offer. If such information is required, the proposer will be notified by email and will be permitted a reasonable period of time to respond.
4. Using numerical and narrative scoring techniques, proposals will be evaluated by the Proposal Review Committee based on the following categories:
 - Qualifications and Experience
 - Project Management Plan
 - Data Acquisition Plan
 - Data Analysis Plan
 - Field Program Plan
 - Outreach/Communication Plan
 - Cost Effectiveness

Grant Award

1. All qualified proposals will be evaluated, and a contract will be awarded to the proposal who is deemed to best meet the research requirements of the RFP. All applicants that submit an application will be notified of decisions by early January 2027. A contract with the selected science and vessel team is expected to begin in January 2027.
2. ASMFC reserves the right to reject any and all proposals and make no award under the RFP if such action is in the best interest of ASMFC and NEFSC.

IX. References

Bonzeck, C. F., J. Gartland, R. A. Johnson, and J. D. Lange, Jr.. 2008. NEAMAP Near Shore Trawl Survey Peer Review Documentation. 143p.

Mid-Atlantic Fishery Management Council. 2026. Northeast Trawl Advisory Panel (NTAP). mafmc.org/NTAP

Northeast Fisheries Science Center Multispecies Bottom Trawl Survey (BTS). <https://www.fisheries.noaa.gov/new-england-mid-atlantic/science-data/northeast-multispecies-bottom-trawl-survey>

Politis, P.J., Galbraith, J.K, Kostovick, P., and Brown, R.W. 2014. Northeast Fisheries Science Center bottom trawl survey protocols for the NOAA Ship Henry B. Bigelow. US Dept Commer, Northeast Fish Sci Cent Ref Doc. 14-06; 138 p.