



**National
Marine Sanctuary
Foundation**

To: CDFW Marine Region
Attn: EFP Coordinator
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From: Greg Wells, Gear Innovations Manager
National Marine Sanctuary Foundation
[REDACTED]
[REDACTED]

Date: ~~November 16, 2023~~ revised on January 31, 2024

Subject: Experimental Fishing Permit [REDACTED] Amendment Request

We would like to request the following amendments to our currently issued Experimental Fishing Permit [REDACTED]. It is our understanding that these changes would constitute a major amendment, and the associated fee has been paid. Please let me know if you have any questions regarding these amendments or require additional information.

- 1) **Allow the retention of catch.** Under the issued EFP and special conditions, participating vessels may retain and land Dungeness crab if the Fishing Zone where gear was deployed is open for commercial activity (Authorized Species, Take, and Landing Requirements, Special Condition 7). Special Condition 13 also specifies that when fishing within any area closed to commercial Dungeness crab fishing all deployed traps must be closed and unbaited. We request to allow vessels to retain and land Dungeness crab during the statutory commercial crab fishing season, including during fishing zone closures implemented under the RAMP. Additionally, we request that vessels also be allowed to retain and land incidentally caught rock crab if they hold a valid permit. When conducting EFP activities after the statutory season, all deployed traps will be closed and unbaited.
- 2) **Allow vessels to conduct testing activities in the rock crab fishery.** Under current regulations (CCR Title 14 Section 125(b)(3)), pop-up devices cannot be used or possessed in the rock crab fishery. We request to allow vessels to test pop-up gear with rock crab traps if they hold a valid permit. Vessels would use pop-up fishing systems with single traps or at one end of multi-trap trawls. Because the rock crab fishery is year-round and occurs in shallow waters (typically less than 20-30 fathoms), vessels would have the option to trial pop-up gear using hybrid trawls, with a pop-up fishing system on one end and a traditional buoy line on the other. The basis for this request is: (1) we have received interest from fishermen to test pop-up gear in the rock crab fishery due to operational/economic considerations and because the season is open year-round, (2) to allow gear to be tested across a broader range of fishing and weather conditions throughout the year, and (3) to expand the testing and use of pop-up gear in other fixed gear fisheries that pose entanglement risk to whales and other marine life.

- 3) **Allow pop-up gear testing with multi-trap trawls.** Under the issued EFP and special conditions, all gear shall be deployed as single traps, i.e., multiple traps cannot be connected by a common groundline (Gear Allowances, Specifications and Marking Requirements, Special Condition 17). We request to allow vessels to fish pop-up gear with multi-trap trawls (up to 20 traps) with a pop-up system on one end of each trawl. Vessels will have the option to deploy pop-up systems on the other end of their trawls to allow gear to be hauled from either end based on sea conditions or other operational circumstances. We anticipate vessels conducting EFP activity outside the statutory season (with no retention of crab) would use shorter trawls and only connect traps as necessary to permit safe and efficient grappling of gear should any pop-up gear failures occur.
- 4) **Increase the number of pop-up systems and traps that can be deployed.** As described in our EFP application, we proposed that vessels would trial up to 20 pop-up systems using single traps and expected no more than 50 traps would be deployed at any given time. Under the issued EFP and special conditions, a maximum of 20 traps per vessel may be deployed per trip (Gear Allowances, Specifications and Marking Requirements, Special Condition 18) and the cumulative number of traps deployed by all vessels shall not exceed 50 traps (Gear Allowances, Specifications and Marking Requirements, Special Condition 19). We request to allow vessels to deploy up to 200 traps per trip and to remove the cumulative limit on the number of traps deployed at any given time. Based on the number of pop-up systems available in the Foundation's gear cache, this would allow 10 vessels to fish up to ten 20-trap trawls with pop-up systems deployed on one end of each trawl.
- 5) **Consider backup releases as optional approaches to gear recovery.** As described in our EFP application, each pop-up system would be configured with a backup release mechanism (i.e., Resqunit reserve buoys, galvanic time releases, biodegradable twine) to allow gear to be retrieved in the event of any failures. We request that deploying gear with backup releases be optional, rather than required. For most participants, grappling provides a more practical, effective, and efficient means of recovering gear if a pop-up system fails. Vessels using pop-up gear with single traps will connect a length of line attached to a weight or anchor to provide a larger target for grappling.
- 6) **Allow additional authorized agents and vessels.** Under the issued EFP and special conditions, a maximum of five authorized agents and five vessels may participate in the EFP (Authorized Agents and Vessels, Special Condition 1). The initially issued permit listed two authorized agents and vessels, and three additional authorized agents and vessels were added through a minor amendment. We request to allow up to ten authorized agents and ten vessels to participate in the EFP. As part of this amendment, we request to add the following authorized agents and vessels to the EFP:
 - Sean Cross; [REDACTED]
[REDACTED]
- 7) **Expand the geographic area where gear may be deployed.** Under the issued EFP and special conditions, traps may only be deployed between the Sonoma/Mendocino County line (38°

46.125' N. latitude) and Lopez Point (36° 00' N. latitude) (Allowable Fishing Area and Time of Year, Special Condition 10). We request to expand the northern boundary where gear may be deployed from the Sonoma/Mendocino County line to the California/Oregon border (42° N. latitude) to allow interested vessels in fishing zones 1 and 2 to participate in the EFP.

- 8) **Allow testing of additional gear types.** Under the issued EFP, participating vessels have the option to test four pop-up fishing systems (i.e., Desert Star Systems ARC-1XD, EdgeTech 5112, Fiomarine Fiobuoy, Guardian Ropeless System). We request that the following gear types be added as options under the EFP.
- Sub Sea Sonics Timed Release Pop-up System (TR4RT) and Acoustic Release Pop-up System (AR4RT). Both will be used with the Guardian line management system and Sub Sea Sonics Trap Timer for gear location marking. Descriptions of the gear, including the Trap Timer app, are provided in [Sub Sea Sonics EFP application](#).
 - Ashored Innovations MOBI (Modular Ocean Based Instrument) and Automated Tracking and Location Aggregation System (ATLAS) for gear location marking. A summary description of the gear is provided as an attachment.
 - NOAA Fisheries-approved weak rope. Since there is a possibility that time-released buoys may be on the surface for a longer period than acoustic on-demand systems, we propose testing [NOAA Fisheries-approved fully formed weak rope](#) (1,700-pound breaking strength) on a portion of the gear during field trials to evaluate the feasibility of its use.
- 9) **Clarify marking requirements when testing Fiobuoy units.** Since the Fiobuoy units do not use buoys, it's not possible to mark the gear as specified in Special Condition 25. We propose to mark one end of the spool body with the identification letters "EC" and the operator's commercial fishing license number. The license numbers and identification letters would be at least 1.5" high.

Ashored Innovations Rope-on-Command Fishing System

Ashored Innovations develops sustainability-enabling technologies for the commercial fishing industry. The Ashored Rope-on-Command sustainable fishing system is designed to remove the vertical buoy lines from the water column. This system's capabilities are further augmented by a software package that allows users to track gear deployments and gather data. Ashored's rope-on-command fishing gear minimizes risks of catch or gear theft, ship strikes, heavy weather, and marine life entanglement.

The Ashored MOBI system is comprised of an acoustic release mechanism, a stainless-steel cage that holds the line and buoys, a deck box and transducer, and a tablet that has the ATLAS software application installed. Ashored's MOBI (Modular Ocean Based Instrument) is designed to contain a fisher's coiled rope on the ocean floor until they return to the area to collect their gear. MOBIs are activated with an acoustic release (with a passive backup timer) and can be triggered to surface by an on-vessel deck box transducer at ranges up to 1.5 nautical miles. The acoustic system is also capable of performing range, reporting under water temperature, and enforcement IDs to allow agencies to release gear.

Ashored's MOBI sustainable fishing gear has been tested and used by fishermen in Canada and the United States. It has also been successfully deployed in a zone closed to conventional fishing gear due to sightings of the North Atlantic right whale, allowing fishermen to fill their quota of snow crab before the end of the fishing season.

Figure 1. MOBI



Figure 2. MOBI with Rope Containment Unit



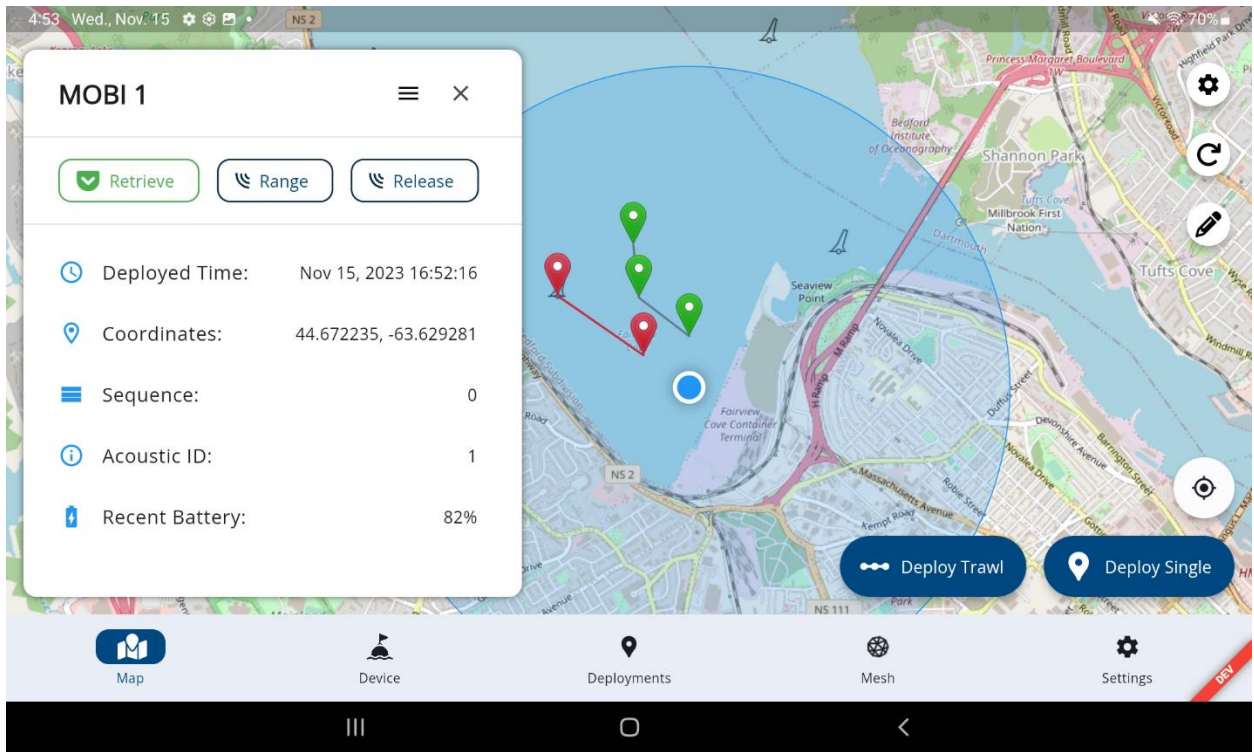
Figure 3. Deckbox



Figure 4. Transducer (Hydrophone)



Figure 5. Tablet with ATLAS Software



Release Mechanism – MOBI (Modular Ocean Based Instrument)

The MOBI (Figure 1) is the main component to the ROC system. It is responsible for communicating with the deck box and ATLAS+ software via acoustic signaling or Bluetooth functions. It is bolted to the Rope Containment Unit (Figure 2) that is attached to fishing gear by a groundline. The Rope Containment Unit is a stainless-steel cage that is used to hold the buoy and buoy line in place until the acoustic release is activated. The MOBI is depth rated to 350 meters (191 Fathoms). The release mechanism consists of a powder coated steel magnetic release key (with key float to reduce mechanical interference when releasing). The release key is placed on the key slot on the MOBI by the buckle, and the lid is held in place by the buckle. Upon receiving the release request, the MOBI engages the magnet and the flotation of the attached buoys allows the lid to surface.



The deck box acts as the on-board command center for the MOBI and ATLAS+ software. The transducing hydrophone (Figure 4) is connected to the deck box by a cable. It connects to the ATLAS+ software via Bluetooth, and together they communicate to send and receive acoustic signals from the MOBI's receiver hydrophone (Figure 7).

ATLAS+ software and tablet are used to control the deck box and transducing hydrophone to release gear, track gear deployments, range to the gear, and configure the backup release timer, and monitor gear status/battery levels. Additional environmental data such as bottom temperature can be easily

retrieved as well. It supports limitless trawl deployments, pre-configured trawls with automatic overboard detection, and the ability to anonymously display other fishermen's gear from shared databases and contribute to the databases with their own gears deployment location.