Atlantic States Marine Fisheries Commission

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MEMORANDUM

TO: **American Lobster Management Board**

FROM: **Caitlin Starks, FMP Coordinator**

DATE: **July 28, 2021**

SUBJECT: **Recommendation for Implementing Requirements for Electronic Vessel Tracking for Federal Lobster and Jonah Crab Fleet**

Background

Over the last few years the American Lobster Management Board (Board) has continually expressed interest in implementing requirements to collect high resolution spatial and temporal effort data in the federal lobster and Jonah crab fisheries, and has supported efforts to investigate systems and technology for collecting these data. At its May 2021 meeting, the Board agreed to create a technical work group including representatives from NOAA Fisheries, state and federal law enforcement, and members of the Board to identify objectives, technological solutions, and system characteristics for vessel tracking devices in the federal lobster and Jonah crab fisheries. The work group, as well as technical staff from state and federal partners, has developed recommendations on implementing tracking requirements which are summarized below.

Board Action for Consideration

Based on discussions among state and federal representatives in the work group, as well as leadership at the Commission and NOAA Fisheries, the work group recommends the Board initiate an addendum to consider implementing electronic tracking requirements for federally permitted vessels in the lobster and Jonah crab fishery. Implementing fishery dependent tracking data collection under the authority of the Atlantic Coastal Fishery Cooperative Management Act provides the needed process and information collection and sharing flexibility that would not be allowed under the NOAA Fisheries Vessel Monitoring Systems. More specifically, operating under ACFCMA allows data to be stored directly to ACCSP, as opposed to federal VMS data which is first sent to OLE. This should provide greater access to the data by state fishery management agencies which often find it difficult to obtaining VMS data.

The work group recommends the addendum consider the following specifications to ensure the data collected meet the needs for stock assessment, protected species risk reduction efforts, offshore enforcement, and marine spatial planning discussions:

- Vessel track data should be reported at a minimum rate of one ping per minute for at least 90% of the fishing trip. This rate is necessary to distinguish lobster fishing activity from transiting activity, and allows the calculation of number of traps per trawl.
- Cellular tracking devices are the preferred technology over satellite systems. Testing of cellular devices has shown the devices are simple to install and cost significantly less

than satellite devices. Reporting data at the recommended rate of one ping per minute using a satellite device would incur prohibitive costs.

- Minimum technological standards defined by ACCSP and its partners should be observed for tracking devices to ensure data needs are consistently met, while providing flexibility for technology to evolve and improve. For example, devices should have power systems capable of running the device at the specified ping rate. Further, at a minimum, precision and accuracy requirements for VMS should be met by cellular tracking devices. Finally, tracking systems should allow for a distinction to be made between a tracker unit and a vessel/permit. This distinction is necessary so that if a tracker is reassigned to a new vessel or a vessel requires a replacement tracker data integrity and confidentiality will be maintained.

Objective of Electronic Vessel Tracking

The objective of implementing electronic tracking requirements is to collect high-resolution spatial and temporal data to characterize effort in the federal American lobster and Jonah crab fisheries for management and enforcement needs. These data will improve stock assessments, inform management decisions related to protected species and marine spatial planning, and enhance offshore enforcement.

A number of challenges the fishery is currently facing pose an acute need for electronic tracking in the offshore fishery. Enhanced spatial information on effort in federal waters is needed to address these issues, including:

- Stock assessment: Size composition data for lobster catch are generated by matching statistical area-specific total harvest data and biosampling data, as statistical area is currently the finest spatial resolution for harvest data. Preliminary work has indicated size composition varies at a finer spatial scale than statistical area. Improved spatial resolution of total harvest data from vessel tracking will improve size composition data used in the stock assessment models to ultimately estimate exploitation and reference abundance.
- Right whales and protected resources: The current models used to assess the location of vertical lines in the fishery and their associated risk to right whale could be significantly improved with data collected through vessel tracking. The recently released Biological Opinion outlines additional risk reductions in the US lobster fishery starting in 2025 and it is important to update this data and the associated risk reduction models ahead of this timeline.
- Marine Spatial Planning (including protected areas): It is critically important to record the footprint of the US lobster fishery as spatial allocation discussions occur as a result of emerging ocean uses such as aquaculture, marine protected areas, and offshore energy development. For example, in January 2021, President Biden issued an Executive Order on Tackling the Climate Crisis at Home and Abroad. Included in this Executive Order is a goal of protecting 30% of US waters by 2030. Given this goal, documentation of the US lobster fishery footprint is essential for consideration in future discussions and decisions.

- Offshore enforcement: It has long been recognized that enforcement efforts in the offshore federal lobster fishery need to be improved. As a result, there are ongoing efforts to enhance enforcement capabilities, including discussions around an offshore enforcement vessel capable of hauling and re-setting long trawls. However, even with an enforcement vessel, it can be hard to locate gear, particularly in LCMA 3. Vessel tracking could improve the efficiency and efficacy of offshore enforcement efforts by directing enforcement personnel to where gear is located.

Additional Considerations for Electronic Vessel Tracking Requirements

The work group highlighted some additional considerations that should be further discussed and addressed during the addendum development process. First, the Law Enforcement Committee should be consulted on several issues, including requirements for when tracking devices would need to remain active, dockside communication (i.e. should the device recognize when it is in port allowing for the ping rate to be automatically slowed), and tamper-proof features (i.e., affixing the device to the vessel). They also noted that additional discussion is needed to determine how tracking should be applied to the mobile gear fleet, as a different ping rate may be more appropriate for these vessels which already have VMS requirements. Additionally, technical staff from the states and ACCSP should draft data reporting, management, and dissemination processes and standards for vessel track data collected under the proposed requirements. Important data collection fields identified by the work group included the type of device, date/time, lat/long, horizontal accuracy of lat/long, and vessel ID. Lastly, the addendum should address a process to approve devices for use in the fishery.

Alongside these considerations, attention needs to be paid to the implementation timeline and budgetary implications. Launching a technological program like this will require significant lead time prior to implementation—likely at least one year. Additionally, there are budgetary and personnel considerations for all partners. Staff time will be needed for harvester support and data analysis. Finally, potential costs to industry for the devices and data plans will need to be communicated clearly.