

National Marine Sanctuaries
National Oceanic and Atmospheric Administration



NATIONAL MARINE
SANCTUARIES

MONTEREY BAY

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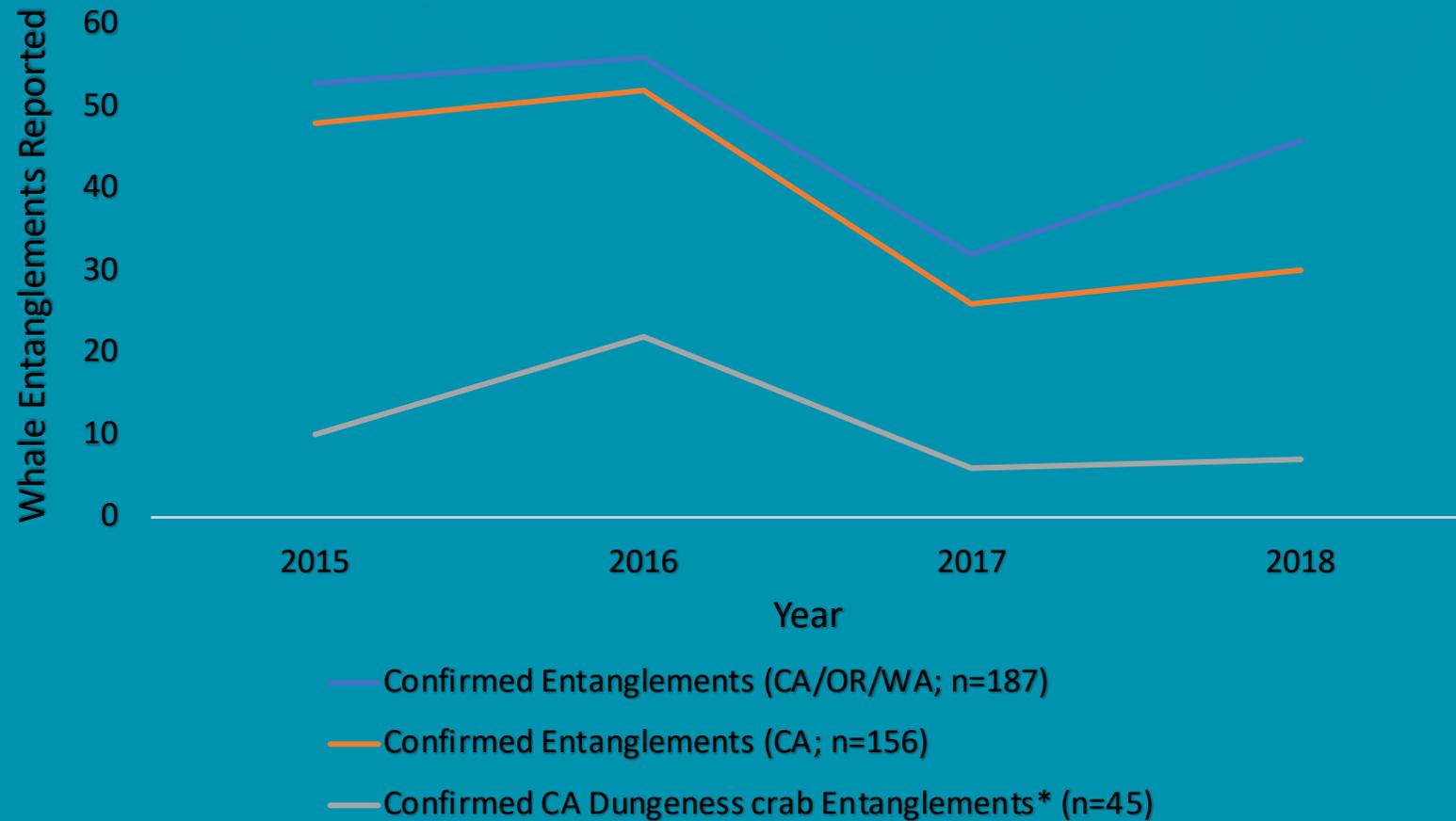
Overview:

- Whale Entanglement numbers
- Working Group & Risk Assessment & Mitigation Program (RAMP)
- Data Sources for RAMP
- Working Group Recommendation
- 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	

Whale Entanglements: West Coast Summary



Source: NMFS Office of Protected Resources

Whale Entanglements: 2019 West Coast Summary (thru 12/2/19)

23 confirmed entangled whales, 2 unconfirmed reports, 25 total reports

- **Gray whales: 8 confirmed, 1 unconfirmed, 9 total**
- **Humpback whales: 14 confirmed, 1 unconfirmed, 15 total**
- **Minke whale: 1 confirmed, 1 total**

Confirmed fisheries associated with entanglements: 8 reports

- **Commercial Dungeness crab: 6 total**
 - 3 CDFW (3 humpback whale)
 - 1 ODFW (1 humpback whale)
 - 2 WDFW (2 humpback whale)
 - 1 State unknown (1 gray whale)
- **Gillnet: 2 (2 gray whales)**

Reporting location

- **California: 14 confirmed reports, 1 unconfirmed, 15 total reports**
- **Oregon: 4 confirmed reports, 1 unconfirmed, 5 total reports**
- **Washington: 4 confirmed report, 4 total report**
- **Mexico: 1 confirmed report (humpback with gear from OR)**

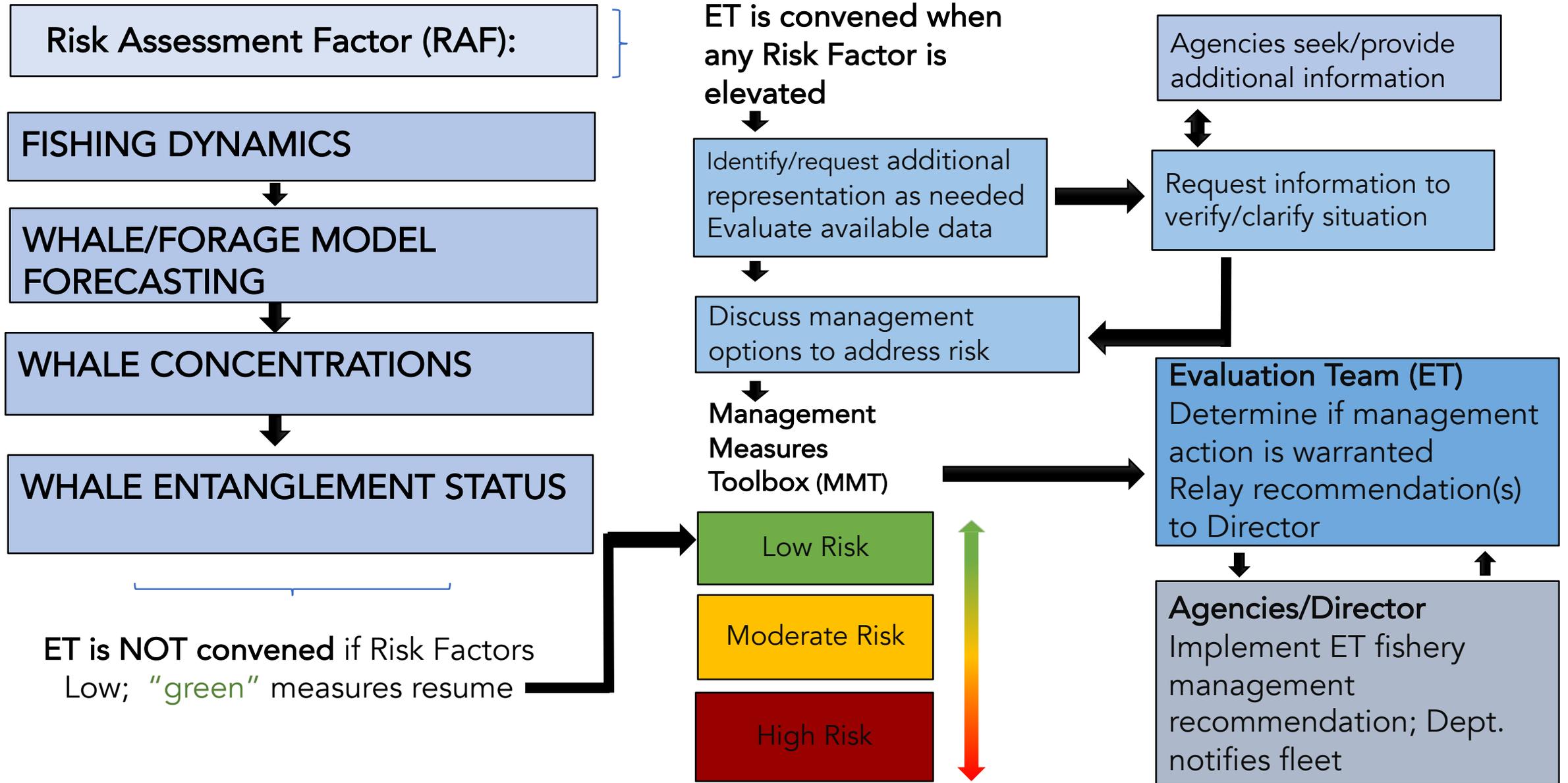


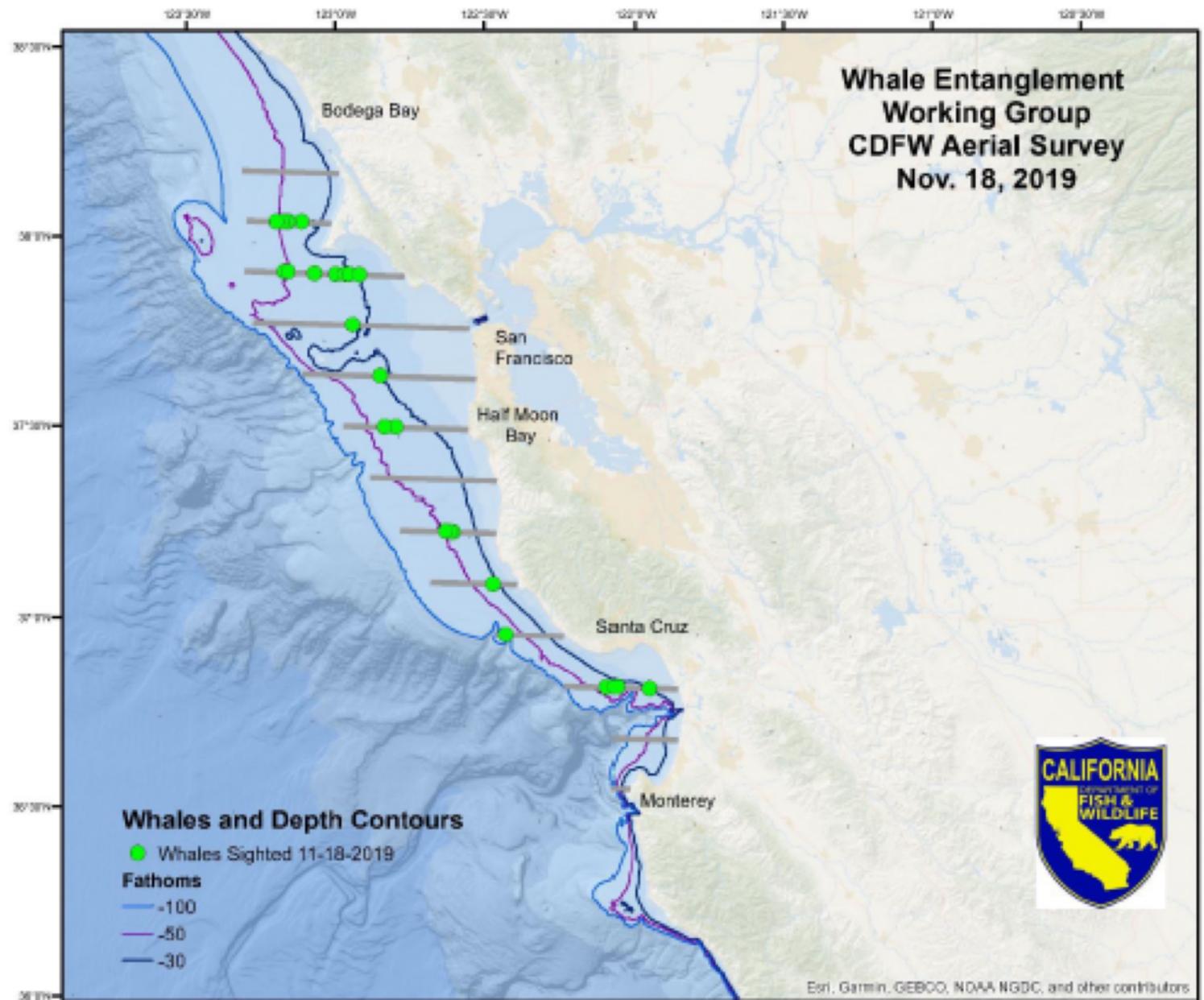
Source: NMFS, preliminary data through 12/2/19

Whale Entanglements: Prevention

- ❖ CA Dungeness Crab Fishery Working Group was convened by CDFW and NMFS, and includes OPC, USCG, commercial and recreational fishermen and NGOs. Work includes:
 - ❖ Conducting regular Risk Assessments for entanglement risk to humpbacks, blue whales and leatherback sea turtles from fishing gear, through **four risk factors:**
 - # entanglements, forage/ocean conditions, whale concentrations & fishing dynamics,** and making recommendations to the CDFW Director.
 - ❖ Data collection and analysis to identify overlap between whale densities and gear locations, to better forecast risk, including aerial surveys, vessel surveys, whale watch crowd sourcing data, fishermen observations, oceanographic, and forage,
 - ❖ Gear innovation & testing projects

RAMP PROCESS





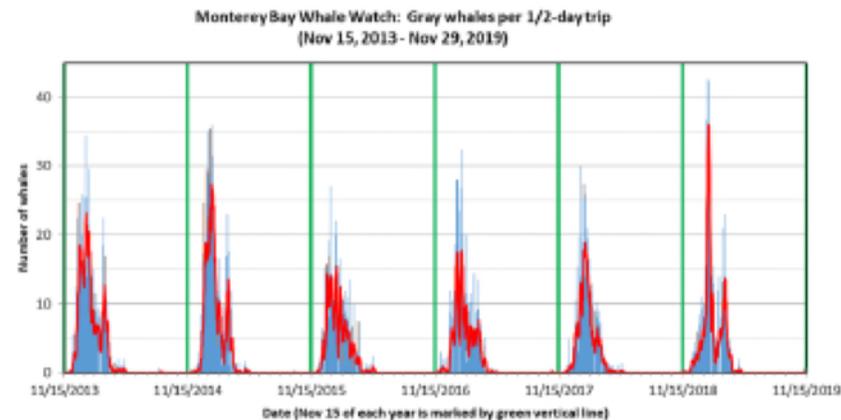
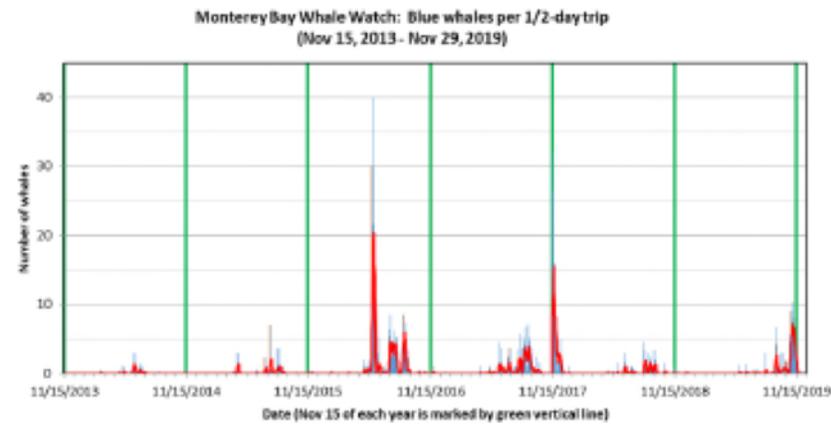
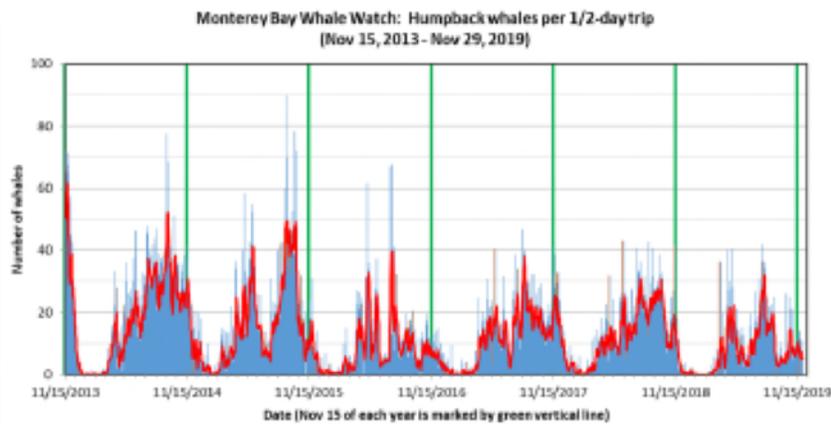
Data Sources

Aerial Surveys by CDFW

Data Sources

Whale Watch Operator data

Analysis by NOAA NWFSC



Whale Entanglements: Data Sources



Vessel Surveys

- Cascadia and SR3
- November 22, 2019
- Survey track was from Half Moon Bay to the shelf edge to Rittenburg Bank to HMB

Working Group Recommendation

Dec 2019 Risk Assessment results:

Based on the information available during the December 4 discussion, the Working Group's risk assessment associated with the four RAMP factors was as follows:

- Entanglement - not applicable (as season not yet open)
- Marine Life Concentrations,
 - Humpback Whales - risk is "low-moderate" and trending low
 - Blue Whales - risk is low
 - Leatherback Turtles - risk is low
- Ocean and Forage Conditions - risk is low
- Fishing dynamics - risk is low

Recommendation:

The Working Group recommends the CDFW Director open the fishery as soon as possible while providing the fishery sufficient notice, and not later than December 15. The WG also encourages the use of best fishing practices during the opener and throughout the season.

Next risk assessment meeting is scheduled for January 8, 2020.

Next Steps in 2020

- **Regular risk assessments by Working Group: January 15, February 15, March 15, April 1, April 15, May 1, May 15, June 1, June 15, July 1, 2020**
- **Draft regulations formalizing the RAMP released for public comment in late winter/early spring (target: late Feb)**
- **New commercial trap marking requirements effective May 1**
- **Draft Conservation Plan submitted to NMFS by May 15**
- **Additional gear testing during spring/summer 2020 (tentative)**
- **RAMP regulations in place by November 2020**

Gear Innovation & Testing

September 2019

Objectives:

- Led by CDFW with MBNMS support
- Deploy & test “pop up” 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



Fiomarine Fiobuoy AC100
Designed in Australia



Desert Star ARC-1XD
Designed in California

Whale Entanglements: Response Teams

❖ Interagency Cooperation coordinated by NMFS

