

National Marine Sanctuaries
National Oceanic and Atmospheric Administration



NATIONAL MARINE
SANCTUARIES

MONTEREY BAY

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Overview:

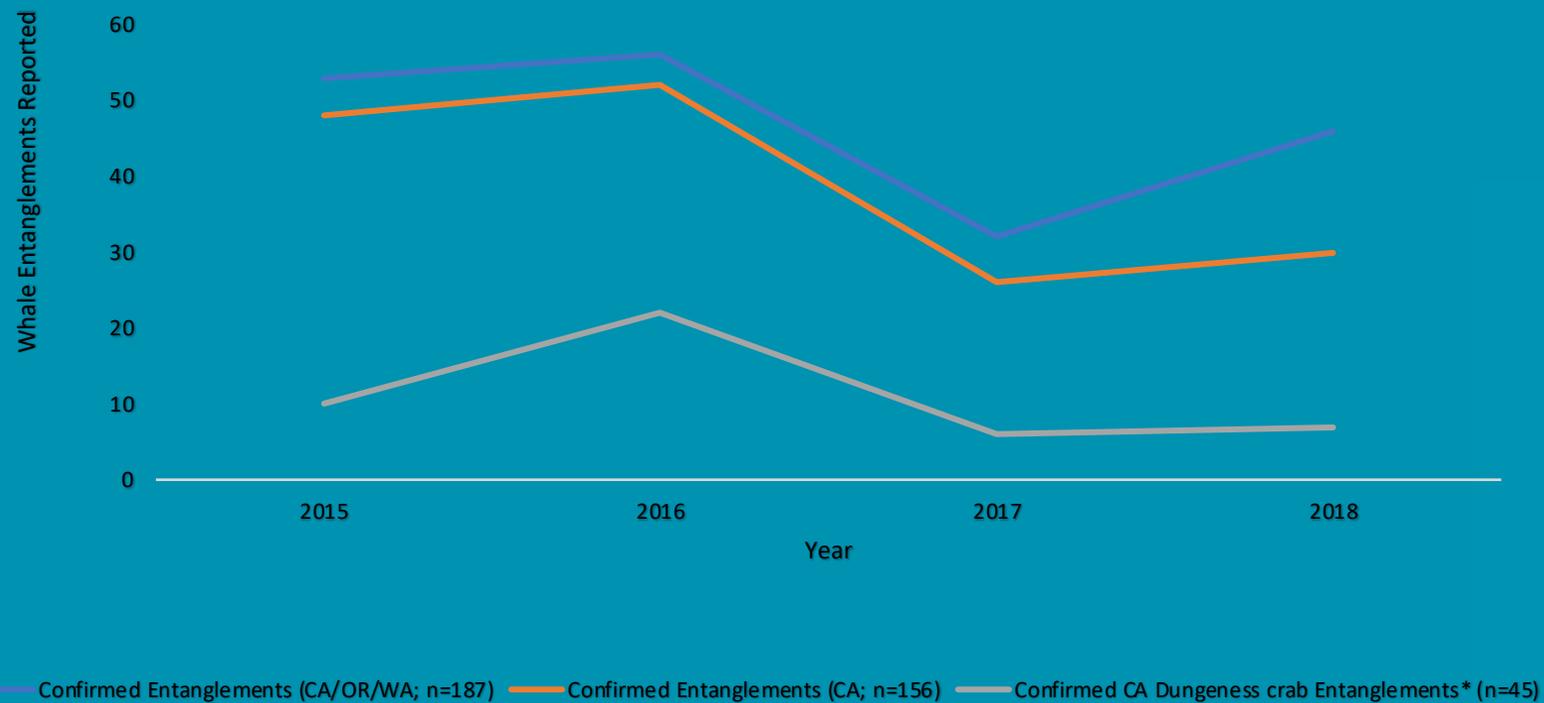
- Whale Entanglement numbers
- Working Group & Risk Assessment & Mitigation Program (RAMP)
- Data Sources for RAMP
- Gear Innovation and Testing
- Response to Entanglements

Whale Entanglements: West Coast Summary

	Confirmed Entanglements (CA/OR/WA; n=187)	Confirmed Entanglements (CA; n=156)	Confirmed CA Dungeness crab Entanglements* (n=45)	% of CA Entanglements
2015	53	48	10	21%
2016	56	52	22	42%
2017	32	26	6	23%
2018	46	30	7	23%
Totals	187	156	45	29%
			* Includes 2 recreational entanglements	

Source: NMFS Office of Protected Resources

Whale Entanglements: West Coast Summary



Source: NMFS Office of Protected Resources

Whale Entanglements: 2019 West Coast Summary

13 confirmed entangled whales, 2 unconfirmed reports, 15 total reports

- **Gray whales: 6 confirmed, 1 unconfirmed, 7 total**
- **Humpback whales: 6 confirmed, 1 unconfirmed, 7 total**
- **Minke whale: 1 confirmed, 1 total**

Confirmed fisheries associated with entanglements: 7 reports

- **Commercial Dungeness crab: 5 total**
 - **1 CDFW (1 humpback whale)**
 - **1 ODFW (1 humpback whale)**
 - **1 ODFW or PS WDFW (1 gray whale)**
 - **2 WDFW (2 humpback whale)**
- **Gillnet: 2 (2 gray whales)**

Reporting location

- **California: 7 confirmed reports, 1 unconfirmed, 8 total reports**
- **Oregon: 2 confirmed reports, 1 unconfirmed, 3 total reports**
- **Washington: 3 confirmed report, 3 total report**
- **Mexico: 1 confirmed report (humpback with gear from OR)**

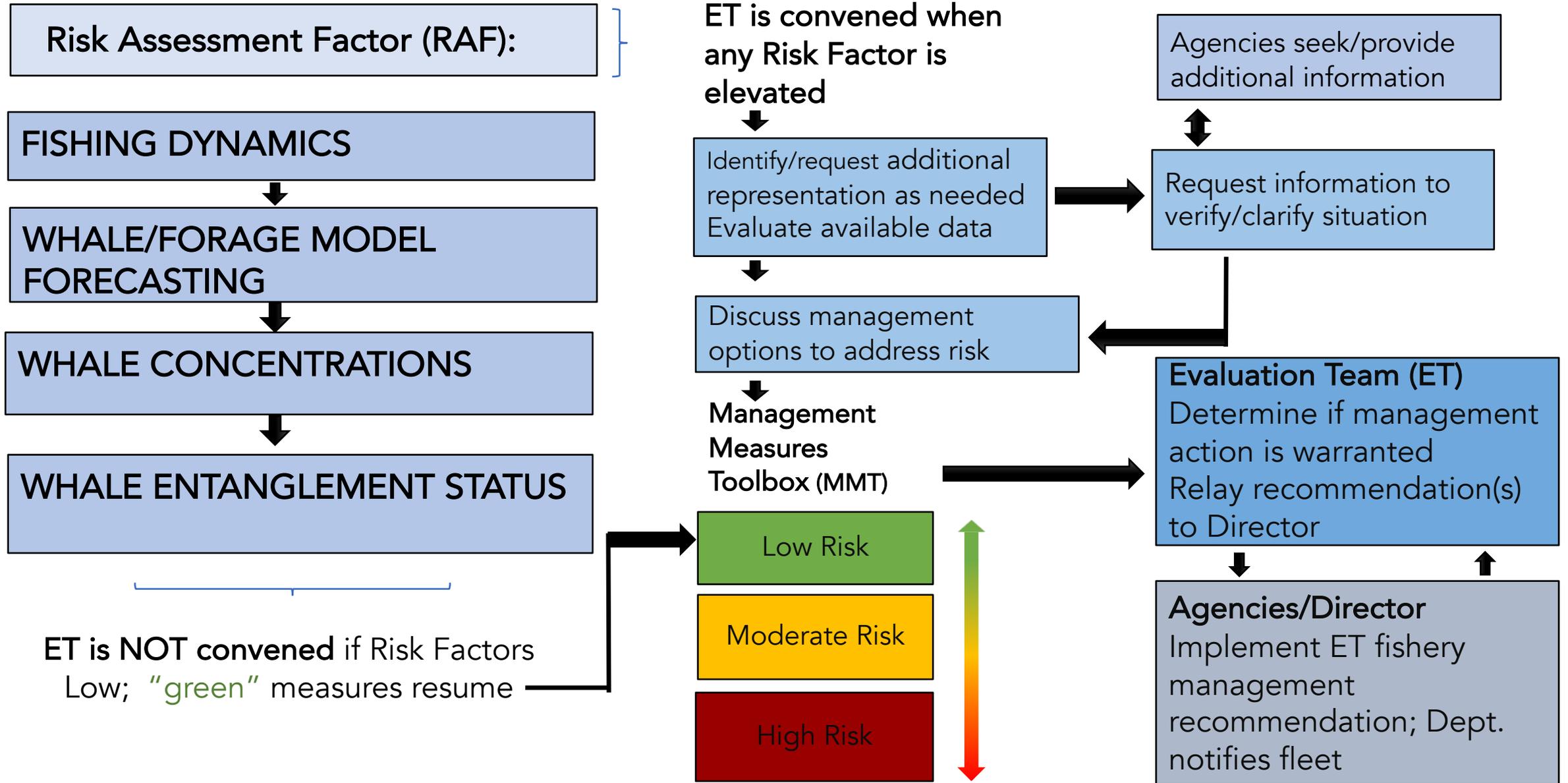


Source: NMFS, preliminary data through 8/6/19

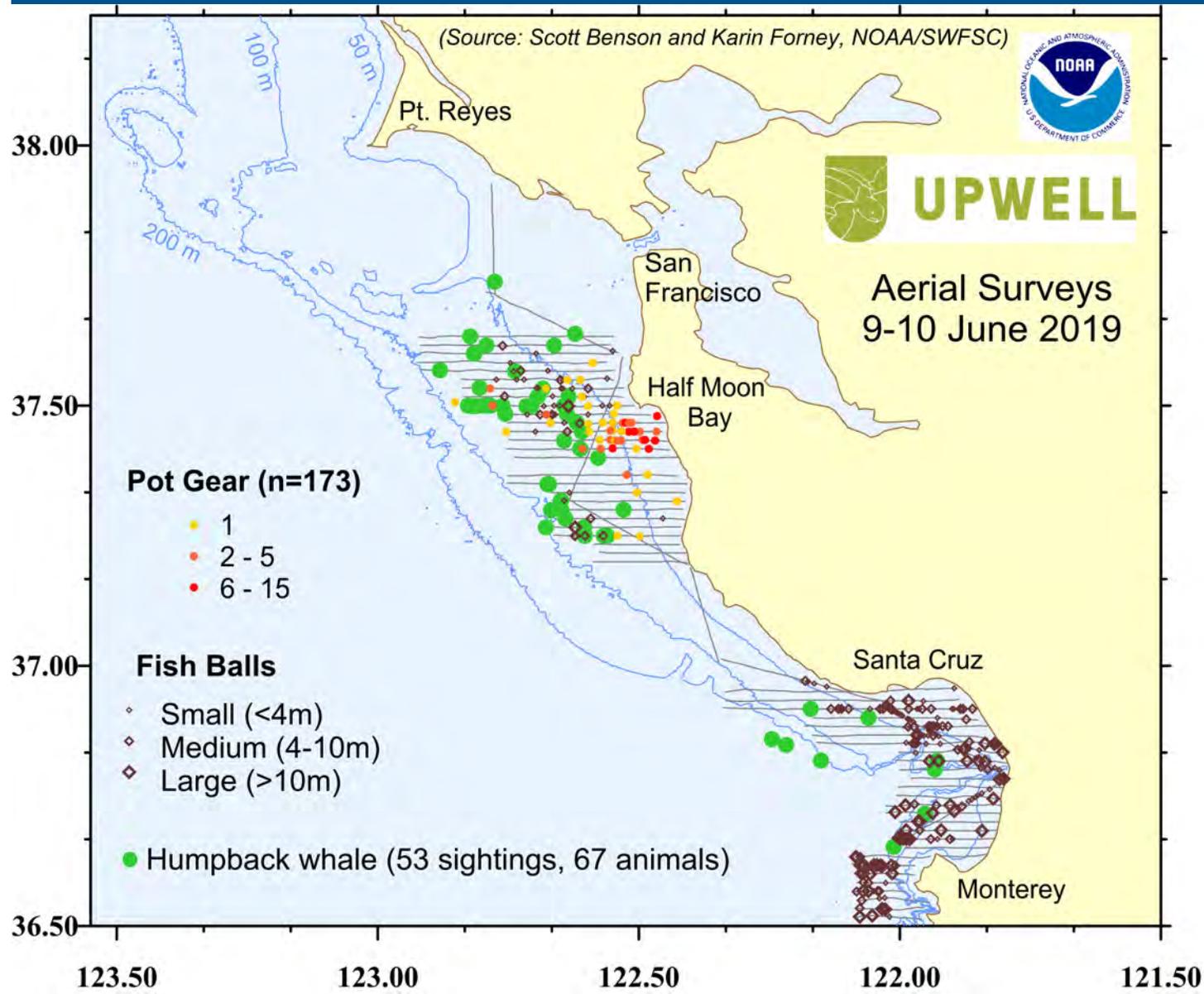
Whale Entanglements: Prevention

- ❖ Serve on Dungeness Crab Fishery Working Group (led by NMFS, CDFW and includes commercial and rec fishermen and NGOs). Work includes:
 - ❖ Development of a **Risk Assessment & Mitigation Program (RAMP)** to assess entanglement risk to humpback and blue whales from fishing gear, and are conducted pre, mid, late, and post season; **four risk factors are # entanglements, forage/ocean conditions, whale concentrations & fishing dynamics**
 - ❖ Data collection to identify overlap between whale densities and gear locations, to better forecast risk, including whale watch crowd sourcing data, aerial surveys, fishermen observations, ACCESS cruises and other vessel surveys, CENCOOS
 - ❖ Gear innovation projects, such as “ropeless” traps

RAMP PROCESS



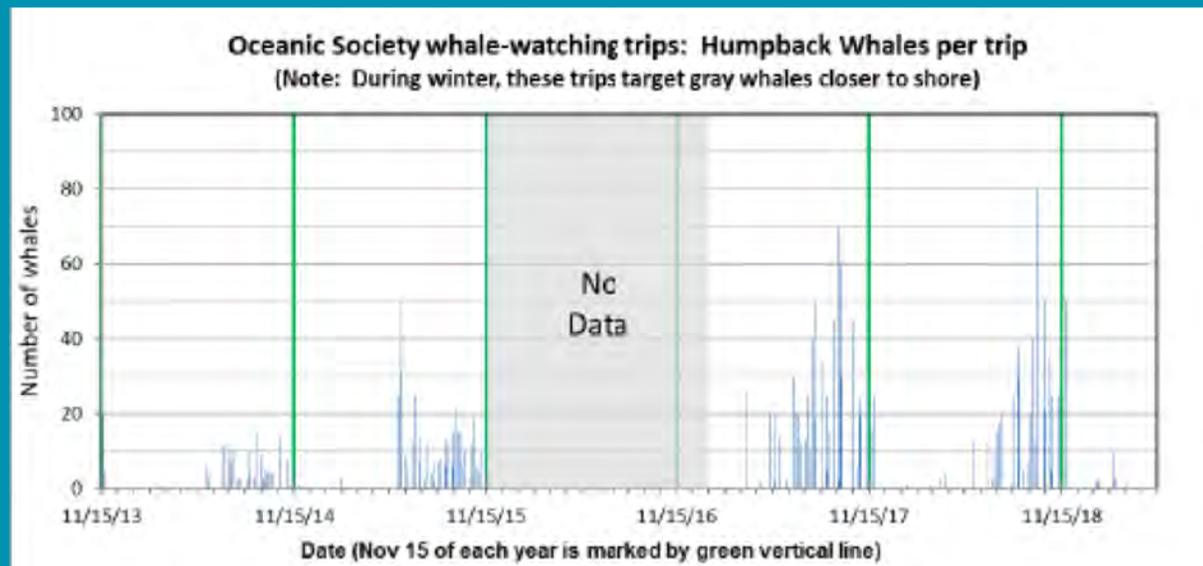
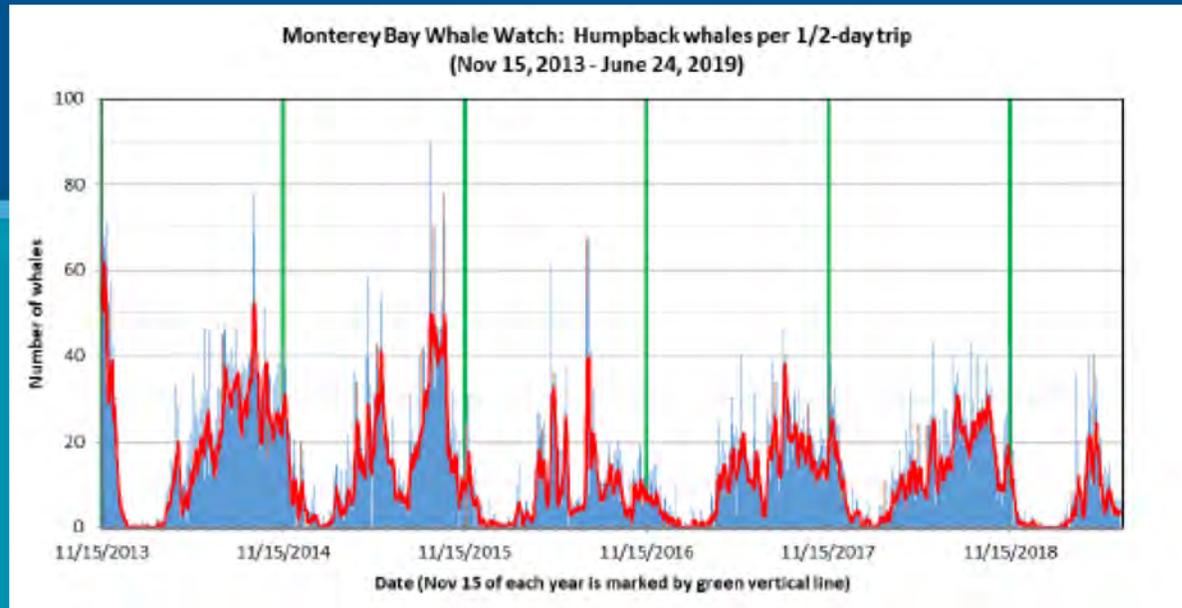
Data Sources



Aerial Surveys
by
NOAA
NWFS

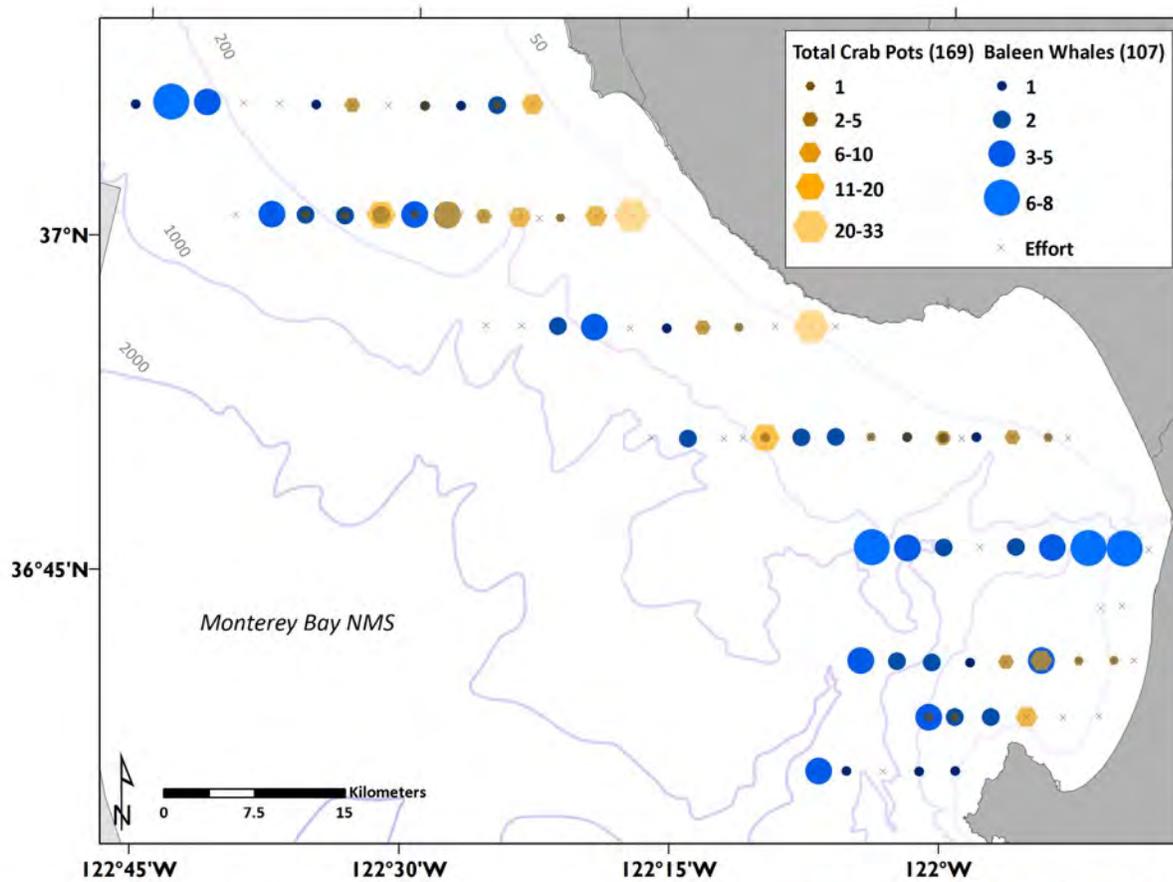
Data Sources

Whale Watch Operator data



Analysis
by
NOAA
NWFSC

Whale Entanglements: Data Sources



Baleen Whales and Crab Pots, May 2017

Vessel Surveys

Large Whales

Included:

BLWH (2)

FIWH (1)

HUWH (79)

UNWH (25)

Not included

KIWH (3)

Gear Innovation & Testing – 2018/2019

Objectives:

- Deploy ropeless gear on crab traps
- Retrieve gear within minutes to test acoustic release and retrieval
- Fishermen's feedback on what works well, or not, and what needs to be improved
- Develop dialogue between fishermen and gear innovators
- **September 6, 2019 Gear Innovation Testing**



Fiomarine Fiobuoy AC100
Designed in Australia



Desert Star ARC-1XD
Designed in California

Gear Testing Results – May 2018

- **Fiomarine:**
 - 4 successful retrievals (60-240 ft)
- **Desert Star:**
 - 1 successful retrieval at 60 feet; did not pop up on 2nd attempt at 60 feet. Unit currently lost
- **Initial observations**
 - Technologies are simple to use and learn
 - Gear may move from initial set location
 - Recoiling/repacking line causes delays
 - Acoustic release may need multiple attempts
 - Concerns with visibility, retrieval
 - Located deployed gear with echosounder



Whale Entanglements: Response Teams

❖ Interagency Cooperation coordinated by NMFS

