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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[RTID 0648-XF749]

Request for Information on Ropeless Fishing; Fisheries of the Northeastern United States and Atlantic Coastal Fisheries Cooperative Management

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice; request for information.

SUMMARY: NMFS is requesting information from fishery participants and others with specialized knowledge on the potential use of ropeless fishing gear, which includes on-demand fishing gear and other fixed gear that does not use persistent buoy lines. This information will inform any potential future use, development, and management of these systems in fisheries in the Greater Atlantic Region. NMFS intends to summarize the responses to this request for information and share that summary publicly.

DATES: Responses are due on or before **[INSERT DATE 90 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

ADDRESSES: You may submit comments on this document, identified by NOAA-NMFS-2026-2080, by the following method:

- *Electronic Submission:* Submit all electronic public comments via the Federal e-Rulemaking Portal. Visit <https://www.regulations.gov> and type NOAA-NMFS-2026-2080 in the Search box. Click on the “Comment” icon, complete the required fields, and enter or attach your comments.

Instructions: When responding to this request for information, please label your response with the corresponding question number to which your input is directed.

Comments sent by any other method than the one listed above, or received after the end of the comment period, may not be considered by NMFS. All comments received are a part of the public record and will generally be posted for public viewing on <https://www.regulations.gov> without change. All personal identifying information (e.g., name, address, etc.), confidential business information, or otherwise sensitive information submitted voluntarily by the sender will be publicly accessible. NMFS will accept anonymous comments (enter “N/A” in the required fields if you wish to remain anonymous).

Copies of supporting documentation to this request for information are available online. The technical report *Evaluation of On-Demand Gear Acoustic Interoperability Approaches in the Northeast U.S.* by the MITRE Corporation, is available at https://library.oarcloud.noaa.gov/noaa_documents.lib/NMFS/On-Demand_Gear_Interoperability_Report.pdf. The Northeast Fisheries Science Center report *A Proposal for Functional Data Specifications of On-Demand Fishing Gear, Version 2* (Galvez, 2026) is available at https://repository.library.noaa.gov/view/noaa/73583/noaa_73583_DS1.pdf.

FOR FURTHER INFORMATION CONTACT: Caroline Potter, Fisheries Resource Management Specialist, (978) 281-9325; caroline.potter@noaa.gov.

SUPPLEMENTARY INFORMATION:

I. Introduction

Under the Consolidated Appropriations Act, 2023, NMFS is required to, “in consultation with affected States and fishing industry participants, promote the innovation and adoption of gear technologies” (Division JJ, Title I, Section 101(a)(1)). The Act mandates this effort to implement “new regulations for the American lobster and Jonah crab fisheries consistent with the [Marine Mammal Protection Act (MMPA) and Endangered Species Act] that take effect by December 31, 2028, utilizing existing and innovative gear technologies, as appropriate” (Division JJ, Title I, Section 101(a)(2)).

Accordingly, NMFS is providing resources to support the development of ropeless fishing gear as a potential voluntary alternative for fixed-gear fishermen to operate in areas with persistent buoy line restrictions while minimizing risks to large marine mammals. NMFS continues to collaborate with fishermen, technology manufacturers, state agencies, fishery management organizations, and other partners to explore the benefits and limitations of these technologies. This request for information (RFI) is a key step of this ongoing effort to comply with the mandates of the Consolidated Appropriations Act, 2023. This RFI does not limit NMFS' ability to consider other innovative gear or management activities and various management options are being considered.

Buoy lines connecting physical surface markers with fixed fishing gear—such as traps, pots, and gillnets—can become entangled with large whales, leading to the serious injury or death of the whale. Restricting the use of persistent buoy lines is one way to reduce the risk of entanglement for protected species, including North Atlantic right

whales. Ropeless fishing gear substantially reduces entanglement risk and, if approved, could be used in areas with persistent buoy line restrictions.

In 2021, to comply with the requirements of the MMPA and respond to high rates of incidental deaths and serious injuries exceeding allowable limits, NMFS amended the Atlantic Large Whale Take Reduction Plan (86 FR 51970, September 17, 2021). This rule restricted the use of persistent buoy lines in particularly high-risk entanglement hotspot areas during times of the year when North Atlantic right whales and persistent buoy lines are most likely to co-occur.

The Consolidated Appropriations Act, 2023, requires NMFS to implement “additional whale protection measures by December 31, 2028,” (Division JJ, Title I, Section 101(a)(1)). If the best available scientific data shows that U.S. commercial fixed-gear fisheries continue to exceed the MMPA’s legal thresholds, new or modified times and areas where persistent buoy lines are restricted may be considered, including during right whale aggregations. However, if authorized by NMFS, fixed-gear fishermen could use ropeless gear to continue fishing in new or modified areas, as well as the previously restricted areas.

Currently, the regulations governing the operation of federal waters fisheries in the Greater Atlantic Region require all fixed fishing gear to have physical surface markers (buoy/high flyer with radar reflector/pennant) (*e.g.*, 50 CFR 648 for Council-managed fisheries and part 697 for the lobster/Jonah crab fisheries). As a result of these gear marking requirements, any area that prohibits persistent buoy lines, but would otherwise allow fishing without those buoy lines, remains an area closed to fixed-gear fishing.

In 2025, the New England and Mid-Atlantic Fishery Management Councils initiated the Joint Omnibus Alternative Gear-Marking Framework Adjustment to consider whether to recommend that NMFS allow the use of fixed gear without physical surface markers in Council-managed fisheries if an equivalent alternative marking method is used. NMFS is also considering whether to similarly modify the Federal American lobster/Jonah crab gear-marking regulations. If NMFS authorizes the use of gear-marking alternatives, such as digital gear markings, lobstermen could regain fishing access to current and any potential future restricted areas by using authorized ropeless fishing gear. Similarly, with these alternatives, fishermen could respond to sudden aggregations of large whales in an area by removing one or both endline(s), thereby reducing the likelihood of entanglement for the period of time the whales remain in an area. However, the Councils' action was postponed, pending additional input from stakeholders including the fishing industry. NMFS has, likewise, postponed action with respect to the lobster and Jonah crab fisheries to gather additional input and ensure consistency among the actions.

This RFI requests information specific to the program design, utility, limitations, and technical capability of ropeless fishing. It contains questions and associated context that were developed with a focus on Greater Atlantic Region operational and management considerations. However, NMFS also welcomes feedback informed by experiences where these gear alternatives are being used outside the Greater Atlantic Region. This RFI does not request comment on the number, size, location, or seasonality of any existing or future whale protection areas. The public will be notified if and when

NMFS requests comment on those topics, which will occur through a different process and at a later time.

Description of ropeless fishing gear

In this RFI, the term “ropeless” is used to describe all types of fixed-gear fishing that does not use persistent buoy lines. Therefore, ropeless fishing gear includes fixed gear rigged with an on-demand device or timed-retrieval device that triggers a retrieval mechanism. While gear rigged with these devices can still have ropes that are used to retrieve the gear, any buoy lines are only intended to remain in the water column for a short time during gear retrieval. Because ropeless gear refers to all fixed gear without any persistent buoy lines, it also encompasses fixed gear without one of these devices that can be retrieved by grappling. A string or trawl of fixed gear that uses a traditional, persistent buoy line on only one end is referred to as “one-end ropeless.” The end without the persistent buoy line may or may not be rigged with an on-demand or timed-retrieval device and retrieval mechanism.

Both trap/pot and gillnet gear, as well as other fixed gear types, can be fished in a ropeless configuration. For on-demand and timed-retrieval devices, the line can be stowed on the ocean floor rather than vertically in the water column between the bottom gear and the surface marker. An on-demand device uses acoustic communication to activate a retrieval mechanism such as a pop-up buoy, inflatable lift bag, or buoyant-rope spool. Timed-retrieval devices are designed to function similarly, except they use a timer or galvanic link to activate a retrieval mechanism. All of these types of ropeless fishing gear can be marked using alternative gear-markings such as digital markings.

Section III of this RFI provides definitions of the terms used in this RFI.

Ropeless fishing gear's functional equivalence to traditional gear

Ropeless fishing gear that does not use persistent buoy lines and surface markers should reproduce the functions served by surface markers. Such functions may include, but are not limited to: Allowing ocean users to visually detect the location of the gear; conveying set direction; allowing the gear to be retrieved; conveying identifying information that is required by the relevant fishery (*e.g.*, permit number); and allowing law enforcement to locate, retrieve, and redeploy the gear. Reproducing these functions allows fishermen and other ocean users to continue to operate in close proximity to the fixed gear while minimizing gear conflict. To achieve these functions, in part, ropeless fishing gear can be marked and visualized digitally. This RFI requests comment on how this should most effectively be accomplished.

II. Topics for Comment

1.0 Authorization of ropeless fishing gear

Context

Through the Alternative Gear-Marking Framework Adjustment action, the New England and Mid-Atlantic Councils are considering when and where digitally marked gear could be allowed in its fixed gear fisheries. NMFS is concurrently considering whether to modify Federal lobster gear-marking regulations to relieve surface marking restrictions. During this process, the Councils received feedback highlighting the diversity of the fixed-gear industry, suggesting that regulatory changes must account for regional differences in fishing practices. In addition, other solutions such as grappling or removing one endline have been suggested as potential solutions to reduce large whale

entanglement risk. Therefore, NMFS requests comments on information that will help inform decision making.

Questions

1. What experience do you have with ropeless fishing gear?
2. Ropeless fishing gear: Under what specific environmental, seasonal, or operational circumstances should NMFS authorize the use of ropeless fishing gear? Conversely, under what circumstances should its use be denied?
3. One-end ropeless gear: Under what specific circumstances should NMFS authorize the use of one-end ropeless gear? When should it be explicitly denied?
4. Do you support the use of grappling-only ropeless fishing gear? What limitations or guidelines should accompany its use?

2.0 Safety and performance of on-demand and timed-retrieval fishing gear

Context

NMFS is working to develop standards that ropeless systems would need to meet to be approved for use in regular commercial fishing operations in the Greater Atlantic Region. Establishing these standards will help ensure that fishermen have a range of safe, reliable, and effective system options from which to choose.

Safety

Ensuring that ropeless systems are safe to use is of paramount importance. Ropeless fishing gear eliminates the persistent endlines that could otherwise entangle a crewmember during deployment. However, because there is no persistent buoy line immediately available, recovering a crewmember who becomes entangled in a groundline could be more difficult. Thus, while some note that ropeless gear reduces the initial risk

of crewmember entanglement by eliminating the endline that can entangle the crew, others caution that it could decrease the chances of a successful recovery if a “man overboard” incident occurs from groundline entanglement.

Stakeholders have also raised operational safety concerns regarding the gear itself. These include the physical weight of the systems, the use of compressed air tanks, the hauling process, mechanical or digital failures, and premature releases. Additionally, safety concerns related to potential gear conflicts have been noted.

While there have been no documented safety incidents during on-demand research and trials conducted by the Northeast Fisheries Science Center, developers are actively working on a “man overboard” feature that would immediately trigger the gear's retrieval mechanism. One developer has implemented this feature with its on-demand gear. However, gear rigged with a timed-retrieval device or gear that requires grappling would not necessarily support this function, potentially limiting this safety option for those gear types. Concerns have also been raised about the safety of grappling for ropeless gear.

Questions

5. What are the human safety-related concerns with and benefits of on-demand fishing? How do these concerns and benefits compare with traditional fishing gear?
6. What safety requirements or standards should be considered as part of approving a ropeless system for use?
7. Is “man overboard” functionality helpful for improving safety? If so, should it be a mandatory requirement for some or all types of ropeless gear? Are there other features that could increase safety of ropeless gear?

8. How could timed-retrieval devices or grappling methods be modified to increase safety?

Successful retrievals

Ensuring that on-demand or timed-retrieval devices function as intended is necessary for the safe and continued operation of the gear. When retrieving on-demand fishing gear, “success” is measured by the ability to acoustically communicate with the device on the seafloor, trigger the release mechanism, and retrieve the gear at the surface. The overall success rate is over 91 percent for trials conducted under an EFP by the Northeast Fisheries Science Center. Nearly every unsuccessful haul was retrieved by other means, such as grappling. Based on anecdotes from fishermen using traditional fixed gear—which is subject to loss from storms, vessel traffic, gear conflict, and other losses—this 91-percent retrieval rate of on-demand gear is at least as good as, if not better than, fishing with traditional fixed gear. For the EFP trials from summer 2020 to early 2026, fewer than 1 in 600 hauls have led to the loss of an on-demand device, a recovery rate of 99.8 percent. While the Northeast Fisheries Science Center is not currently testing timed-retrieval devices, a similar measure of success, such as retrieval rate, could be developed for that gear type. However, determining the reliability of grappling may prove more difficult.

Questions

9. Should individual makes and models of ropeless fishing gear be subject to minimum reliability standards prior to approval for use? If so, how would you approach implementing this? Specifically, which components of a ropeless system (e.g., the release mechanism, the on-demand/timed-retrieval device, other) should be

subject to minimum reliability standards? What success criteria and testing parameters (*e.g.*, duration of deployment, depth, specific fishery conditions) should be used to evaluate reliability?

10. If a ropeless system no longer meets a reliability standard, what should the process be for re-approval?

11. Should fishermen be allowed to design and use their own rope containment systems to pair with approved on-demand or timed-retrieval release mechanisms or should complete-only designs be approved (with all or some modifications prohibited)?

12. Should there be a periodic inspection requirement to ensure gear safety or viability?

Premature releases

On-demand or timed-retrieval systems have the potential to prematurely release. Tracking and reporting these premature releases is critical for at least two reasons: (1) It is important to know when and where buoy lines are present in the water column, especially if the area prohibits persistent vertical buoy lines; and (2) if a particular make and model of on-demand or timed-retrieval gear repeatedly releases prematurely, that information would be important for decision making, including device approval by NMFS.

Questions

13. Should fishermen be required to report premature releases of on-demand or timed-retrieval fishing gear?

14. Should premature release notifications be automatically sent to the gear owner and/or NMFS? Currently, this requires an additional device and increases the price of each ropeless system.

3.0 Alternative gear marking

Context

Currently, most vessel operators testing ropeless systems manually mark the gear's location by a button-push using a gear manufacturer-provided digital application using a tablet or smartphone. This creates a digital mark of the gear's position. However manual entry is prone to error; an operator may forget to mark gear during deployment, resulting in missing or inaccurate location data. Additionally, an operator could intentionally log a digital marker without actually deploying gear, creating a false mark. Both of these scenarios decrease the reliability of data that other ocean users would rely on to operate near ropeless fishing gear and avoid gear conflicts.

Ropeless gear can be marked automatically. For example, surface markings can be automatically created when the gear is deployed into the water. In addition, some on-demand systems automatically mark the gear's location on the seafloor via acoustic localization if the vessel is equipped with a through-hull transducer (although there may be other methods by which this functionality could be achieved). However, most systems do not currently have this capability and might only adopt it if it becomes a regulatory requirement. Furthermore, for fixed gear with physical surface markers, fishermen must estimate the location of gear on the seafloor based on the location of the buoys at the surface. Alternatively, acoustic communication can detect and mark the gear's position on the seafloor. This method may provide more accurate and precise gear location markings

than using a global positioning system (GPS) to mark the gear's deployment location at the surface; however, it increases cost and technological complexity. Because gear density and the potential for gear conflict vary by region, it may be necessary to require the use of more precise location marking technology in certain areas. NMFS sponsored the technical report *Evaluation of On-Demand Gear Acoustic Interoperability Approaches in the Northeast U.S.* by the MITRE Corporation (see **ADDRESSES**), which, in part, examines localization accuracy requirements of ropeless gear.

Questions

15. How precisely do you need to know the geographic location of ropeless fishing gear to ensure safe operations and prevent gear conflicts (*e.g.*, within 25 feet of the true location)? In what specific areas, depths, or fishery conditions do you need to have this level of location precision? Are there other areas, depths, or fishery conditions where you would need more or less precision?

16. Should ropeless systems be required to automatically mark their deployment locations to eliminate human error, or is manual input (*e.g.*, via a mobile app or chartplotter) sufficient?

17. If manual marking is permitted, what measures or penalties should be considered to deter the creation of false marks or the failure to mark deployed gear?

18. How should NMFS balance the high cost and complexity of reliance on through-hull transducers for automatic acoustic marking against the need for highly reliable spatial data?

19. How desirable is it to be able to mark ropeless gear and trigger release mechanisms with a chartplotter as opposed to using a manufacturer's mobile application?

4.0 Gear viewing

Context

Ocean users (*e.g.*, mobile fishing vessels, other fixed-gear vessels, vessels transiting nearby) must be able to detect ropeless fishing gear. This is a fundamental element of functional equivalence to physical surface markers (discussed in Section I. Introduction). Currently, in the Greater Atlantic Region, other ocean users can access location information from every ropeless system, regardless of manufacturer, on a unified platform that alleviates the potential need to monitor multiple applications or devices. This is accomplished through a data aggregator that compiles the location information for ropeless gear (generated by individual fixed-gear fishing vessels and ropeless gear manufacturers) and disseminates the information to other user groups. NMFS has developed partnerships and prototype data aggregation systems with independent organizations to facilitate the exchange of ropeless gear location information. For more discussion about data aggregators, see Section 9.0.

Option for sharing ropeless gear location data

Decision-makers should establish rules regarding what information a data aggregator shares and with whom. For example, in an extreme case, a data aggregator could allow the precise location and identification information of digitally marked gear to be viewable to anyone and from shore. Alternatively, shoreside viewing could be restricted to displaying only areas of high gear density (without identifying information).

As another option, viewing could be restricted to users within a specific physical distance from the gear comparable to visual sighting of traditional gear.

Determining how digital gear-marking data are shared requires balancing three key factors: Data transmission costs; the privacy of a vessel's location; and the privacy of the fishing gear's location. It should also be noted that sending and receiving ropeless gear information to and from a data aggregator in near real-time would require access to the internet or cellular data. However, there may be specific circumstances where information is not needed in near-real time, such as in areas with low fishing effort.

There are at least four possible options for sharing gear location information with vessels at sea:

Option 1: Curated by a Data Aggregator

- **Process:** A vessel actively shares its current location with a data aggregator. The data aggregator transmits location data of ropeless gear within a pre-specified radius of the vessel.
- **Priorities/trade offs:** This prioritizes ropeless gear location privacy and lower data transmission costs, but it requires vessels to anonymously provide their physical location to the aggregator.

Option 2: GPS Filtered on Vessel

- **Process:** A data aggregator sends all ropeless gear location data to a vessel (or all locations within a certain range of where the vessel is taking its trip). The vessel's integrated GPS technology then filters the information locally, displaying only the gear within a specified radius.

- **Priorities/trade offs:** Compared to option 1, this would increase vessel location privacy, but could increase data transmission costs and may create data security vulnerabilities that could expose ropeless gear information beyond the specified radius if the GPS-filtering technology was hacked.

Option 3: Criteria-Based Access

- **Process:** This refines Options 1 or 2 by restricting the aggregator to only send data to vessels that meet specific criteria (*e.g.*, vessels actively permitted to fish in certain areas or fisheries).
- **Priorities/trade offs:** This alleviates some data security concerns, but significantly increases management and administrative complexity.

Option 4: Fully Public

- **Process:** The data aggregator publicly shares all ropeless gear location data.
- **Priorities/trade offs:** This places the highest priority on vessel location privacy. However, it essentially eliminates on-demand gear location privacy and has a comparatively high data transmission cost.

Some of these options require a data aggregator to temporarily know the location of the vessels to which it is sharing gear location data. This is similar to how you need to allow a mapping/navigational app to know your location while traveling for it to provide directions, traffic, or road conditions in real-time. A data governance plan (discussed in Section 9) could specify how long a data aggregator may retain vessel location data.

While NMFS has implemented location data collection programs, such as vessel monitoring systems, and states have implemented electronic tracking of Federal lobster vessels, these programs were created for specific purposes and mandate specifically what

information must be shared when and with whom. Moreover, these programs do not include all vessels that operate near fixed gear. Thus, these programs, and similar state programs, are not sufficient as a comprehensive solution if vessel location needs to be shared with a data aggregator for the purposes of disseminating ropeless gear location information.

Questions

20. Which of the four data-sharing options (or combination thereof) is preferable, and why? How should data transmission costs, privacy of a vessel's location, and privacy of the fishing gear's location be prioritized against each other?
21. Under what circumstances is it necessary or desirable that ropeless fishing gear markings be viewable and updated in near real-time? Under what circumstances is it unnecessary?
22. At what specific distance from deployed ropeless gear should its location become visible on a vessel's display? Should this distance vary for specific fisheries, users, or circumstances?
23. Should digitally marked gear be viewable from shore? If so, which specific user groups (*e.g.*, law enforcement, researchers, the general public) should have shoreside access? Would you support shoreside viewability if it only provided aggregated and anonymized information (*e.g.*, a heat map)?
24. Should there be a tiered-distance threshold where *only* the gear's location is viewable from a certain distance away, but detailed identifying information (*e.g.*, permit or ownership details, as appropriate) becomes visible only when the vessel is in very-close proximity?

25. Should vessel location data be shared with a data aggregator so it may curate and provide only the gear data within a specific radius (Option 1; akin to sharing your location with a mapping application for driving directions)? If not, what are your concerns regarding this option?

5.0 Gear conflict

Context

Gear conflict avoidance relies on vessel operators adequately marking their gear, maintaining a vigilant watch, and taking necessary steps to avoid marked gear. Generally, all fishermen have equal access to fish in Federal waters in the manner specified by law. Fishermen are prohibited from causing a gear conflict by negligently and without authorization removing, damaging, or tampering with another person's fishing gear. These obligations and requirements apply whether the fisherman is utilizing traditional or ropeless fishing gear and whether they operate with fixed or mobile gear.

Many stakeholders express concern that eliminating or reducing the number of physical surface markers with ropeless gear will increase the incidence of gear conflict. Conversely, others suggest that digitally marked gear may actually reduce conflicts due to the distinct advantages of digital marks. Environmental factors—such as nighttime operations, fog, and heavy seas—severely limit the visibility of traditional surface markers. Digital marking provides reliable, long-range viewability of fixed gear under both normal and adverse conditions that may be superior to visual sightings of surface markers.

Furthermore, because ropeless gear could be less susceptible to displacement by heavy weather, and some systems can be acoustically detected even if displaced, its

adoption could result in less “ghost” gear, further reducing the potential for conflict. Additionally, removing physical buoy lines from the water column allows vessels to safely transit directly over fixed gear without causing a conflict.

Stakeholders have also pointed out that digital marks could significantly assist in the enforcement and resolution of gear conflict incidents. If law enforcement agencies are authorized to access digital gear-marking data, combining near real-time ropeless gear locations with existing vessel tracking systems (such as vessel monitoring systems or automatic identification systems) could provide useful data to support investigations into gear conflicts.

In 1996, at the recommendation of the New England Council in coordination with the Mid-Atlantic Council and the Atlantic States Marine Fisheries Commission, NMFS implemented a process for resolving gear conflicts in fixed and mobile gear fishery management plans through a framework adjustment. NMFS or the Councils could initiate a new framework adjustment that specifically considers and delineates the operational obligations and responsibilities for fishing with, and around, ropeless fishing gear in Federal waters.

Questions

26. What are the gear conflict-related benefits and concerns of ropeless fishing? How are those benefits or concerns different for one-end ropeless?
27. Are specific steps or regulatory measures necessary to proactively decrease gear conflicts related to ropeless fishing? If so, what are they?
28. Is it necessary for fishing vessels operating around ropeless gear to view digital gear markings in near real-time? Does this depend on the fishery or location?

29. Should fishing vessels operating near ropeless gear be required by regulation to carry the technology necessary (*e.g.*, internet and a visualization tool, such as a chartplotter) to view digital gear markings in near real-time? Or, are the consequences of causing a gear conflict enough deterrence that such regulatory requirements are not necessary?

30. Should fishermen be required to report gear conflicts?

31. Does the digitization of fishing gear locations improve situational awareness of gear locations at sea?

6.0 Equity

Context

Currently, the Greater Atlantic Region fixed-gear fishery regulations require various physical surface markers, prohibiting the use of ropeless gear. Research and testing of ropeless fishing gear is being conducted through exempted fishing permits (EFP), which allow approved vessels to engage in otherwise prohibited activities. While some view EFPs as a viable pathway for permitting ropeless fishing to advance our knowledge and experience, others argue they are inequitable because they grant fishing privileges to a limited number of select permit holders. NMFS, in general, supports permanently relieving the restrictions on gear-marking requirements, in part, to minimize the burden on the industry to apply for and report on EFPs, as well as to minimize governmental resource burdens. Furthermore, long-term reliance on EFPs to authorize ropeless fishing could lead to unequal access and opportunities among fishermen.

Some forms of ropeless fishing—such as on-demand gear—require different technology compared to traditional fixed-gear fishing. For fishermen who choose to

adopt ropeless gear, their operational methods could change in ways that some allege would potentially alter the character of the fishery. Some have voiced concerns that the technological and financial requirements of on-demand gear could shift the balance of competitive success, which could ultimately lead to the consolidation of some fixed-gear fisheries. Others note that industries regularly adapt to emerging technologies while maintaining the character of the industry.

Questions

32. What specific equity concerns do you have regarding the authorization and use of ropeless fishing gear?
33. What measures could NMFS implement to address equity concerns?
34. How does the current reliance on EFPs impact the development, fairness, and opportunity within the fishery?
35. How can ropeless fishing programs be designed and managed to ensure fair access and equitable outcomes for all willing participants and affected parties?

7.0 Potential training requirements to use ropeless fishing gear

Context

As with any technology, it is assumed that experience with a new gear will foster proficiency with its use. To establish a baseline of proficiency, a knowledge demonstration or training requirement could be required before fishermen are authorized to use ropeless systems. This requirement could be structured in various ways, ranging from an on-the-water practical test to simply reviewing educational materials (such as “how-to” videos for a manufacturer’s mobile application) followed by a brief knowledge assessment. If a training requirement is deemed necessary, decisions on which entities

should develop and provide this training, and exactly how fishermen should be expected to demonstrate their competency with ropeless systems, will need to be made.

Questions

36. Should ropeless users be required to demonstrate that they know how to properly deploy, retrieve, and/or mark ropeless fishing gear before being authorized to use it?

37. If a knowledge demonstration or training requirement is implemented, what specific elements or milestones should be required of the operator? Who should be responsible for developing and administering this training (*e.g.*, NMFS, gear manufacturers, other)?

38. Should other ocean users (*e.g.*, mobile gear fishermen) be required to demonstrate proficiency in using the visualization technology necessary to detect digitally marked gear?

39. How should NMFS handle repeated instances of operator error? How would NMFS distinguish between an operator error and an equipment malfunction?

8.0 Law enforcement

Context

Ropeless systems present both challenges and practical utility for law enforcement. For example, on-demand gear manufacturers currently use proprietary acoustic communication protocols, requiring law enforcement vessels to carry multiple, manufacturer-specific deck boxes and transducers to retrieve and inspect different ropeless gear systems. While efforts are underway to develop and test a universal deck box capable of communicating with all on-demand gear, this remains a technological hurdle. If manufacturers adopted a common acoustic-signaling standard, a universal deck

box would be unnecessary; however, there is currently no industry-wide initiative or regulatory requirement to pursue a standardized acoustic protocol. The MITRE Corporation's technical report *Evaluation of On-Demand Gear Acoustic Interoperability Approaches in the Northeast U.S.* (see **ADDRESSES**) examines whether a common acoustic signaling approach is needed.

In addition to the challenge of triggering on-demand devices, enforcement personnel must be trained to safely operate various proprietary release mechanisms to retrieve and properly redeploy gear during at-sea inspections. Furthermore, it may be impractical for law enforcement to inspect timed-retrieval devices. Safety and logistical concerns also exist for grappling ropeless gear. Covert inspections may also be logistically challenging.

Despite these physical challenges, digitally marked gear offers practical utility for enforcement operations. If law enforcement personnel are authorized to access digital gear location data from shore, or from an expanded radius at-sea, it could streamline patrol trip planning and help agencies allocate their on-water resources more efficiently. Likewise, digital markers and associated data records could provide law enforcement with useful information to support investigations—information that is simply not available with traditional fixed gear.

Questions

40. What concerns or suggestions do you have regarding enforcing ropeless fishing?

41. How should law enforcement address the inspection of ropeless gear that is rigged with timed-retrieval devices or that is grapple-only?

9.0 Data governance and management

Context

Data Standard

For digital gear markings to successfully reproduce the functions of physical surface markers, a robust data-governance framework must be developed to ensure that essential information flows efficiently among data users. NMFS is currently working to identify the specific information that should be aggregated from ropeless fishing systems and disseminated to end users. Standardizing the data associated with digitally marked gear (as is done for other U.S. fisheries programs) can support software development, efficiency in information management and dissemination, and generally increase the quality and accuracy of data. A potential list of data elements and user groups is provided in a Northeast Fisheries Science Center report (Galvez, 2026, see **ADDRESSES**).

Data aggregator(s)

As described in Section 5.0, an entity must act as a data aggregator that collects and disseminates the location information of ropeless fishing gear. Currently, two organizations act as data aggregators in the Greater Atlantic Region. NMFS has conducted an initial evaluation regarding the role of the Federal government in providing these data services, as well as the additional legal requirements that would apply. Federal management of ropeless gear location information would likely require complex procedures to comply with multiple Federal statutes. Given that certain Federal statutory requirements would not necessarily apply to private or independent entities, a non-Federal third party could aggregate this data more efficiently than NMFS, potentially providing more effective data services for ocean users.

Currently, data from each on-demand system is transmitted to the manufacturer's database, transmitted to one data aggregator, shared with the other data aggregator, and finally distributed back out to visualization platforms. Having a single data aggregator and fewer points of transmission would reduce errors and latency and increase reliability and efficiency. It would be helpful to determine if multiple organizations should be allowed to coordinate with each other and each act as a data aggregator or if only one organization should act as a data aggregator. In addition, NMFS is seeking stakeholder input on what requirements there should be for digitally marked gear databases to protect fishermen's proprietary data.

Questions

42. How should data for ropeless fishing be governed and managed?
43. Do you have any additional feedback or recommendations regarding the list of data elements in the report *A Proposal for Functional Data Specifications of On-Demand Fishing Gear* (Galvez, 2026, see **ADDRESSES**)? Are there any missing data elements, or elements that should be modified or removed?
44. What specific security and operational requirements should be considered for independent third parties managing digitally marked gear locations and other associated data?

10.0 Additional considerations

Questions

45. Is there any other information that you would like to share in response to this request for information or regarding ropeless fishing more generally?

46. NMFS has heard concerns regarding the cost of systems. For fishermen who choose to fish with ropeless fishing gear, there could be several ways to reduce the cost of acquiring ropeless systems, such as by leasing gear from gear libraries or utilizing grant or loan programs. How should NMFS balance the potential regulatory requirements for technologically complex features (*e.g.*, automated acoustic marking, real-time data transmission, *etc.*) against the potential cost of these features?
47. Beyond the direct cost of purchasing ropeless gear, what are the other economic costs of ropeless fishing? What are the economic benefits?
48. Should NMFS require a common acoustic protocol or signaling standard for all approved on-demand systems to ensure interoperability across the industry, or should manufacturers be permitted to maintain proprietary acoustic approaches? This topic is discussed in the MITRE technical report *Evaluation of On-Demand Gear Acoustic Interoperability Approaches in the Northeast U.S.* (see **ADDRESSES**).
49. If NMFS allows the use of ropeless fishing gear, should the option to use it be phased in (*e.g.*, by specific geographic regions, by fishery, or through pilot programs)?
50. How can NMFS design ropeless fishing regulations to be flexible enough to accommodate future technological advancements?
51. What are the potential environmental benefits or consequences of fishing with ropeless gear? What are the potential benefits or consequences of ropeless fishing on fisheries operations?
52. Ropeless fishing gear is currently being used in fisheries outside of the Greater Atlantic Region. Do you have examples of its use or management outside the Greater

Atlantic Region that should be emulated or avoided within the Greater Atlantic Region?

III. Definitions

Grappling: Method of retrieving fishing gear from the ocean floor by dragging a weighted hook along the bottom to snag rope (such as a groundline or bridle) that is connected to traps, pots, or nets.

Interoperability: Capability of different technologies, systems, devices, models, or brands to communicate, share information, and function with each other.

Retrieval mechanism: Apparatus designed to surface a retrieval line to allow for the hauling of fixed gear. For example, a buoyant spool, inflatable lift bag, and pop-up buoy.

On-demand device: Equipment that uses acoustic release technology to trigger a retrieval mechanism.

On-demand fishing gear: Fixed gear equipped with at least one on-demand device.

On-demand system: Combination of technologies and devices, including an on-demand device, that allow for the deployment, retrieval, and marking of fixed gear positions without persistent buoy lines. This definition excludes the technology needed to share and display digital gear marks. An on-demand system is a type of ropeless system.

One-end ropeless: String or trawl of fixed gear that uses a traditional, persistent buoy line on only one end. The end without the persistent buoy line may or may not be rigged with an on-demand or timed-retrieval device and retrieval mechanism.

Ropeless fishing gear: Fixed fishing gear that operates without persistent buoy lines. This definition includes fixed gear rigged with an on-demand device or timed-retrieval device that triggers a retrieval mechanism, as well as fixed gear that can only be retrieved by grappling.

Ropeless system: Combination of technologies and devices that allow for the deployment, retrieval, and marking of fixed gear positions without persistent buoy lines. This definition excludes the technology needed to share and display digital gear marks. This definition includes, but is not limited to, on-demand systems and timed-retrieval systems.

Timed-retrieval device: Equipment that uses a pre-set timer or a degradable galvanic link to trigger a retrieval mechanism.

Timed-retrieval fishing gear: Fixed gear equipped with at least one timed-retrieval device.

Timed-retrieval system: Combination of technologies and devices, including a timed-retrieval device, that allow for the deployment, retrieval, and marking of fixed gear positions without persistent buoy lines. This definition excludes the technology needed to share and display digital gear marks. A timed-retrieval system is a type of ropeless system.

Persistent buoy line: Traditional fixed gear endline or vertical line that extends from the fishing gear on the seafloor to the physical surface marker for the entirety of the soak time.

IV. Other

Please note that this is an RFI only. In accordance with the implementing regulations of the Paperwork Reduction Act of 1995 (PRA), specifically 5 CFR 1320.3(h)(4), this general solicitation is exempt from the PRA. Facts or opinions submitted in response to general solicitations of comments from the public, published in the **Federal Register** or other publications, regardless of the form or format thereof, provided that no person is required to supply specific information pertaining to the commenter, other than that necessary for self-identification, as a condition of the agency's full consideration, are not generally considered information collections and therefore not subject to the PRA.

This RFI is issued solely for information and planning purposes; it does not constitute a request for proposals, applications, proposal abstracts, or quotations. This RFI does not commit the U.S. Government to contract for any supplies or services or make a grant award. Further, NMFS is not seeking proposals through this RFI and will not accept unsolicited proposals. Choosing not to respond to this RFI does not preclude participation in any future procurement, if conducted.

(Authority: 16 U.S.C. 1801 *et seq.*; 16 U.S.C. 5101 *et seq.*; Consolidated Appropriations Act, 2023, Division JJ, Title I, Section 101 *et seq.*)

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