

Committee Staff Summary for November 6-7, 2024 MRC

8. Experimental Fishing Permit (EFP) Program**Today's Item****Information** **Action**

Receive Department update on the box crab EFP research project and broader EFP program, including other EFPs testing pop-up gear.

- (A) Box crab exploratory fishing research project
- (B) EFP program overview, including pop-up gear testing

Summary of Previous/Future Actions**A. Box Crab Exploratory Fishing EFP Research Project**

- Commission approved requests for box crab experimental gear permits (EGPs) for cooperative research and exploratory fishing under the authority of a law that has been repealed December 12-13, 2018
- Under the authority of a replacement statute, the Commission adopted EFP Program Phase 1 regulations to allow for issuing EFPs to fishermen who were issued EGPs in the box crab EGP research project October 9-10, 2019
- Commission approved EFPs to continue the brown box crab research project 2020-2022
- Commission referred to MRC an update on the brown box crab EFP research project February 2022
- Commission received and approved MRC recommendation related to a new EFP with a modified purpose and goals April 2022
- Commission approved EFP application #2023-01 for exploratory fishing for brown box crab with pop-up gear in southern California June 14-15, 2023
- Commission denied EFP application #2024-01 for the time being, and requested an update on the status of the box crab EFP research project at November 2024 MRC meeting June 19-20, 2024; FGC
- **Today receive an overview of the history and status of the box crab EFP research project** **November 6-7, 2024; MRC**

B. EFP Program Overview, Including Pop-up Gear testing

- Commission adopted EFP Phase 2 regulations to formally establish EFP Program December 15-16, 2021
- New EFP program in effect April 1, 2022
- Commission approved three EFPs to test pop-up gears in the Dungeness crab fishery 2023-2024
- **Today receive an overview and discuss the EFP program, and pop-up gear testing** **November 6-7, 2024; MRC**

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Background

The Commission and Department jointly administer the EFP Program, authorized by the California Fisheries Innovation Act of 2018 (California Fish and Game Code Section 1022) and established through Commission regulations adopted in December 2021. The program fosters innovation and experimentation in California's commercial and recreational marine fisheries through limited-term exemptions from fishing laws and regulations. For additional information, see the Department's EFP Program webpage: <https://wildlife.ca.gov/Conservation/Marine/EFP>.

A. Box Crab Exploratory Fishing Research Project

The Commission has supported exploratory fishing for brown box crab, a deep water species, since late 2017, when the Department began developing a collaborative research project with California Sea Grant, commercial partners, and other stakeholders to study brown box crab through Commission-approved experimental gear permits (EGP). EGPs were to be issued to commercial trap fishermen that desired to target and market brown box crab and were willing to meet conditions necessary for the project. The collaborative research project was designed to support emerging fisheries, as mandated by the Marine Life Management Act, by providing the necessary information to determine if the box crab resource represents a viable new fishing opportunity. In December 2018, the Commission approved eight EGPs to participate in the collaborative research program using traditional commercial trap gear. The research continued from 2019 to 2023 under new EFPs authorized through provisions of the California Fisheries Innovation Act of 2018.

The research program's primary objectives were to gather essential fishery information for brown box crab and California king crab and to evaluate potential for and design of a commercial box crab fishery. The program included exploratory fishing, a tag-recapture study, and life history studies for brown box crab in southern California and, originally, in northern California (the northern participants dropped out of the project). While there was a growing market and increasing interest from the fishing community to participate, after four years of collaborative research the Department indicated it needed more information to be able to make a final recommendation on whether a sustainable commercial fishery could be established and what would be the necessary management measures and regulations. The Commission referred the topic to MRC for discussion.

MRC Review of Box Crab EFP Research Project

In Mach 2022, MRC received a Department update on box crab EFP research activities and discussed potential pathways for pursuing next steps in reviewing a potential targeted fishery. MRC expressed support for a new EFP with modified purpose and goals. Specifically, MRC recommended, and the Commission approved in April 2022:

- Support developing a new experimental fishing permit to continue researching brown box crab and California king crab with revised research goals related to filling information gaps and giving attention to whale entanglement issues, as recommended by the Department; and
- support prioritizing current/prior box crab experimental fishing permit participants to participate in the new experimental fishing permit.

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Sustainable Seas Technology EFP (#2023-01) for Southern California

Following conclusion of the collaborative research project and the Commission's stated support for a new EFP with a modified purpose and goals, the Commission received an application for a Tier 4 EFP from Sustainable Seas Technology (Commission ID #2023-01). The application stated an intent to build upon the original research project with revised goals; the Commission approved the EFP in June 2023. The EFP focuses on gathering additional biological and fishery data on brown box crab and California king crab in southern California (south of Point Conception); and testing pop-up gear for effectiveness in this deep-water fishery.

The Sustainable Seas EFP was issued in January 2024 and has experienced high turnover in authorized agents and vessels; only two authorized agents are conducting exploratory fishing. In October 2024, participants cited short gear service intervals as a core reason for the turnover; the Commission approved a major amendment to extend the service interval from four days (96 hours) to seven days (168 hours).

2024 EFP Application for Northern California

In 2024, an EFP application (#2024-01) was submitted to expand exploratory fishing for brown box crab and California king crab north of Point Conception (between Pigeon Point, San Mateo County, and the Sonoma/Mendocino county line). The application aimed to build on the research in southern California, and explore filling markets with alternative crab species during Dungeness crab season delays or closures.

The Department recommended to deny the application for now, prioritizing the completion and evaluation of existing EFPs focused on similar gear testing and species in southern California before expanding research. The Commission agreed and denied the application, requesting the Department provide a program overview at today's MRC meeting to understand when a northern EFP might be reconsidered.

Today's Update

The Department will present an overview of the previous box crab experimental gear research project; the current Sustainable Seas Technology EFP; the EFP's preliminary results, including essential fishery information, gear performance, and information gaps; and the Department's planned next steps.

B. EFP Program Overview, Including Pop-up Gear Testing

Implemented through sections 91 and 704 of Title 14 of the California Code of Regulations, the EFP Program has introduced new opportunities for coastal fisheries since its inception in April 2022.

EFP Applications and Amendments

The Department reports that since 2022 it has received 23 pre-application consultation requests and 9 formal applications. The Commission approved 7 EFPs and, to date, the Department has issued 5. Additionally, 11 minor amendments, 6 major amendments, and 1 Department-initiated amendment have been approved.

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Pop-up gear EFPs

Out of the 7 approved EFPs, 3 are specifically focused on testing various types of pop-up releases, including timed and acoustic mechanisms. A total of 9 different pop-up release types are currently being evaluated across 3 issued EFPs. The success of the testing could lead to authorization of pop-up gear within the Dungeness crab fishery and potentially other trap fisheries in California.

EFP Challenges

While this program has opened doors for innovation, the Department reports that it has also presented unique challenges in its implementation, including administrative workload from unlimited amendments, and strained capacity for some subject matter experts.

Looking Ahead

Today, the Department will present a comprehensive overview of the EFP program, including current EFPs and their locations, details on pop-up gear being tested, EFP program challenges, and opportunities for program improvement. MRC may wish to clarify when the Department anticipates information will be available to determine whether implementing EFP-tested gear in California fisheries is supported.

In January 2025, the Department will submit a report on the EFP program to the California State Legislature, and will share the report with the Commission. The Department will also continue to coordinate with Commission staff to develop programmatic improvements and consider a prioritization system for future applications.

Significant Public Comments (N/A)**Recommendation (N/A)****Exhibits**

1. [Department presentation](#), Item 8(A)
2. [Department presentation](#), Item 8(B)

Committee Direction/Recommendation (N/A)



Update on Box Crab Experimental Fishery

7 November 2024

Presented to:

Marine Resources Committee
California Fish and Game Commission

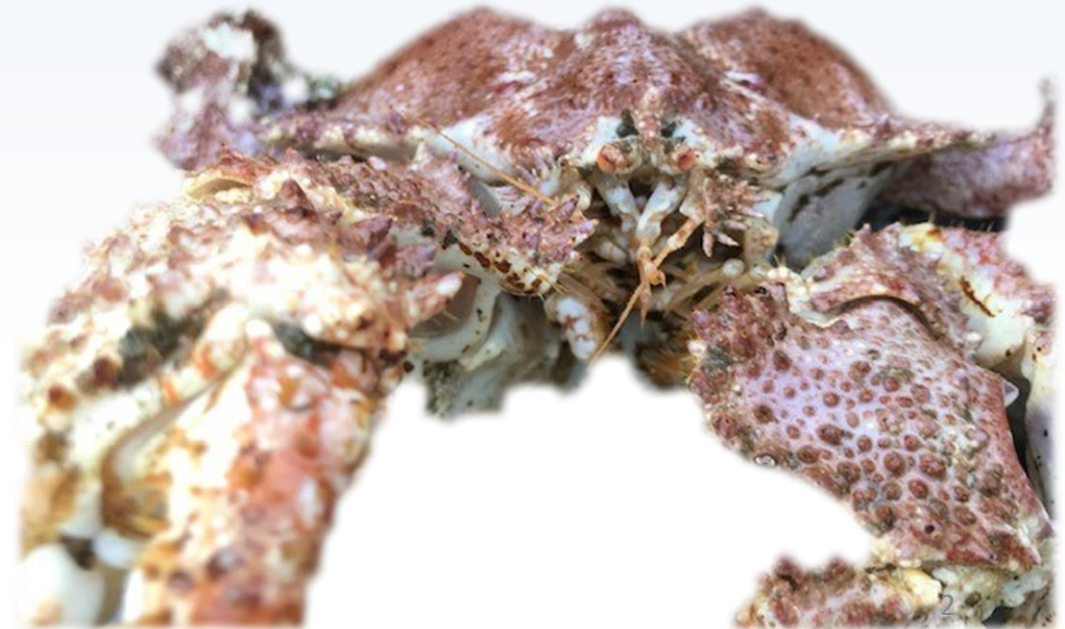
Presented by:

Lindsay Marks Orsini, Ph.D.
Environmental Scientist
Marine Region



Outline

- Prior box crab Experimental Fishing Permit (EFP)
- Current Sustainable Seas Technology EFP (#2023-01)
- Preliminary results
- Next steps





Prior box crab EFP

- Exploratory fishing for brown box crab using traditional trap gear
- April 2019 – March 2023
- Up to 8 permits at a time across California
 - Fished only in Southern California
- Primary Objectives
 - Gather Essential Fishery Information for brown box crab and California king crab
 - Evaluate potential and design of a commercial box crab fishery





Sustainable Seas Technology EFP (#2023-01)

- Exploratory fishing for box crab and king crab using on-demand fishing systems
- Approved in June 2023
- Authorizes up to 5 vessels (10 agents) in Southern California
- Primary Objectives
 - Fill gaps in Essential Fishery Information
 - Test on-demand fishing system functionality in this experimental fishery (i.e., strings of traps in deep-water habitat)



Data collection and reporting requirements

1) Exploratory fishing: Essential Fishery Information

- Department-led data collection
- EFP participants provided with training and supplies for electronic monitoring, documenting fishing effort and catch
- Department is responsible for managing and analyzing data

2) Gear testing: On-demand fishing systems

- EFP Holder-led data collection, analysis, and reporting (annual)



Phased gear-testing approach

- Phases 1 & 2: On-demand gear training, configuration and trials
- Phase 3: Exploratory fishing for box and king crab using on-demand fishing systems
 - Fishing authorized from depths of 60 to 200 fathoms
 - Traps fished in strings up to 7 traps/string



On-demand fishing systems

Ropeless Systems RISER



Photos: ropeless.us

Subsea Sonics AR4RT/DAR4RT



Photos: subseasonics.com

Fiomarine Fiobuoy AC200



Photo: Fiomarine.com

Desert Star ARC1-XD



Photo: desertstar.com



Current status of the EFP

- EFP issued in January 2024
- High turnover in authorized agents and vessels
 - 12 agents/8 vessels added
 - 8 agents/5 vessels removed
- Participation has been limited with only two authorized agents conducting exploratory fishing



Preliminary results



Data sources

- Essential Fishery Information
 - Catch sampling
 - Electronic monitoring
 - Fishing logs and landings
 - Tag-recapture study
- Gear Performance
 - On-demand fishing systems testing



Size limits

- Males attain a larger size than females
- Essentially male-only fishery
 - Few females reach legal size of $5\frac{3}{4}$ " carapace width (CW)
- Size at maturity (females) and fecundity





Essential Fishery Information (Cont. 1)

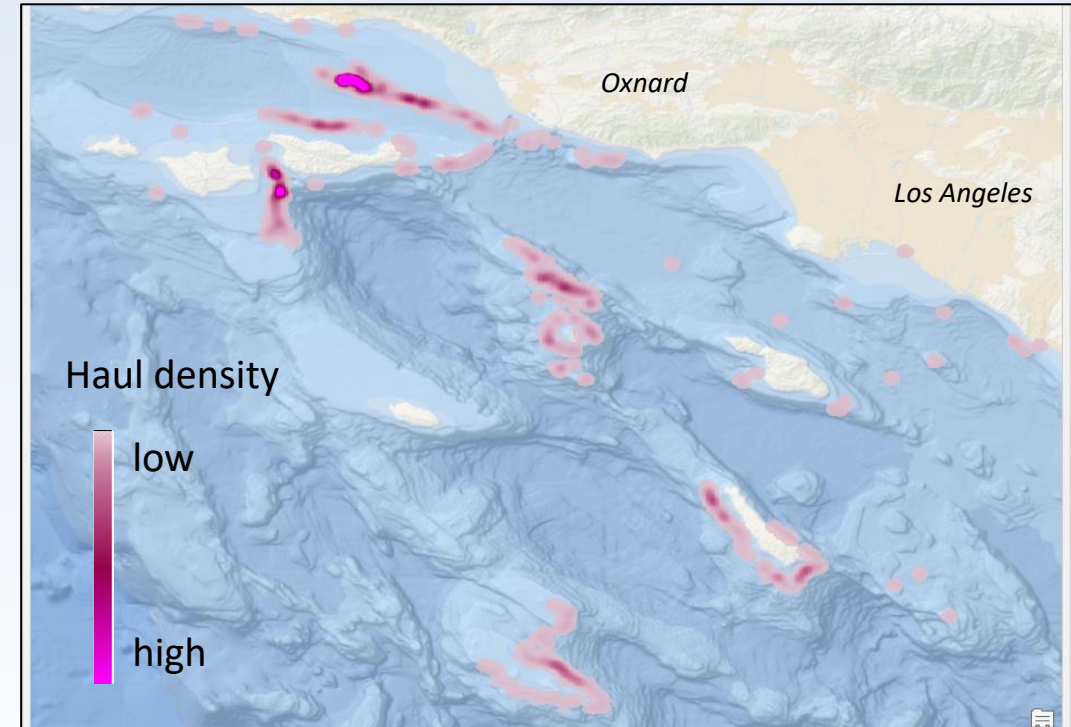
Fishing Seasons

- 18-month biennial reproductive cycle
- Seasonality of mating and molting: late summer/fall
- Catch-per-unit-effort decreases during mating/molting season



Fishing activity

- High-resolution fishing location and catch
- Primary areas explored around offshore islands and banks
- 325 – 900 feet



Bycatch

- Primarily box and king crab in traps
- Relatively minimal catch of other invertebrate and finfish
- 1 humpback whale entangled in 2021



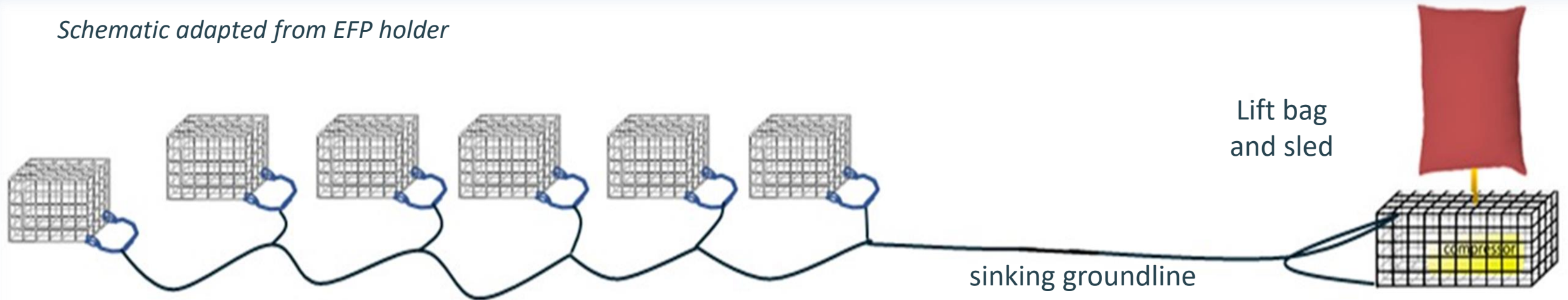
EFP Landings (2019-2024)

- Pounds
 - box: 236,184 lbs
 - king: 32,616 lbs
- Ex-vessel value
 - box: \$1,072,835
 - king: \$106,305
- Price per pound
 - box: \$4.71 (avg)/\$14 (max)
 - king: \$5.97 (avg)/\$20 (max)



Ropeless RISER

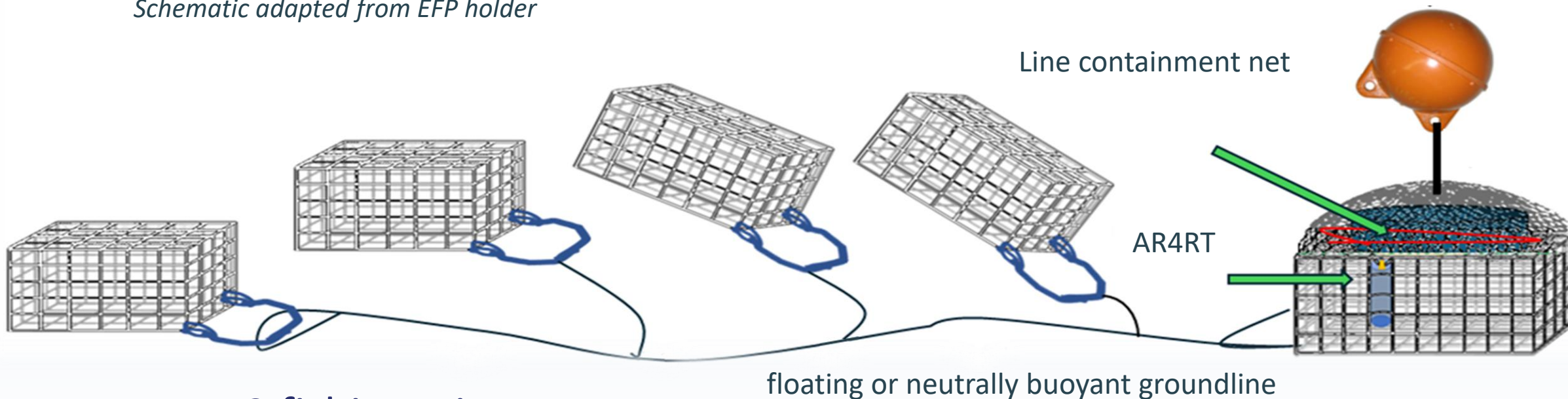
Schematic adapted from EFP holder



- 33 fishing trips
- Depths - up to ~ 100 fathoms (600 feet)
- 227 strings pulled
- 2 unrecovered strings

Sub Sea Sonics

Schematic adapted from EFP holder



- 9 fishing trips
- Depth - up to 96 fathoms (579 feet)
- 133 strings pulled
- 100% gear recovery



Information gaps

- Abundance, growth and mortality
 - Data collection and analyses ongoing
- Habitat
 - More potential fishing grounds to be explored
- Whale entanglement risk
 - Efficacy of on-demand fishing systems and gear making applications



Next steps

- Continued collection of Essential Fishery Information data
 - Multi-year timeline to address data and analysis needs to evaluate feasibility of new commercial fishery
- Continued testing of on-demand fishing systems and gear marking applications
 - If on-demand fishing in Southern California proves successful, could consider expansion to northern California
- First annual report due March 2025

Thank You

Lindsay Marks Orsini, Environmental Scientist

Email: EFP@wildlife.ca.gov





Experimental Fishing Permit (EFP) Program Update

November 7, 2024

Presented to:

Marine Resources Committee

CA Fish and Game Commission

Presented by:

Morgan Ivens-Duran

Senior Environmental Scientist Supervisor

Marine Region



EFP Program Overview

- Adopted pursuant to AB 1573 (Bloom, 2018) and Fish & G. Code section 1022
- Purpose: foster innovation and experimentation to inform the conservation and sustainable use of the state's marine resources
- Pathway: limited, short-term exemptions from state laws and regulations
- Partnership between CDFW and FGC
- Dedicated CDFW staff within new Marine Permitting Project
 - Coordinate with Marine Region programs, Marine Enforcement District, Office of General Counsel, License and Revenue Branch, applicants, and EFP holders



EFP Program To Date

- Phase II EFP regulations: effective as of April 1, 2022
 - 23 requests for Pre-Application Consultation and 9 submitted applications
 - Commission has approved 7 EFPs and CDFW has issued 5 EFPs

EFP Action	2022	2023	2024	Total
Pre-application Consultation Request	18	4	1	23
Submitted Applications	4	6	0	10
Approved Applications	2	4	1	7
Issued Permits	1	3	1	5
Renewed Permits	0	1	3	4
Minor Amendments	1	7	3	11
Major Amendments	1	2	3	6
CDFW Initiated Amendments	0	0	1	1



Summary of Approved EFPs

Tracking ID	FGC Approval	Target Species	Gear Tested	Tier
2022-01	Aug 2022	Swordfish and other highly migratory species	Deep-set buoy gear	3
2022-02	<i>Oct 2022</i>	<i>King and other deepwater crabs</i>	<i>Traditional traps</i>	<i>3</i>
2022-03	Feb 2023	Dungeness crab and hagfish	Pop up gear + trawls	2
2022-04	<i>April 2023</i>	<i>Dungeness crab</i>	<i>Pop up gear</i>	<i>1</i>
2023-02	June 2023	Dungeness crab and rock crab	Pop-up gear + trawls; NOAA-approved weak rope	2
2023-01	June 2023	Brown box and California king crab	Pop-up gear + trawls	4
2023-03	Feb 2024	Dungeness crab	Hoopnets	2



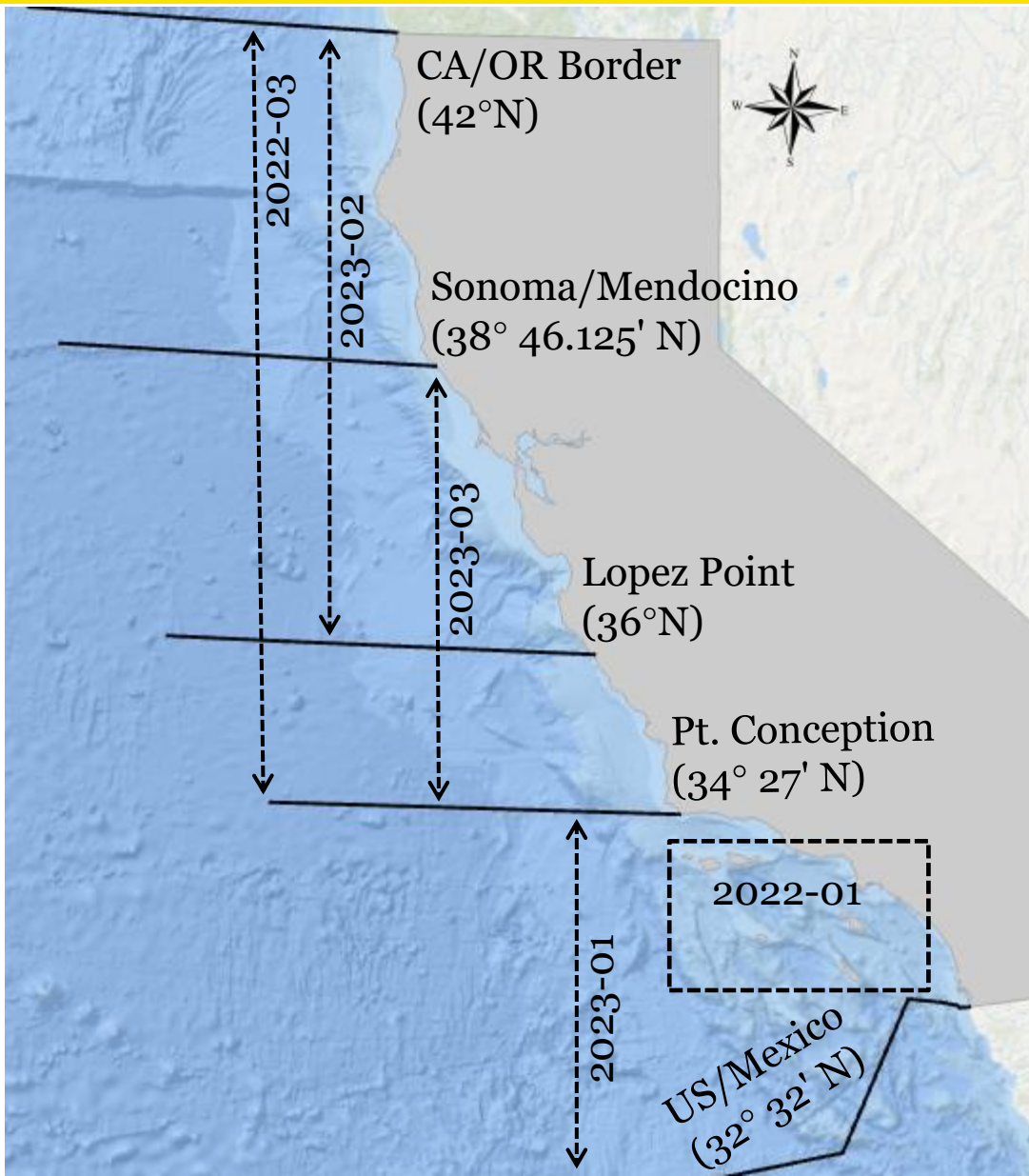
Pop-Up Gear EFPs

- Three issued EFPs are testing different types of pop-up releases

Pop-Up Release	Type	2022-03	2023-02	2023-01	Total EFPs
Sub Sea Sonics TR4RT	Timed	Y	Y	N	2
Sub Sea Sonics AR4RT	Acoustic	Y	Y	N	2
Sub Sea Sonics DAR4RT	Acoustic	N	N	Y	1
Desert Star ARC-1XD	Acoustic	N	Y	Y	2
Guardian Ropeless GTR	Timed	N	Y	N	1
EdgeTech 5112	Acoustic	N	Y	N	1
Fiomarine Fiobuoy	Acoustic	N	Y	Y	2
Ashored Innovations MOBI	Acoustic	N	Y	N	1
Ropeless Systems Ropeless RISER	Acoustic	N	N	Y	1



EFP Testing Areas



Dungeness crab

- 2022-03: within 100 fa
- 2023-02: within 100 fa
- 2023-03: within 30 fa

Box and King crab

- 2023-01: outside 60 fa

Highly Migratory Species

- 2022-01: state waters surrounding the islands & specified mainland areas



Fiscal Considerations

- Current EFP fees (*50% fee reduction*)
 - Application: \$180.77
 - Initial issuance: \$1,015.50 (*\$507.75*)
 - Annual
 - Tier 1: \$523.25 (*\$265.25*)
 - Tier 2: \$1,225.00 (*\$616.00*)
 - Tier 3: \$4,896.25 (*\$2,452.00*)
 - Tier 4: \$11,210.00 (*\$5,608.75*)
 - Minor amendment: \$225.83
 - Major amendment: \$529.25



Preliminary Findings and Forecast

- Meeting legislative mandates: bycatch reduction and sustainability
 - Area of growth: EFPs focused on fishing effort efficiency
- Program challenges
 - Number and frequency of amendments
 - Incomplete lists of authorized agents and vessels
 - Enforcement of permit conditions
- Looking ahead
 - Legislative report
 - Programmatic improvements
 - Prioritizing future applications

Thank You

The logo of the California Department of Fish & Wildlife is a shield-shaped emblem. It features a yellow outline and a light blue background. Inside the shield, the word "CALIFORNIA" is written in large, bold, yellow capital letters at the top. Below it, a yellow map of California is centered. Underneath the map, the words "DEPARTMENT OF FISH & WILDLIFE" are written in smaller, bold, yellow capital letters. The text "Morgan Ivens-Duran, Senior Environmental Scientist Supervisor" and "Marine Permitting Project" is overlaid on the logo in a dark blue font. The email address "Email: EFP@wildlife.ca.gov" is also overlaid in a dark blue font, with the email address itself underlined.

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