Atlantic States Marine Fisheries Commission

FAQs on Electronic Vessel Tracking for American Lobster and Jonah Crab

March 15, 2022

This document responds to questions raised during the public hearings on American Lobster Draft Addendum XXIX and Jonah Crab Draft Addendum IV (henceforth referred to as the Draft Addenda).

1. Who will pay for the tracking devices?

Industry members will be responsible for covering the costs associated with trackers, including the purchase of the tracker and service fees.

At this time, there are no dedicated funds to pay for trackers. Commission staff have been working to find dedicated funds to assist in paying for a part of the cost associated with trackers (device and/or a year of service funding). In working with Congressional staff, trackers are eligible for funding under the House and Senate Report Language for the FY 2022 budget. Congress is scheduled to approve the FY22 federal budget during the week of March 14th. The tentative budget language (below) includes the following support to help defray the costs of electronic vessel tracking:

$14,000,000 shall be provided to States through the Atlantic States Marine Fisheries Commission to cover costs incurred by the fishing industry to comply with the final 202 l rule to modify the Atlantic Large Whale Take Reduction Plan (ALWTRP) (FR-210827-0171), as well as additional uses outlined below. This assistance may be used by the relevant States to help defray the cost of compliance with new regulations, including for gear modification, configuration, and marking within the Northeast lobster and Jonah crab fisheries, both in Federal and State waters. Additional eligible uses of the funds may include implementing electronic tracking requirements within the Northeast lobster fishery and research to inform future management actions, including in preparation for potential subsequent modifications to the AL WTRP. Funding to the States shall be proportional to the number of active federally permitted lobster trap harvesters in each State, and no State with at least 20 active federally permitted lobster trap harvesters shall receive less than 4 percent of the total funding.

2. How many vessels were involved in the testing of tracking devices?

In Maine, tracking devices from three vendors were tested on 18 lobster vessels. In addition, Maine has also maintained trackers on 20 urchin vessels since 2017, as well as several Marine Patrol vessels. In Massachusetts, tracking devices were deployed on five vessels during pilot testing. Vessel trackers were also deployed on a research vessel and recreational vessel to test the integration of tracking devices with eTrips Mobile. In Rhode Island, from 2019 through 2021 multiple cellular tracking devices were tested on three state-owned research vessels as part of an ACCSP-funded research project. Additionally, since 2019 over 25 cellular tracking devices have been deployed on commercial vessels in

Rhode Island as part of a pilot aggregate landing program. This program includes lobster vessels as well as trawlers, gill netters, fish potters, and rod and reel commercial vessels.

The Electronic Tracking Pilot Programs established by Addendum XXVI tested several types of cellular tracking devices (the final reports for the Maine/Massachusetts and the Massachusetts/Rhode Island are attached). The costs associated with cellular tracking devices tested during the pilot program ranged from $150 to $650 for the initial purchase of the tracking unit, and annual data service plans that would meet the proposed tracking requirements ranged from $191 to $420 per year. These costs are provided as examples only and may change dependent on which devices are approved for use in the fishery, as well as any volume-based purchasing plans provided by those companies after approval. The pilot programs are discussed on page 3 of the Draft Addenda.

3. What was the failure rate of the devices during the testing period?

Malfunction or failure of the tested tracking devices was rare. States provided anecdotal information on device issues that occurred during testing, summarized below.

In Maine during the original pilot project, no units failed in terms of being rendered inoperable. One Rock7 unit locked up, but it reset after the boat was turned off for long enough for the internal battery to drain and self-reset. The biggest cause of devices failing to transmit data was failure of the harvester to provide power to the unit while fishing. In the Blue Hill Bay mandatory tracking area in Maine, around 30 tracking devices (older model Faria-Beede trackers) have been used since 2016. These units do not have batteries but rather depend on an external power supply. The harvesters would routinely switch them on and off as they crossed in and out of the mandatory tracking area. Several units completely failed over the course of the project, and during the first year there were some issues with the wiring harnesses not being marine grade. Conversations with Faria Beede show that modern units are capable of operating successfully in the marine environment.

In Massachusetts, five devices were deployed on commercial lobster vessels during the pilot project. One device had a failed installation, and the problem was unable to be remedied by the vendor. Additionally, three devices were deployed on a research vessel and recreational vessel with no device failures. One device in the latter study stopped transmitting temporarily when crew removed the power from the device and the battery eventually died after several trips. This was a user error rather than device failure.

In the pilot aggregate program in Rhode Island, about 25 captains were required to have cellular tracking devices. Anecdotally, there were no reports of failures of devices once the devices were properly installed on each vessel. Captains were responsible for the purchase and maintenance of their own cellular trackers, so Rhode Island state managers only would have heard from harvesters if they had self-reported failures.

In response to this information, it is recommended that harvesters confirm with device vendors that their tracker is properly transmitting information after installation of the

tracking device. This would ensure that the device is properly installed prior to beginning fishing. Secondly, as described in question 6 below, vendors will be required to provide customer service plans that include both basic troubleshooting assistance (i.e. power supplies, device location) and complete failure replacement plans.

4. **When will the trackers be available to the entire industry so they have plenty of time to obtain them prior to the implementation deadline?**

   This answer will depend on the action taken by the Board. In approving the program, the Board has the prerogative to set the implementation date while keeping in mind the time needed for the working group to request and approve vendors, ACCSP to complete development to support the program, and to allow harvesters enough time to obtain and install devices.

5. **How will harvesters choose an appropriate device?**

   If the Board approves this program, then ASMFC will issue a request for quotes (RFQ) to identify available technology, and will form a work group to review and approve devices that meet the required criteria for use in the fishery. It is possible some states may offer financial assistance to harvesters using a particular device. However, harvesters will ultimately be able to choose from the list of approved devices. ASMFC will provide the states with information on each of the approved devices to inform harvesters' decisions. Information collected by ASMFC to help harvesters choose the device most appropriate for their needs will include complete device specifications, complete costs, cellular providers and bands, power supply specifications, installation instructions, customer service policies, accessibility of viewing personal tracking data, etc. This topic is discussed on page 10 of the Draft Addenda.

6. **What level of customer service will vendors be expected to provide to harvesters?**

   Page 9 of the Draft Addenda describe the basic customer service requirements that vendors will need to meet to be approved for this program. For responding to customer service inquiries regarding devices, power issues, API data needs, among others, vendors must be able to respond to the customer, including harvesters, state managers, and ACCSP, within 24 hours. ASMFC will request information from vendors about their customer service capabilities as part of the RFQ. If a device malfunctions, it is recommended that vendors be able to replace or repair devices within a reasonable timeline. It is also recommended that vendors be able to provide support to harvesters in viewing their personal tracking data using available online platforms or applications provided through the vendor.

7. **Will there be a grace period for using trackers to account for the learning curve needed to use the trackers?**

   Harvesters will not have to operate the devices so a learning curve would not be necessary, after the installation process is complete. Devices would be installed on the vessel following detailed instructions provided by the vendors, and then would operate automatically.

Device vendors can provide harvesters with a confirmation during installation that devices are properly transmitting data to the vendor.

8. How will states certify that vessels required to install tracking devices have done so?

Page 11 of the Draft Addenda discusses certification of tracking devices. States shall certify the installation and activation of approved vessel tracking devices for permit holders whose principal port listed on the federal fishery permit is within their state. Principal port is contained in NOAA Fisheries Greater Atlantic Regional Fisheries Office (GARFO) permit data which will be made accessible to states. An affidavit with uniform language will be distributed by the states to permit holders (see Appendix B for affidavit language in the Draft Addenda). This affidavit will be used to certify an approved tracking device is installed on each vessel and is activated for transmitting spatial data. Each affidavit must be signed and returned to states prior to departing on the first fishing trip (regardless of landing state, trip type, location fished, or target species) after the program implementation date. For initial implementation of this project, states will collaborate to define a deadline by which permit holders will need to have a certified tracker installed. A state may require additional information to certify installation such as photographs, notarized affidavits, or inspections, but this is not required by the Draft Addenda. States will be able to confirm that trackers are activated by reviewing vessel location data in the ACCSP database.

The following process for certifying device installation is recommended:

1. Permit holders required to use a tracking device would be notified by the state of the requirement to install a tracking device and the effective date.
2. Notified permit holders would be required to return a signed affidavit to the state which indicates that either an approved tracking device is installed on the vessel and is activated for transmitting spatial data, or that the harvester will not fish with trap gear for the duration of the fishing year. Permit holders will be allowed to fish once they have submitted this affidavit.
3. Once the affidavit is received, if appropriate, state staff will verify device connectivity and/or signal transmission.
4. The state will send notification to the harvester to confirm that the device is functioning and spatial data is being received. However, fishing will not necessarily be contingent upon receipt of this notification.

9. How will states determine if a harvester is not required to have a tracker?

GARFO will provide the states with up-to-date information on American lobster trap gear area permit ownership, enabling states to identify permit holders required to have trackers and complete the process of installation certification. If a vessel that is required to have a tracking device reports American lobster or Jonah crab landings with trap gear, but has not yet provided certification that a tracker has been installed, the state will be able to identify an inconsistency with the addendum requirements. Communication between states will

need to occur to identify lapsed vessels. This is especially true where vessels may not land in their principal state.

All permit holders who are required by their permit to have a tracker will be notified of this requirement and the effective date, and must submit an affidavit to the state to indicate that either they have installed an approved tracking device on the vessel, or that they will not fish with trap gear for the duration of the fishing year. This will allow states to identify permit holders that are not permitted to land lobster or Jonah crab taken with trap gear during the fishing year.

10. What will be required of harvesters if their tracking device stops working?

The Draft Addenda indicate that if a harvester recognizes that the device is not working (e.g., indicator light is off and they cannot resolve the issue), the harvester must contact their state authority to report the device malfunction/failure. In other cases where a harvester in unaware of a device malfunction/failure, the state will inform the harvester that the device is not working. In either case, once the state and harvester are aware of the device failure, the harvester may continue fishing without a working tracker for up to two weeks while the device is under repair or being replaced. If the tracker has not been repaired or replaced after two weeks the harvester would not be permitted to land lobster or Jonah crab without authorization from the state via a letter of authorization or state equivalent.

Each state will establish a standard procedure harvesters must follow to notify the state of device failures. For example, a state may establish a specific phone line, text line, or email for contacting the state authority about a device failure. However, the intention is to allow flexibility for procedures to vary among the states, recognizing that each state has a unique administrative structure and capacity. Procedures will take into account that harvesters may need to report device issues outside of normal business hours.

11. How will a harvester know if the tracking device is working?

This will depend on the specifications of each device. Most devices will have an indicator light showing that the device is receiving power. It will not be the sole responsibility of the harvester to know that the device is properly transmitting data. Device vendors and/or state staff will identify device failures and contact permit holders as needed.

12. What is the process by which states would be notified of a device failure or issue with vessel track data by ACCSP?

ACCSP will compare and match received trip reports and tracking data on a routine (likely daily) basis and generate reports on non-matched trip reports and tracking data that are accessible to state managers. This will include a report that displays trip reports without tracking data and a second report with tracking data that does not have an associated trip report. A buffer window will be included to accommodate reporting requirements that may allow for a slight delay in submission of trip reports.

13. Will the tracking devices draw power from the vessel battery?

The tracking devices consume very little power even at the required one minute ping rate. None of the devices tested had a maximum current draw at 12 volts greater than 500mA, and average nominal running current was much lower, with average running current around 150mA. However, the ideal situation is that the tracking device will not require power from the vessel when the vessel's engine is off (and thus draw from the vessel battery). Many tracking devices now include an internal battery that can power the tracker after external power is lost. Since the proposed requirements stipulate that only one ping per day is necessary when the vessel is at berth, the tracking device will ideally enter a low power state and "sleep" between daily pings. There are at least two tracking devices available at present that have this capability. For these devices, the harvester would connect the device such that it only receives power when the vessel engine is running. Power losses during fishing would be detectable by the resulting decreased ping rate in the vessel track, and repeat power losses during fishing could result in further investigation or enforcement action.

14. How do the trackers perform in cold weather?

All devices tested were run on lobster vessels throughout the winter months in New England states.

15. Would VMS devices be accepted as an alternative for a tracking device for this program?

The Draft Addenda do not specify that satellite VMS devices may not be used for this program. However, currently no VMS device meets the required specifications for tracking devices as presented in the Draft Addenda. Current Federal VMS type approval regulations limit the reporting interval (or ping rate) for VMS devices to between five minutes and 24 hours, which would preclude devices from using the one minute ping rate proposed in the Draft Addenda. Data costs for using a VMS device with the one ping per minute data collection rate are expected to be prohibitively expensive. Additionally, data collected from VMS devices are stored with NOAA's Office of Law Enforcement, which would create data access challenges for Commission and state management staff to address the goals of the Draft Addenda. The Addenda also require that an API will push data to ACCSP, and current VMS data systems may not allow for this.

16. Who will be able to view vessel tracking data?

Vessel tracking data will be protected under state and federal confidentiality laws that prohibit the disclosure of confidential data. Confidential data are data that can lead to the identification of either individuals or individual contributions. Only those individuals who have been granted confidential access by state or federal agencies may view confidential data. As a result, individual vessel tracking data will only be accessible to managers, ASMFC staff, and law enforcement officials that have signed the relevant non-disclosure agreements. It should be noted that harvesters will be able to access and distribute their own vessel tracking data, as desired.

17. How will harvesters be able to view or access their own tracking data?

This will depend on the type of tracking device chosen. Tracking vendors typically have a platform which can be used to view or access data or a process to request their data, but the specifics of how the data are presented and how much information is included can vary. The Commission work group will collect and distribute this information on the approved tracking devices/vendors so that harvesters are informed about how they could access their data if they choose a particular device.

ACCSP does not currently have an independent platform through which all harvesters could view their individual track data displayed on a map. This feature does exist in eTrips Mobile but only for harvesters reporting through that application. Harvesters would be able to request their personal tracking data in table format.

18. How will these data be used by law enforcement?

Tracking data will not be available to law enforcement in real time in order to initiate an investigation. Law enforcement may use data to support operations, law enforcement investigations, and prosecution efforts. From the perspective of ACCSP, access to data by law enforcement personnel is exactly the same as access by any other individual. The data are protected by the state and federal confidentiality laws and require relevant non-disclosure agreements for release. State Law Enforcement Agents will have to apply for and be granted confidential data access to review tracking data.

19. How will data be presented while still maintaining confidentiality under federal law?

The ACCSP policy for confidentiality requires that any data summary that is publicly disclosed must include information from at least three dealers, three harvesters and three vessels to be considered non-confidential. This policy is applicable to anyone who has a signed non-disclosure agreement on file with ACCSP, including Commission staff.

Additionally, confidential data would not be released by the Commission in response to information requests, nor by states or federal agencies in response to Freedom of Information Act requests.

20. How will vessel tracking data improve the stock assessment?

For the lobster assessment, two spatial assumptions are currently used in the process to generate fishery catch length composition data for the stock assessment model. This is a key data set informing fishing mortality and abundance estimates from the model.

The first assumption is that lobsters come from a uniform length distribution within a statistical area. Length sampling data, which are recorded with spatial coordinates, are used to characterize length distributions of the catch. Landings are assigned to a statistical area through a combination of data sources like spatial proportions of harvest from harvester logbooks and VTRs and, therefore, these landings data remain the limiting spatial factor in characterizing length compositions. Some preliminary analyses during the course of the last

assessment indicated length compositions differ within statistical areas. Though work remains to be done to finalize the process for using spatial data from trackers to partition landings during the next benchmark assessment, breaking down landings to a finer resolution using spatial data from trackers and pairing those data with length composition data at the currently available finer resolution (spatial coordinates) is anticipated to improve accuracy of the length composition data in the assessment.

For example, if the same number of length samples (which are often collected opportunistically and not proportional to landings within a statistical area) are collected from two halves of a statistical area and indicate different size distributions between these halves, but effort (and harvest) occurs disproportionately between these two halves, the current process would produce biased length composition data. If finer scale spatial data became available to inform and validate how harvest from a statistical area is distributed over the statistical area, the harvest could be split into the two halves, paired with the appropriate length data within the statistical area, and the bias in length composition data would be reduced.

The second assumption is about the legal sizes applied to the lobsters observed for length (legal proportions) to split the length compositions into the discarded and retained components. Because the Lobster Conservation Management Areas (LCMAs) have different boundaries than statistical areas and we have to use uniform legal sizes within a statistical area, the assessment currently assumes the wrong legal sizes for some proportion of the catch in some statistical areas. Much like the assumption above, this results in biased length composition data and finer scale spatial data to inform/validate catch distributions among LCMAs within statistical areas would reduce this bias.

The first stock assessment for Jonah crab is scheduled for completion in 2023. While data from electronic tracking would not be available for the first assessment, they will be useful in updating the assessment with more precise spatial information in the future.