Workshop Summary
Pop-up Gear Learning Exchange Workshop

August 27th, 2025 – 10am-4pm
Lloyd Hotel (Astoria, OR) and Warrenton Marina Working Pier (Warrenton, OR)

Hosted by Oregon Department of Fish and Wildlife (ODFW)
Facilitated and workshop summary report prepared by Amanda Gladics, Oregon Sea Grant (ORSG)
With support from Oceana, Natural Resources Defense Council, and Sustainable Seas Technology

Brief Summary

ODFW, with support from partner organizations, hosted a Pop-Up Gear Learning Exchange Workshop on August 27, 2025. The workshop brought together members of the Dungeness crab industry, fishery managers, enforcement personnel, environmental organizations, and technology developers. The goal was to provide an opportunity for learning and discussion about pop-up gear technology, particularly drawing on experiences testing the gear in California fisheries.

The workshop included agency framing, technical presentations, a dockside demonstration of gear deployment and retrieval, and a facilitated discussion focused on interest in and concerns about pop-up gear testing in Oregon. Participants agreed to standard collaboration guidelines and engaged in structured dialogue throughout the day.

Experimental Pop-Up Gear Testing in Oregon

ODFW outlined its intent to establish a structured program for testing pop-up gear in Oregon. Pop-up gear was described as one potential tool to reduce whale entanglement risk in the Dungeness crab fishery. ODFW is not viewing it as a replacement for traditional gear during the primary season, but as a potential tool for providing opportunities to harvest crab in areas otherwise closed to minimize entanglement risk, while maintaining the core conservation measures of the crab fishery's draft Conservation Plan (CP), including pot limit reductions and depth closures during the spring and summer when whale abundance is higher off Oregon.

The agency emphasized the importance of testing gear performance under Oregon-specific conditions, including heavier winds, seas, and varying bottom types. Program goals include testing alternative gears in a controlled manner, creating a level playing field with clear expectations, minimizing gear conflicts, and gathering necessary information to evaluate whether full authorization may be appropriate in designated times and areas.

While alternative gear testing is currently allowed under Experimental Fishing Gear Permits (EFGPs), ODFW noted that the existing rule provides limited guidance and lacks clearly defined objectives. Applications are evaluated case-by-case, which can create inconsistency and uncertainty regarding long-term authorization. Drawing from lessons learned in California, ODFW plans to establish a more structured and transparent framework.

ODFW presented the following approach as a strawman to gather feedback, intended to be a starting point that will be revised and refined through stakeholder and advisory body input, with some elements likely requiring rulemaking:

- **Permit limits:** Five permits would be issued in the first year, renewable with conditions, with the possibility of evaluating and adjusting the number in subsequent years.
- **Selection:** If applications exceed available permits, a simple random lottery would be used.
- **Eligibility:** Applicants would need an acceptable compliance history and current commercial licenses and permits for the target species.

- **Scope:** The program would apply to all pop-up gear regardless of target species, as well as crab longline gear. Some components may apply more broadly to all EFGPs.
- **Incentives** under consideration include access to areas closed to minimize entanglement risk and partial restoration of reduced pot limits. ODFW emphasized the need to balance participation incentives with maintaining the majority of whale entanglement risk reduction already achieved.
- **Required training** would include National Marine Fisheries Service (NMFS) Level 1 disentanglement training and instruction on gear use and electronic location tracking, provided by the manufacturer or an authorized third party.
- **Enforcement measures** would include the use of an approved electronic gear tracking application accessible to enforcement personnel. A method for enforcing pot limits under pop-up configurations would need to be developed. ODFW noted that compliance monitoring may also include the ability to carry an observer at agency request. To support monitoring and compliance, participants suggested using a camera system or moving buoy tags to individual pots with any vessel subject to a random audit.
- **Operational constraints** under consideration include:
  - Minimizing overlap with traditional gear
  - Initially limiting use to areas outside 40 fathoms after May 1
  - Prohibiting use during the closed season
  - Limiting total pots, pots per string, and/or number of strings fished

Notable Questions

- Why is there a limit of five permits for the initial proposed EFP program? *The primary consideration is agency workload to ensure successful implementation, balanced against the need to test performance in a variety of areas and conditions.*
- Would a permit apply to an individual vessel or group of vessels? *Most likely, the permit would be issued to individual vessel, but details are yet to be determined.*

Points of Concern

- How to incentivize testing while maintaining conservation benefits achieved by existing entanglement risk reduction measures.
- Perceptions of fairness if participation opportunities are limited to a small number of permit holders.
- Potential gear conflicts between pop-up gear, traditional crab gear, and mobile gear such as trawl.
- Enforcement feasibility, including verification of pot limits and enforcement of closed areas.
- Need for a transparent and clearly defined pathway from testing to potential full authorization.
- Balancing structured oversight with operational practicality for fishermen participating in the program.

Introduction to Pop-Up Gear Being Tested in California

This session introduced pop-up gear technologies currently being tested in California commercial fisheries and described the supporting electronic monitoring and data systems. Kim Sawicki (Sustainable Seas Technology) presented on gear reliability and lessons learned from California testing. Early experience highlighted the importance of consistent, baseline training across gear types. In California's first year of structured testing (2024), the program reported high operational success rates, though integration among multiple tracking applications was identified as a significant challenge.

Russ Mullins (Guardian Ropeless Systems) and Bart Chadwick (Sub Sea Sonics) demonstrated their integrated acoustic release and line containment sled and described the system's operational characteristics. Their pop-up gear system consists of acoustic release devices integrated into line containment sleds, which are generally the size of a crab pot, that hold buoy and line below the surface until activated. Line containment sleds are attached by groundline to longlined strings of 15-50 crab pots, and most operators use release units on both ends of a string as redundancy in case one fails. Systems have been tested to depths between approximately 70–100 fathoms, with some models rated

for deeper deployment. Units weigh approximately 60–90 pounds, and strings may range from 8 to 50 pots. The reported release failure rate was approximately 1–2%, typically attributed to user error such as improper repacking of line in the line containment sled, with retrieval from the opposite end serving as the standard backup approach. If a pop-up unit is used on only one end and it fails, then grappling is used.

Cost estimates range from approximately $1,300–$1,500 per release unit, plus approximately $1,700 for a deck box/transducer system. Estimated per-pot costs were described as approximately $100 or less depending on how many pots per longline set are used. The cost per-pot decreases as the number of pots on the longline increases. The system relies primarily on cellular connectivity, with location data retained when coverage lapses. A public-facing portal allows users to view gear locations within a 3–5 nautical mile watch radius to reduce gear conflicts. The watch radius is a setting that can be changed by administrators (not users) based on management needs.

Caren Braby (Pacific States Marine Fisheries Commission; PSMFC) described the PSMFC's ongoing role working to resolve interstate issues, including supporting Tri-State Dungeness crab management across Washington, Oregon, and California. PSMFC is supporting states through efforts to advance electronic monitoring (GPS, eTickets, eLogs) and develop GIS dashboards for managers and enforcement. An enforcement portal is under development to integrate vessel location, gear location, and set/haul activity across multiple vendors, recognizing that each manufacturer currently operates its own data system. The goal is to provide managers and enforcement with consistent compliance tools across gear types.

Participants discussed both potential benefits and operational challenges, particularly as they relate to Oregon's regulatory framework and fleet structure.

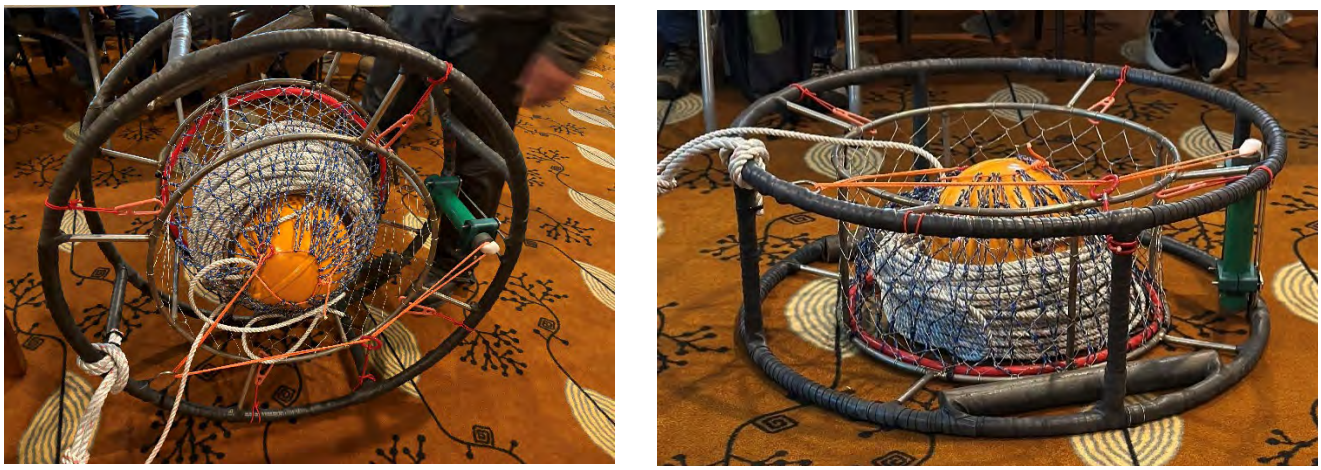
Notable Questions

- What is the public portal visibility radius? *3-5 nm, can be adjusted by administrators (not users).*
- What are the full costs? *It depends on the gear configuration and how many line containment sleds are needed, which in turn depends on the number of longlined strings to be fished. Costs are $1300-1500 per line containment sled, and $1,700 for a single deck box/transducer system, of which only one is needed per vessel.*
- How reliable are release systems? Details available in this report: https://www.subseasonics.com/_files/ugd/edbdaf_8f1fc979b457415d9fcafb30639a3e67.pdf
- How would this align with Oregon's current prohibition on longlining crab pots? *Longlining would be allowed within the experimental fishing gear program, potentially with or without pop-up sleds.*
- How would line marking apply to pop-up gear? *Not yet determined.*
- Has this gear been tested in Oregon-like ocean conditions? *Not yet.*

Points of Concern

- Regulatory compatibility
- Reliability, gear recovery, and derelict gear
- Small vessel viability
- Gear crowding in high-density ports and popular fishing grounds
- Economic barriers to purchase and maintain
- Data confidentiality vs enforcement transparency

Reference Photos



The Guardian Ropeless system line containment sled, using a crab pot frame, shown tipped vertically (left) and how it would be deployed to the seafloor (right).

Subsea Sonics PUPfish acoustic release transducer.

Pop-Up Gear Demonstration & Hands-On Learning

At the Warrenton Marina, participants observed and interacted with pop-up gear during a live dockside demonstration. Russ Mullins and Bart Chadwick demonstrated deployment, release activation, and virtual gear marking. Participants were able to examine the line containment sleds, release mechanisms, and deck box/transducer systems and ask practical questions about handling, retrieval, and integration with vessel operations.

Brand Little and Richard Axelson, California commercial crabbers who have participated in pop-up gear testing, shared their firsthand experience using the gear in California fisheries. They portrayed an overall positive experience, stating that their crews preferred using pop-up gear over traditional crab pots and that they had been able to operate profitably. They noted that the gear had proven reliable in their operations and that they had not experienced significant gear loss. They also pointed out several additional benefits including that line length doesn't have to be adjusted when moving to different depths since it's all contained in the sled, and that the application makes it easy to identify open areas to set gear since you can see deployed gear before you get there (from ~5 miles out).

At the same time, they acknowledged the controversy surrounding pop-up gear and shared that they had been subject to personal criticism and community pressure for participating in testing. They expressed that based on their experience in California, they anticipated continued pressure for more restrictions in Oregon to address the entanglement issue and that pop-up gear is one option that would allow the fleet to keep crabbing.

Discussion during the demonstration focused on operational logistics, including rope configuration, use of toggles versus carabiners to attach pots to the longline, neutral or sinking groundlines, string length (including up to 50-pot longlines), gear handling on deck, and crew capacity. Participants discussed whether the same pots could be used, weight considerations, line coilers, and hauling practices. Little and Axelson reported that there was no need to replace current crab pots, but that fishermen could optionally change to lighter pots because there is less concern about pots getting moved by currents/wave action. Demonstrators emphasized that configuration and line management are critical

to minimizing entanglement risk.

The demonstration provided participants with a tangible opportunity to evaluate gear size, weight, handling demands, and potential integration into existing vessel operations.

Notable Questions

- Can the same pots be used? *Yes, but some vessels have opted to switch to lighter pots.*
- How much rope is saved? *Generally, the same amount of rope is needed, just configured differently.*
- Are neutral groundlines recommended? *Neutral or sinking, depending on fishing grounds.*
- How are long strings managed safely? *It depends on the vessel and associated vessel stability concerns.*
- Do vessels need line coilers? *No, but they do help with line management.*

Points of Concern

- Cultural resistance to longlining
- Small vessel safety and weather exposure
- Crew workload and deck space
- Upfront investment risk

Reference Photos

Russ Mullins and Bart Chadwick demonstrate deployment, release activation, and virtual gear marking at the City of Warrenton Marina Commercial Docks while workshop participants observe from the working pier.

Discussion About Pop-Up Gear: Interest, Concerns & Research Needs

During the facilitated discussion, participants reflected on what they had learned and identified remaining questions about pop-up gear testing in Oregon. Several participants expressed seeing a potential place for pop-up gear in certain applications, but that it may not be suitable across all conditions, ports, or vessel types. There was broad recognition that integration with electronic monitoring and logbook systems would be necessary to avoid requiring fishermen to use multiple tracking devices or applications.

Participants emphasized that economic feasibility will be central to participation. Upfront costs remain a concern, particularly given uncertain late-season prices and questions about whether access outside 40 fathoms would be a meaningful incentive. Some participants suggested that, in California, the program was viable in part because it "penciled out" economically and was supported by outside funding. Ideas such as gear libraries, financial incentives, or buyback options were discussed as ways to reduce individual vessel risk.

There was also significant discussion around fairness and equity. Some fishermen questioned limiting

participation to five permits and expressed concern that a small testing group could create animosity or perceptions of a privileged class. Suggestions included distributing permits proportionally by port, expanding the number of permits, or ensuring testing occurs across seasons and vessel sizes.

Conservation group participants raised concerns about additional groundline on the seafloor and whether longline configurations could increase the severity of entanglements, particularly for gray whales engaged in benthic feeding. Others questioned whether pop-up gear testing and additional gear innovation is necessary given the fishery's current whale entanglement record.

Enforcement representatives emphasized the need for transparency and real-time visibility of gear deployment. They noted that any workable system must allow enforcement to see all deployed gear and verify compliance. Concerns were raised about liability when hauling valuable gear for inspection and about balancing transparency with confidentiality of fishing locations.

Overall, participants emphasized that if pop-up gear testing moves forward, the program must ensure fairness, economic viability, enforceability, and regional distribution to adequately capture Oregon's diverse fishing conditions.

Notable Questions without clear answers at this time

- Are the proposed late-season access outside 40 fathoms and pot limit restoration sufficient incentives to drive fleet participation in gear testing?
- How do we support fishermen who take on testing risk?
- Should fishermen be allowed to run conventional and pop-up gear simultaneously?
- How will line marking requirements apply to pop-up configurations?

Points of Concern

- Fairness and avoidance of a privileged testing class
- Cultural resistance to longlining practices
- Economic viability and investment risk
- Potential for increased groundline and severity of entanglements
- Enforcement transparency vs. confidentiality of fishing locations
- Limited permits potentially increasing animosity
- Late-season incentives may not align with fleet behavior

Appendices:

Appendix 1. Learning Exchange Presenters and Participants

Appendix 2. Combined slides from all presenters at the workshop

Slides 1-9, Amanda Gladics, ORSG
Slides 10-14, Troy Buell, ODFW
Slides 15-19, Caren Braby, PSMFC
Slides 20-25, Kim Sawicki, Sustainable Seas Technology
Slides 26-36, Russ Mullins & Bart Chadwick, Guardian Ropeless & Subsea Sonics

Learning Exchange Presenters and Participants

Note: Not all attendees registered or signed in, so participants list may not be complete. Please let us know if you see any inaccuracies in the attendance list

First	Last	Affiliation	Home Port
Richard	Axelson	FV Lady Renee	Morro Bay
Tyler	Betnar	FV Trash Dog	Newport
Cari	Brandberg	Chelsea Rose Seafoods	Newport
Cody	Chase	FV Monde Uni	Newport
Justin	D'Acquisto	FV Carlyon Ruth	Charleston
Robert	Eder	FV Timmy Boy	Newport
Adrienne	Jones	FV Quinault Star & FV Ella Jane	Westport
Richard	Lilienthal	FV Nel Ron Dic	Coos Bay
Brand	Little	FV Pale Horse	San Francisco
Jerremy	McGinness	FV Cheryl M	Charleston
Michael	Giles	FV Dauntless	Newport
Jeff	Mulkey	FV Pearl J	Winchester Bay
Jorgen	Mulkey		Winchester Bay
Joe	Mulkey	FV Pacific Challenger	Winchester Bay
Wilson	Thompson	FV Fantasy	Port Orford
Crystal	Adams	ODCC	
Justin	Ainsworth	ODFW	
Leif	Benson	ODCC / Culinary Ambassador	
Christopher	Biggs	WDFW	
Christine	Brandtner	Fish and Wildlife Trooper	
Caren	Braby	PSMFC	
Troy	Buell	ODFW	
Bart	Chadwick	Subsea Sonics	
Ryan	Cross	OSP	
Kelly	Corbett	Crab fishery manager	
Todd	Dielman	WDFW Police	
Ben	Enticknap	Oceana	
Tiea	Gaudren	USCG, Commercial fishing vessel examiner	
Chris	German	USCG	
Amanda	Gladics	OSU/Oregon Sea Grant	
Brittany	Harrington	ODFW	
Bill	Haug		
Megan	Hintz	WDFW	
Ryan	Keeler	Oregon State Police Fish & Wildlife	
Francine	Kershaw	NRDC	
Greg	Matthews	Marine Supply	
Russ	Mullins	Guardian Ropeless	
Jen	Melo	OSU	
Natasha	Novikova	ForSea Solutions	
Madeline	Ostrander	Science Writer, https://madelineostrander.com/	
Rachel	Plautz	Oregon Dungeness Crab Commission	
Mike	Rudolph	USCG, Fishing Vessel Safety	
Kim	Sawicki	Sustainable Seas Technology	
Geoff	Shester	Oceana	
Jill	Smith	ODFW	
Brian	Symonds	OSP	

OREGON POP-UP GEAR LEARNING EXCHANGE

An opportunity for learning and discussion for the Oregon crab industry, fisheries managers, and enforcement partners

Hosted by Oregon Department of Fish & Wildlife,
With support from Oregon Sea Grant, Oceana, Natural Resources Defense Council, and Sustainable Seas Technology

Housekeeping

- Name tags &sign in
- Snacks, Restrooms
- Outline for the day
  - Morning Sessions
  - Lunch
  - Carpool to Warrenton Marina
  - Pop-up Gear Demo
  - Discussion

Meeting Agreements

- Listen to understand and ask questions.
- Focus on meeting goal and share your expertise.
- Respect different viewpoints. Speak honestly and disagree without being disagreeable.
- Share the airtime. Everyone participate, no one dominate. One speaker at a time.

Introductions

- Name
- Affiliation/Fishing Vessel
- Location/Homeport

Sea Grant OREGON

Oregon State University

Written Input

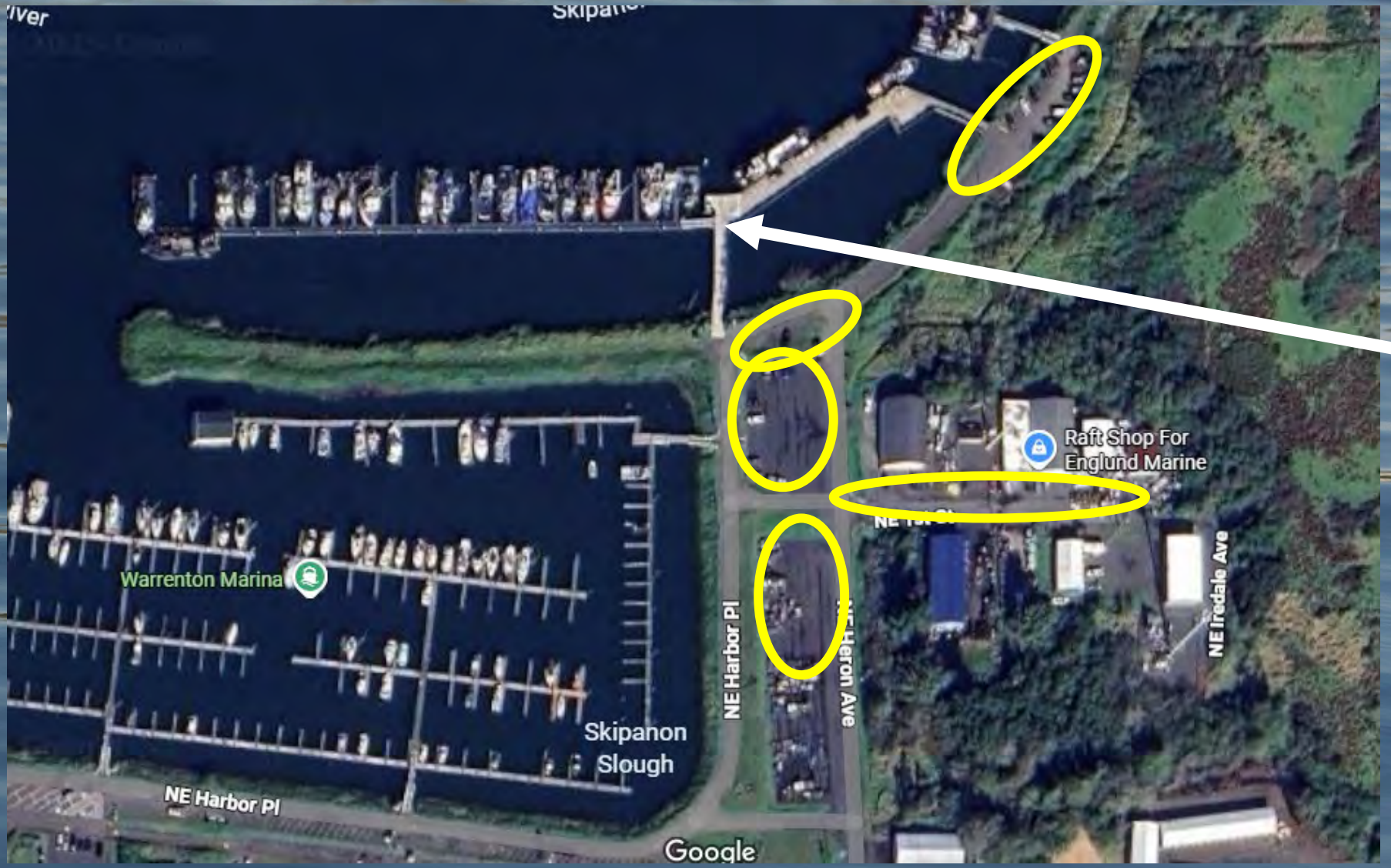
- Paper forms or electronic
- https://beav.es/PopUp_Input


Learning Exchange
Goals

Warrenton Marina

- Please Carpool, Parking is Limited
- Meet at Working Pier, Demo on E Dock
- Water, coffee, cookies available at Working Pier
- Bathrooms are available at Marina office

Warrenton Marina



Meet here

Written Input

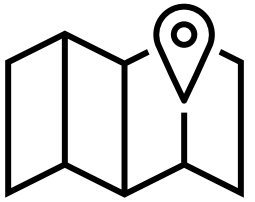
- Paper forms or electronic
- https://beav.es/PopUp_Input

ODFW Experimental Fishing Gear Permit Program

August 27, 2025

Roadmap

Goals



- Test alternative gears off Oregon in a controlled manner
- Provide a level playing field and set expectations
- Minimize gear conflicts
- Gather information to evaluate full authorization in designated times and areas

Proposed scope

- All pop-up gear regardless of target species
- Crab longline gear
- Some components such as eligibility criteria may apply to all EFGPs

Refine strawman (fall/winter 2025) → Public and advisor input (spring 2026) → Rulemaking (summer 2026) → Develop systems (fall 2026) → Application and selection (winter 2026) → Issue permits (spring 2027)

Pop-up gear strawman

Incentives

- Access areas that are closed to minimize entanglement risk
- Partial restoration of reduced pot limits

Limited number of permits

- Five in first year, renewable with conditions
- Evaluate and potentially increase each following year

Eligibility

- Acceptable compliance history
- Current commercial licenses and permits for target species

Selection

- Simple random lottery if more applicants than permits

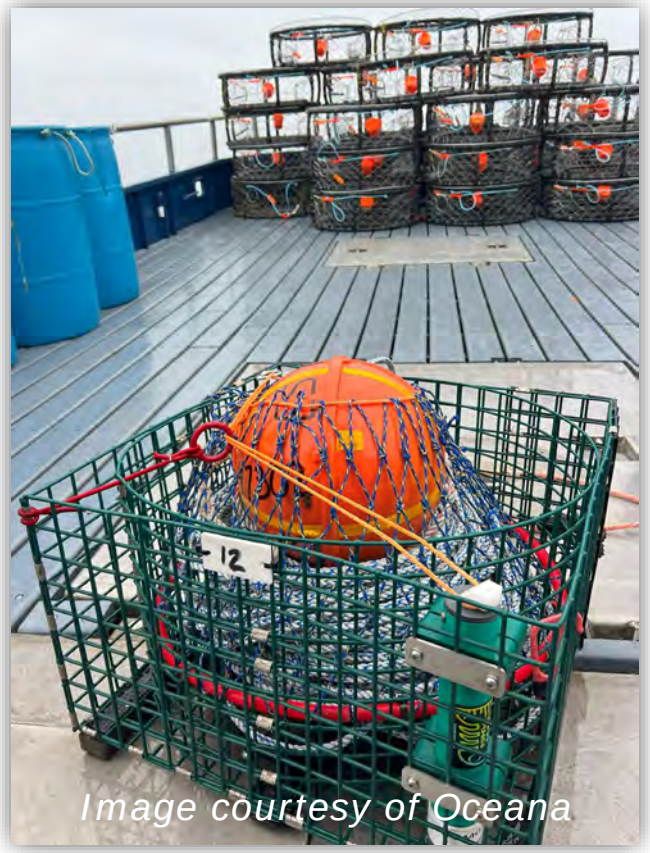


Image courtesy of Oceana

Pop-up gear strawman

Required Training

- NMFS level 1 disentanglement training
- Gear use and location tracking, from manufacturer or authorized third party

Enforcement

- Must use approved electronic gear tracking app, accessible to enforcement
- Need to develop method for enforcing pot limits

Other constraints

- Minimize overlap with traditional gear; initially only outside 40 fm after May 1
- Prohibit during closed season
- Limit total pots, pots per string, and/or number of strings fished
- Ability to carry observer at ODFW request

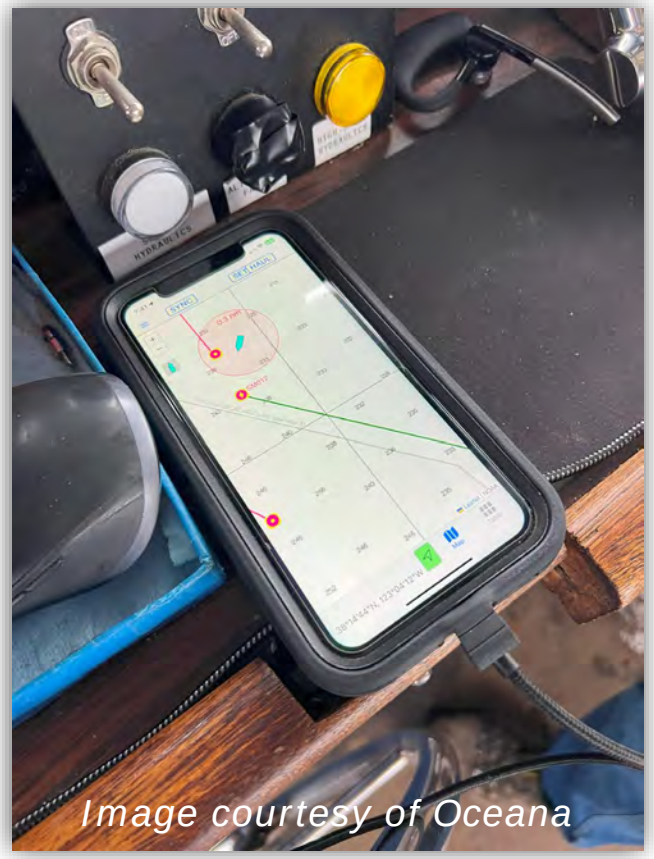


Image courtesy of Oceana

Thank you!

Oregon Department of Fish and Wildlife

Marine Resources Program

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Contact us!

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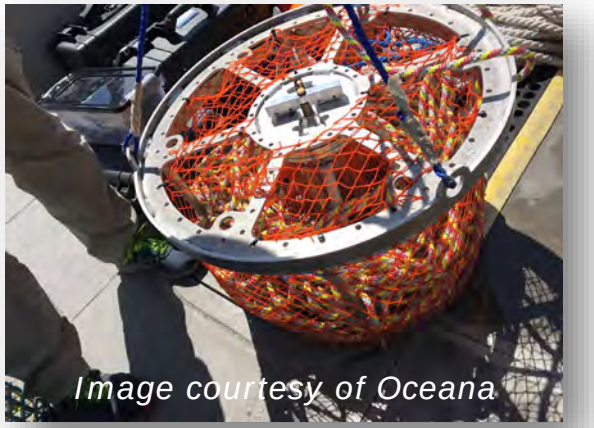
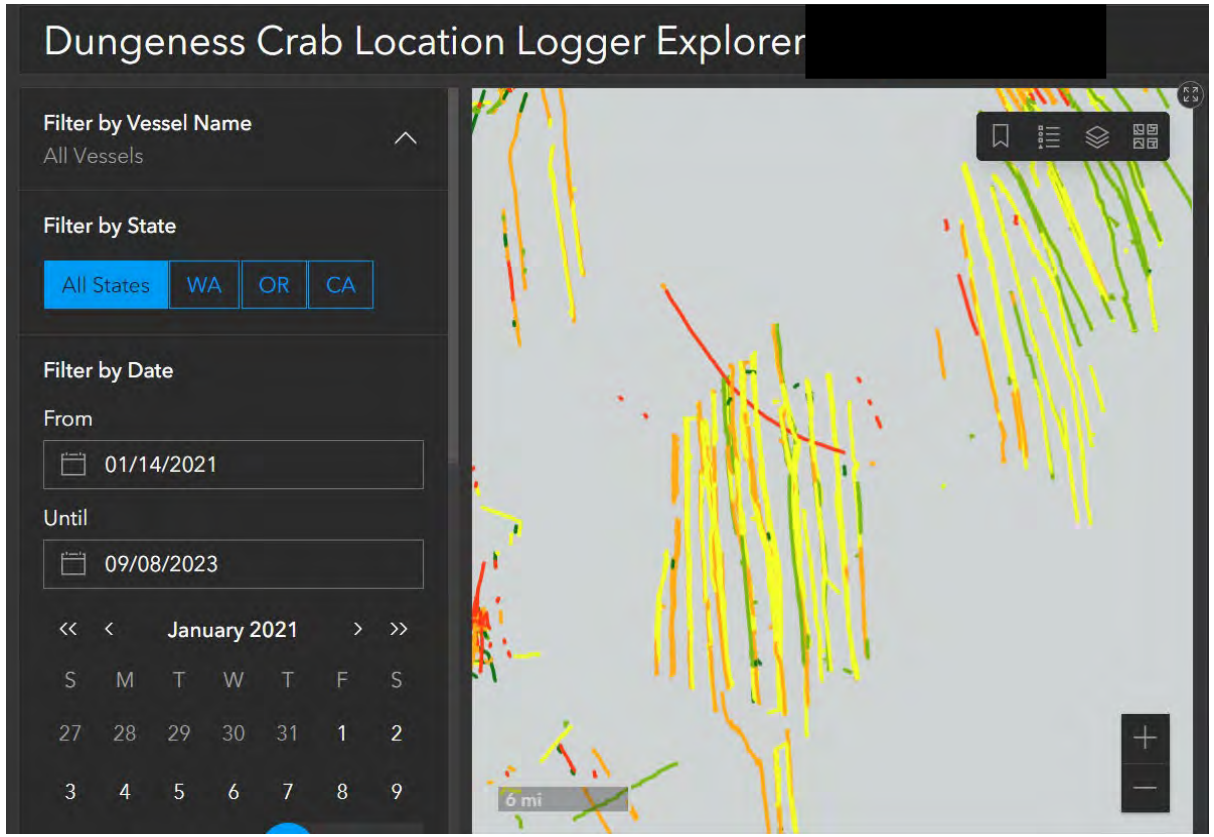


Pacific States Marine Fisheries Commission
On-Demand Gear Data Portal

Barry Thom
Executive Director

Caren Braby
Senior Program Manager



On-Demand Gear Workshop, Astoria OR
August 27, 2025

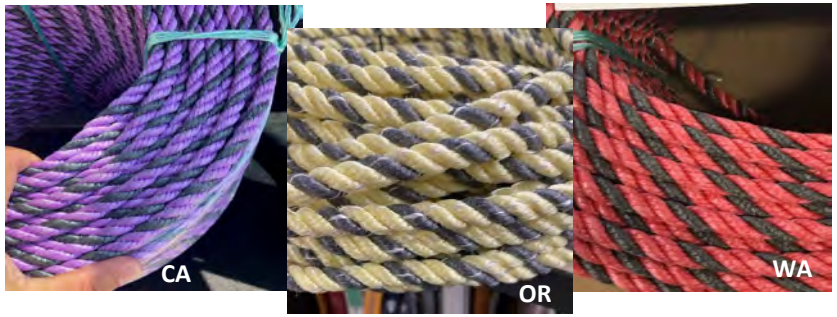
PSMFC

- **Interstate compact agency authorized in 1947 by consent of USA Congress**
- **Goals**
  - Effective fishery policy development
  - State and federal partnerships to help carry out fisheries mandates
  - Fiscal administration
  - Collaborative data, research, monitoring
- **No regulatory or management authority**

PSMFC and Crab

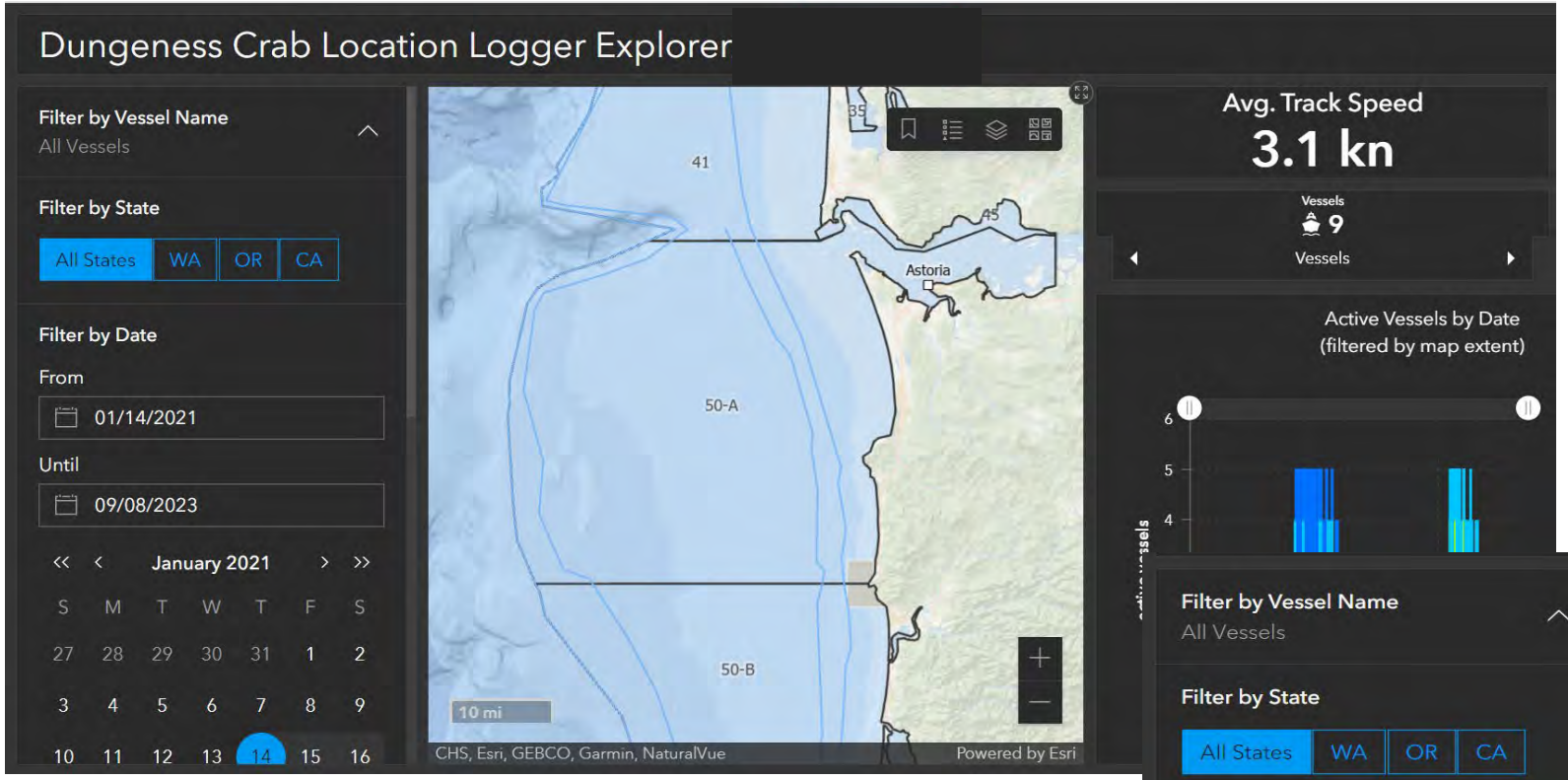
Ongoing focus from PSMFC on Dungeness crab

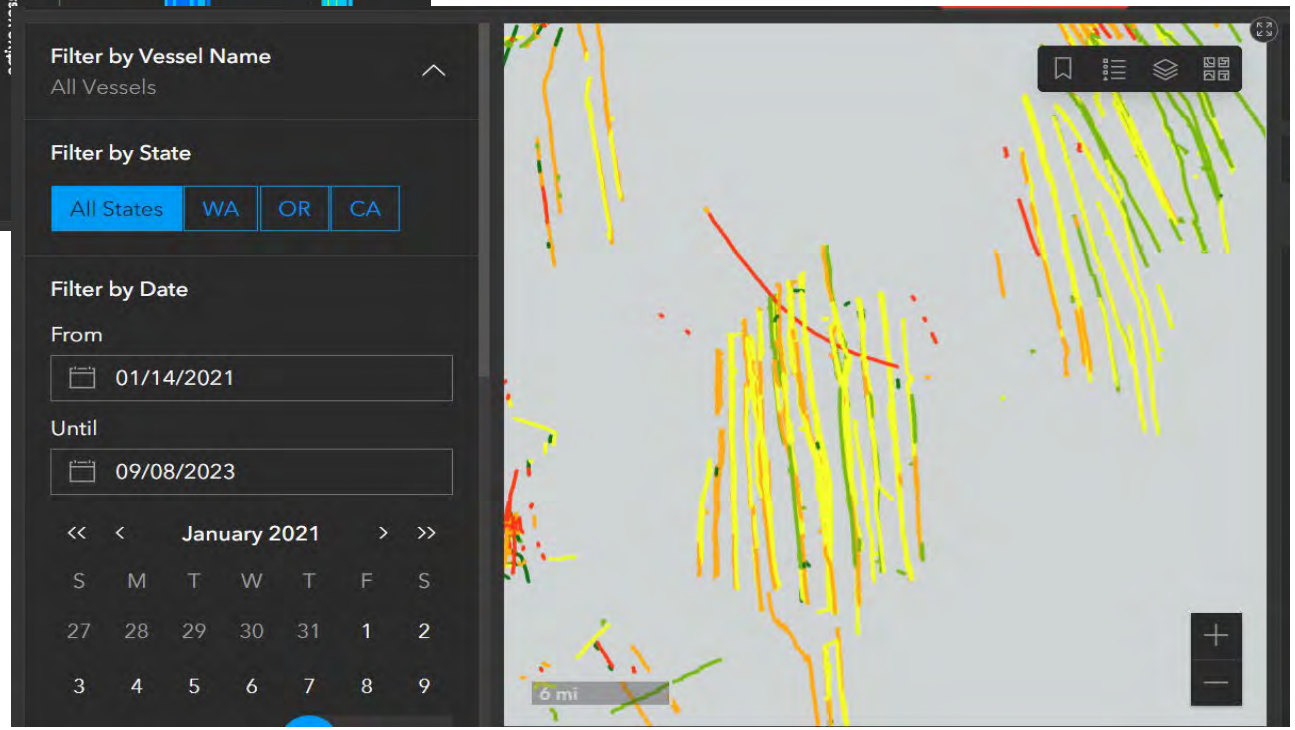
- Backbone of WC fisheries
- PSMFC has played organizing role for Tri-State for decades
- All 3 states working to reduce whale entanglements
- PSMFC is supporting states' needs:
  - Electronic monitoring & reporting (GPS on boats, eTix, eLogs)
  - Data portals for managers to access vessel and on-demand gear information
  - Line marking
  - Seeking funding from Congress
  - Participating in the upcoming TRT



"SeaTracks"

PSMFC Vessel Activity Dashboard



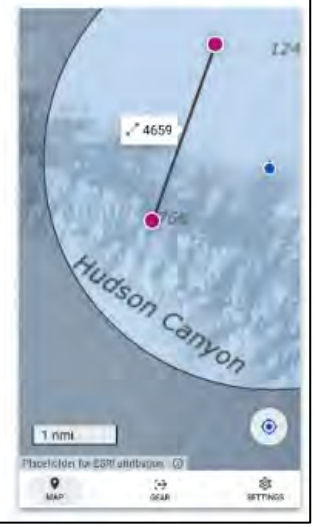


Pacific States Marine Fisheries Commission
ALASKA · CALIFORNIA · HAWAII
IDAHO · OREGON · WASHINGTON

On-Demand Gear – New Challenges

- **Many vendors making gear**
  - Each has own communications and data viewer – for their own gear
- **Managers/enforcement need to verify compliance with regs for all vendors**
  - Set/Haul
  - Gear Location
  - Gear Owner
- **Public portal is now available – 5 mi watch circle**
  - Avoid gear conflict, loss of pots
- **PSMFC building enforcement portal**
  - Bigger geography
  - Shore-based desktop computers
  - Integrated with vessel location

- **Mobile App**
  - Free to Use
  - No Login Required
  - View Gear within 5 Nautical Miles
  - Map Zoom In/Out
  - View Anonymous Gear Details
  - User Settings
- **Cloud Platform**
  - APIs for Easy Integration
  - 6 Current Manufacturers
  - rmwHub Integration
  - ~15 Manufacturers Total
  - Chart Plotter (TimeZero) Integration

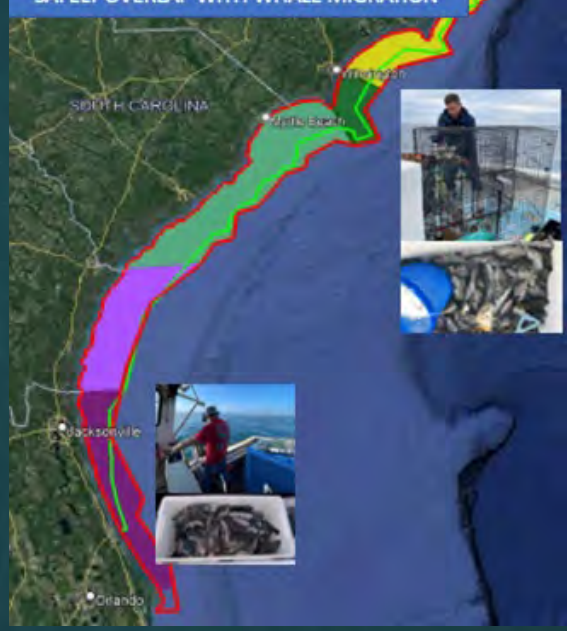


Courtesy Earth Ranger, Buoy app


TRADITIONAL POT FISHING SYSTEMS
ON DEMAND FISHING SYSTEMS

South Atlantic black sea bass fishery approves ropeless gear intended to protect right whales

Erin Spampinato published in Environment & Sustainability



September 17, 2023

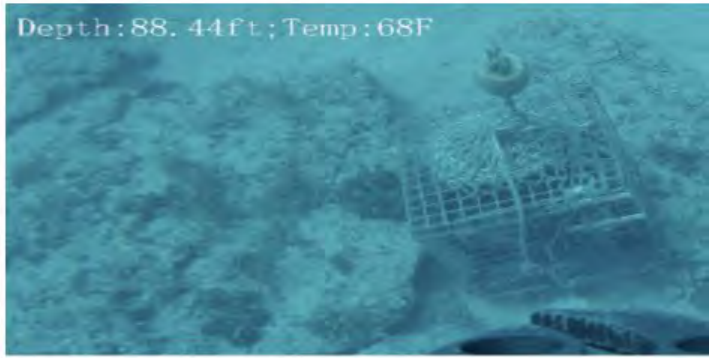
South Atlantic council opens door to 'ropeless' fish trap gear

by NF Staff in Gulf & South Atlantic, Mid-Atlantic, News

SHARE

Credit: Jen Jakush Florida Fish and Wildlife Conservation Commission, NOAA Permit

Working directly with fishers is the only way to ensure gear will be safe and effective for their needs.


Depth:88.44ft;Temp:68F

East Coast Helps West Coast

WHALE SAFE CRAB

SUCCESSFUL TESTING SHOWS POP-UP GEAR IS PROFITABLE, RELIABLE AND SUSTAINABLE

In spring 2024, pop-up fishing gear trials* were conducted in the California commercial Dungeness crab fishery. These trials occurred in areas that were closed to conventional Dungeness crab fishing gear due to risk of entangling endangered whales and therefore at a time when crab fishermen otherwise would not have been able to make money. This is the largest scale and most successful demonstration of pop-up fishing gear ever conducted on the U.S. West Coast, and one of the largest gear trials completed in the world. Here are some of the highlights.

98% RELIABILITY RATE

277 TRIPS

2,361 GEAR DEPLOYMENTS

23,048 TRAPS

292,000 lbs. HARVESTED

WORTH **$1.5** MILLION

*Testing conducted using gear and training from *Sub Sea Sonics*, *Guardian Ropeless Systems* and *Sustainable Seas Technology* under EFPT2-001

Dungeness

NOAA MMHSRP Permit #24359

ALTERNATIVE GEAR FOR COMMERCIAL CRAB FISHERIES

Highly Reliable On-demand Pop-up Systems For Diverse Fisheries
At An Affordable Price

SUB SEA SONICS
GUARDIAN ROPELESS SYSTEMS

Sub Sea Sonics AR4RT+ Acoustic Release

- Two-way communication with ranging
- Over one year battery life
- Deep water model for depths over 100 fathoms
- High “first try” activation reliability
- Batteries are easy to swap
- Thru-hull transducer option


Guardian Ropeless Inshore Sled
Sub Sea Sonics Release
2015/01/04 00:21:38

California Fully Ropeless Commercial Fishery 2025

WHALE SAFE CRAB - *2025 TRIALS*

SUCCESSFUL TESTING SHOWS POP-UP GEAR IS READY FOR SPRINGTIME APPROVAL

In spring 2025, California commercial Dungeness crab fishermen conducted the third consecutive year of pop-up fishing gear trials of gear designed and built by Sub Sea Sonics and Guardian Ropeless Systems. These trials occurred in areas that were closed to conventional Dungeness crab fishing gear due to the risk of entangling threatened and endangered whales and therefore at a time when crab fishermen would otherwise not have been able to fish. This year, the California Fish and Game Commission approved fishermen to use their full allotment of traps and connect up to 50 traps per string. Consistent with previous years, this is the most successful demonstration of pop-up gear on the U.S. West Coast, and one of the largest trials in the world. These results support the authorization of pop-up gear in the spring off the California Coast. Here are some highlights.

- **98%** RELIABILITY RATE
- **123** TRIPS
- **1,153** GEAR DEPLOYMENTS
- **25,721** TRAPS SET
- **218,000 lbs.** HARVESTED
- WORTH **$1.4** MILLION

*Testing conducted using gear and training from *Sub Sea Sonics*, *Guardian Ropeless Systems* and *Sustainable Seas Technology* under EFPT2-001

Stephen Melz is with **David Lowe** and **Mike Cooley**.

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And with that season number two comes to an end. The pop ups worked and every trap that we set we brought home! The whole test is a complete success, crabbing in the spring again in front of home, no dirty buoys to clean and you never go to the wrong end of the string and not to mention the better price that is paid for the crabs.

You and 27 others

4 comments

Sub Sea Sonics California EFP 2025

- 222 Guardians Deployed with SSS releases
- ~4000 Traps Fishing
- Gear entirely paid for by Fishers

2025 EFP Rules

- Fishers allowed full gear compliment (175 to 500 traps)
- Up to 50 trap strings
- Up to 20 traps, one end marked
- Over 20 traps, both ends have a Guardian

Concern 1 - “Pop-up gear is unreliable”

NOAA New England Fishery Science Center - 2024

Guardian Sled – 1027 Hauls – **>94% Success**

California Trawl EFP-2024

Guardian Sled – 2361 Hauls - **>98% Success**

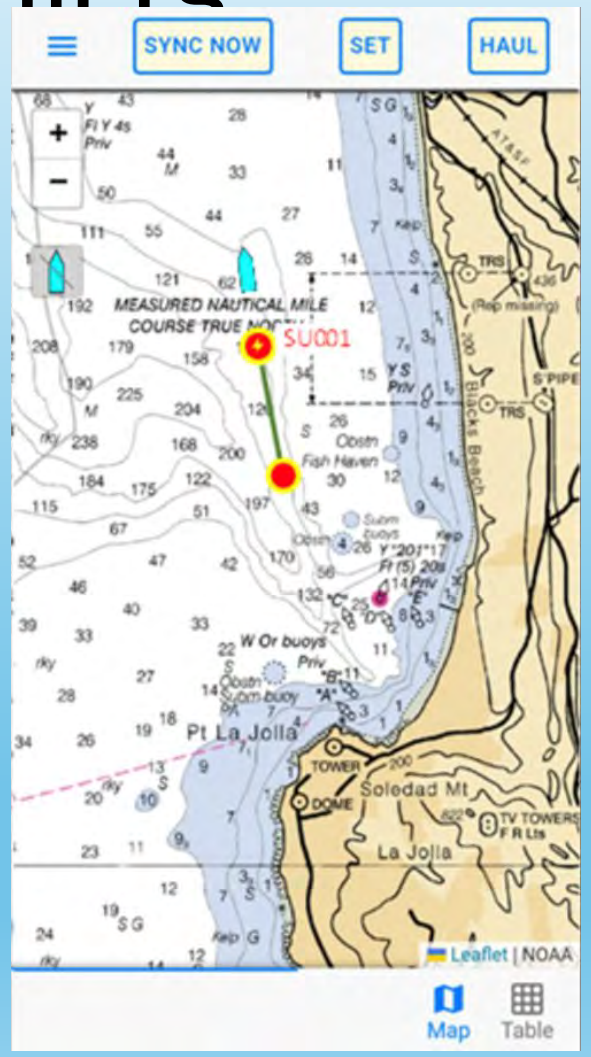
National Marine Sanctuary Foundation

Guardian Retrofit – 140 hauls - **>99% Success**

Industry Leading Reliability

Concern 2 – “There will be too many lay-overs and mobile gear conflicts”

- Sub Sea Sonics’ products come with the “Trap Timer” app for undersea gear marking, retrieval and gear conflict avoidance and resolution.
- Trap Timer is linked to Earthranger for multi-manufacturer interoperability
- Trap Timer is free – no subscription required
- Mobile Gear and Enforcement versions are available



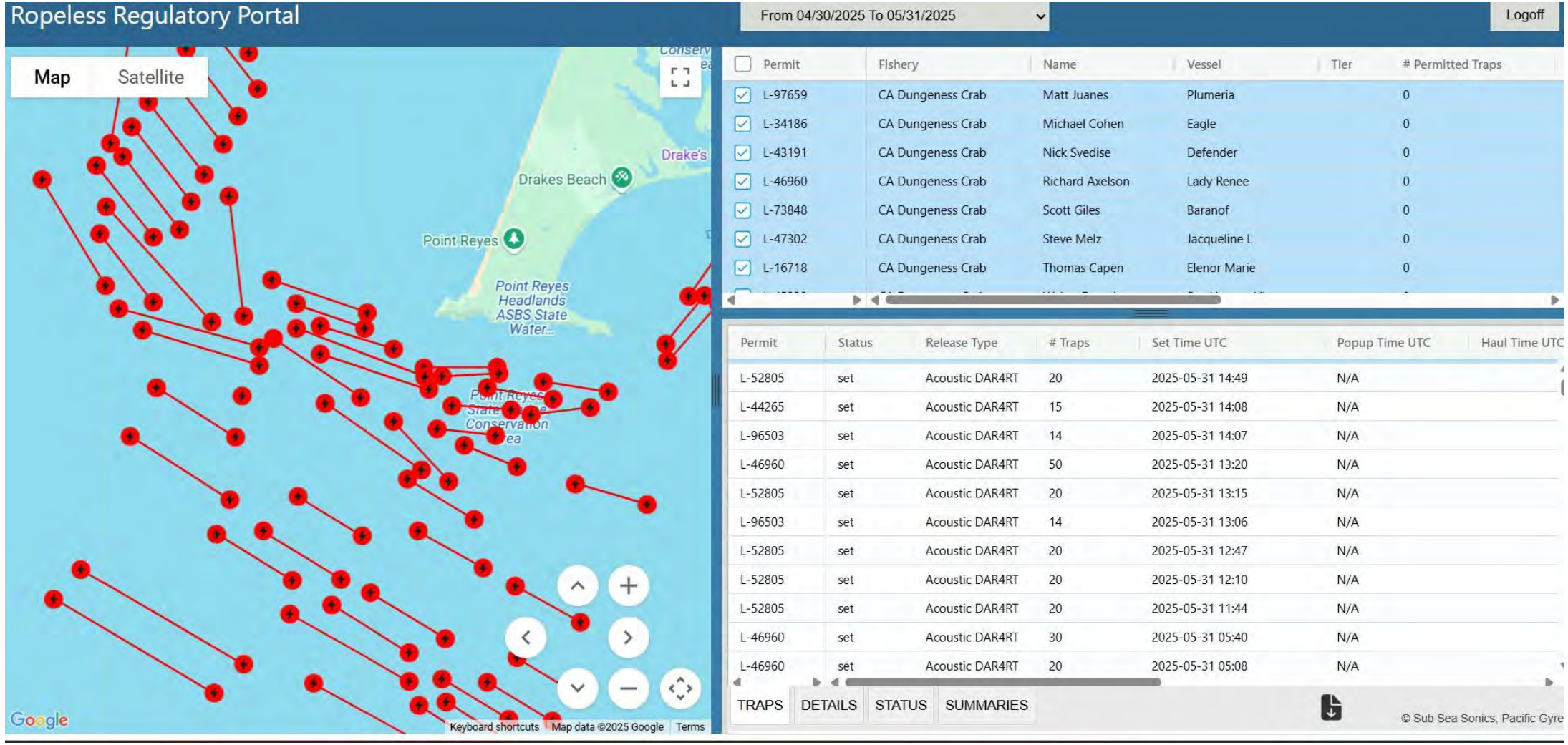
Concern 3 – “The gear costs to much”

Perhaps not….

- Guardian / Sub Sea Sonics Pop-up Gear Costs a Fraction of Other Solutions

- Guardian Sled - Square- **~$1250** (Typical config.)
- Guardian Sled - Round - **~$1380**
- Sub Sea Sonics Deck Box w/ Transducer - **~$2000**

Sub Sea Sonics Regulator Application




38.5
38.4
38.3
38.2
38.1
38
37.9
37.8
37.7
37.6
37.5
-123.2
-123.1
-123
-122.9
-122.8
-122.7
-122.6
-122.5
-122.4
Days Since March 30, 2025:

FOR MORE INFO, CHECK OUT

WWW.GUARDIANROPELESS.COM
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