

## 2019-20 Risk Assessments: Available Data Compiled for December 4, 2019 Working Group Discussion

Last updated: December 3, 2019

### **FACTOR: ENTANGLEMENTS**

*Data provided by: Dan Lawson and Lauren Saez*

Confirmed 2019 entanglements (see Appendix 1 for additional details)

- 23 total; 6 with commercial Dungeness crab (WA/OR/CA), including 3 with CA commercial Dungeness crab
- 14 Humpback Whales, 8 Grey Whales, 1 Minke Whale

Recent confirmed entanglements

- Nov 21, 2019: Humpback Whale offshore of La Jolla with Dungeness crab (state and sector unknown) and rock crab gear, successfully disentangled (see Appendix 1 for photos)

### **FACTOR: MARINE LIFE CONCENTRATIONS**

*Data provided by: CDFW, Karin Forney, Scott Benson, John Calambokidis*

#### **CDFW Aerial Surveys**

CDFW completed aerial surveys on November 18<sup>th</sup> and December 3<sup>rd</sup> using the same flight pattern as shown in Figure 1. The flight on December 3<sup>rd</sup> covered a marginally larger area due to fog conditions encountered during the November 18<sup>th</sup> flight where two of the transects were shortened.

November 18, 2019 (see Figure 1)

- 49 Humpback Whales and 4 Blue Whales were recorded on transects between Point Pinos (Monterey) and Point Reyes.
- Blue Whales were observed at the shelf break, west of Santa Cruz. Humpback Whales were observed throughout the area, generally between the 30 and 50 fathom depth contours.
- Numerous bait balls and Molas were also observed.

December 3, 2019 (Figure unavailable at the time of compilation)

- 4 Humpbacks Whales, 1 Blue Whale, 3 Orca Whales, and 2 unknown whales were observed on transects between Point Pinos (Monterey) and Point Reyes.
- Humpback and Blue Whales were observed near the Farallon Islands and Orcas were observed near the shelf break west of Ana Nuevo.
- Few bait balls were observed and no Molas were observed.

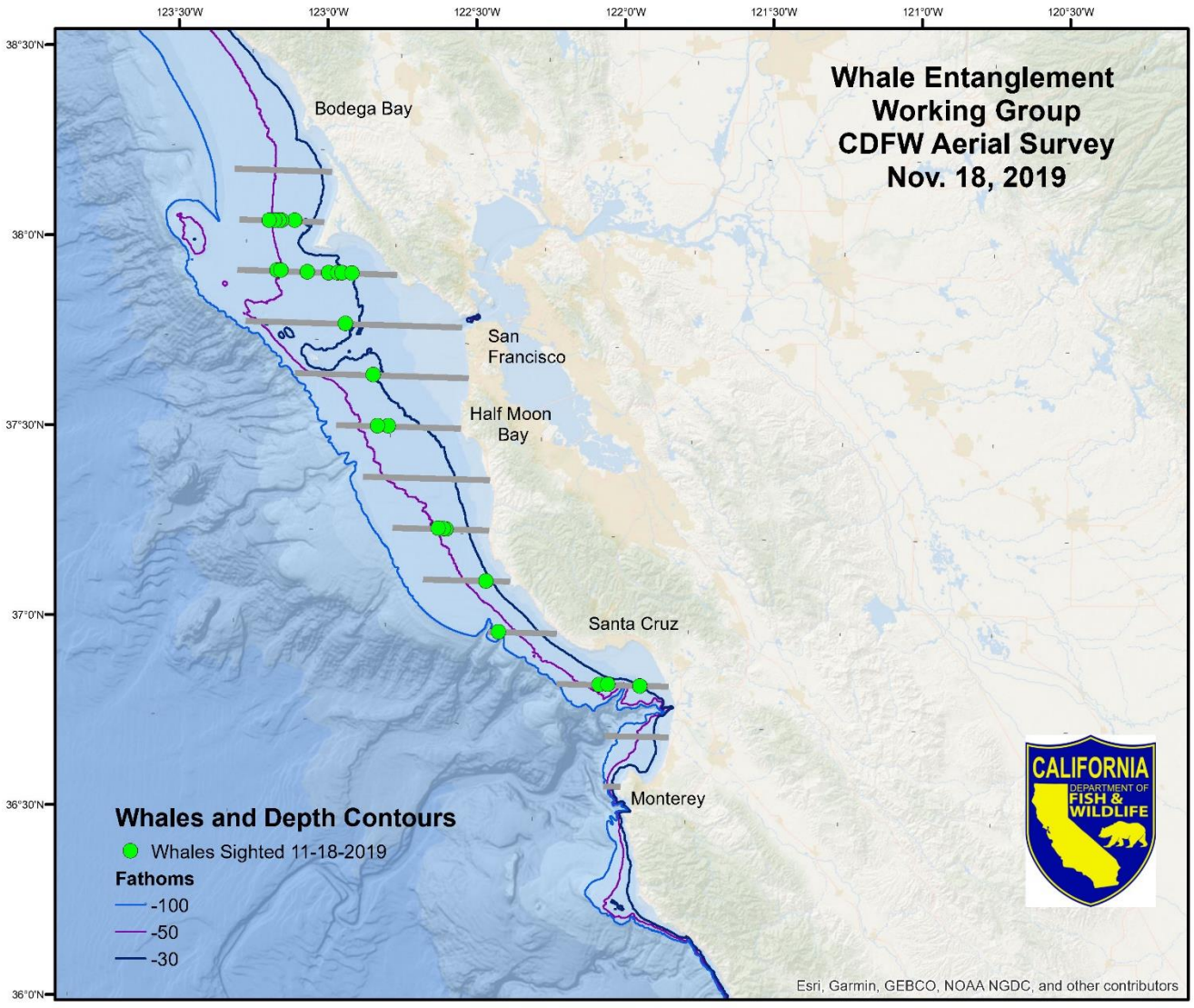


Figure 1. CDFW Aerial Survey, November 18 2019. Dots represent Humpback and Blue Whales observed along transect lines.

### Leatherback Turtle Tagging Data, National Marine Fisheries Service

- The single tagged leatherback turtle which was foraging in the Gulf of the Farallones on October 31 has now initiated its offshore migration (see Figure 2).

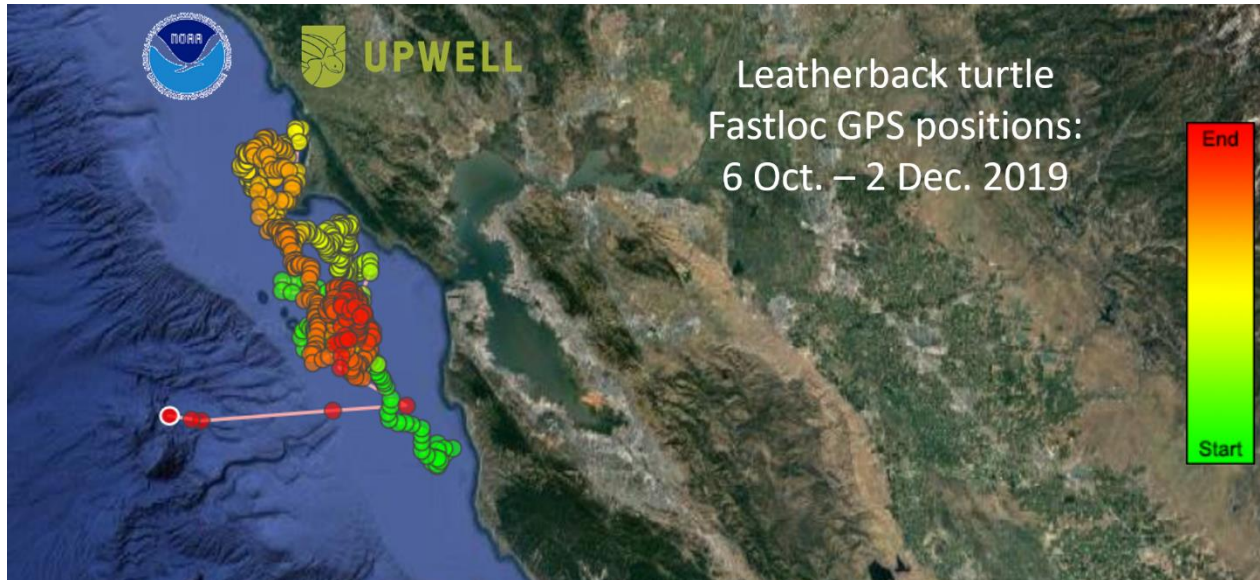


Figure 2. Fastlock GPS positions for tagged leatherback sea turtle from October 6 to December 2, 2019.

### Vessel Survey, Cascadia Research and SR3

- Small boat survey on November 22 out of Half Moon Bay. Survey track was from Half Moon Bay to the shelf edge to Rittenburg Bank to Point Reyes and back to Half Moon (see Figure 3).
- Several large concentrations of Humpback Whales ( $n = 53$  individuals) were observed. Visible concentrations of fish near the whales off Half Moon Bay, as well as presence of gulls and common mures, suggests they were feeding on fish.
- Blue whales ( $n = 3$  individuals) were seen along the shelf edge  $\sim 23$  nm west of Half Moon Bay.
- Dense sets of recreational gear were seen off Half Moon Bay out to 7 nautical miles from shore ( $\sim 65$  m depth), as well as two heavily fouled sets of commercial gear. Recreational gear was also seen  $\sim 8$  nm from shore in  $\sim 50$  m water depth along final leg south from Point Reyes to Half Moon Bay.



Figure 3. Track of small boat survey and summary of sightings from 22 November 2019. Observations are coded as follows: Humpback Whales (red dots), Blue Whales (blue dots), and trap gear (open circles).

**Monterey Bay Whale Watch Data, compiled by Karin Forney**

- Humpback Whales are still being seen regularly, with no clear declining trend in numbers that would indicate southbound migration (see Figure 4).
- Blue Whales were seen in Monterey Bay until mid-November, but there have been no further sightings during the past two weeks.
- Only one Gray Whale has been seen so far (on Nov 8th), so their southbound migration through CA has not reached the Monterey Bay yet.

Number of whale sightings from 15 November 2013 - 29 Nov 2019 for Monterey Bay Whale Watch. The y-axis is the number of whales; the thin blue bars are the average daily whale numbers, and the red line is a 7-day running average to make the patterns a bit easier to see. A vertical green line has been added at November 15 of each year for reference. Each tick mark is one month.

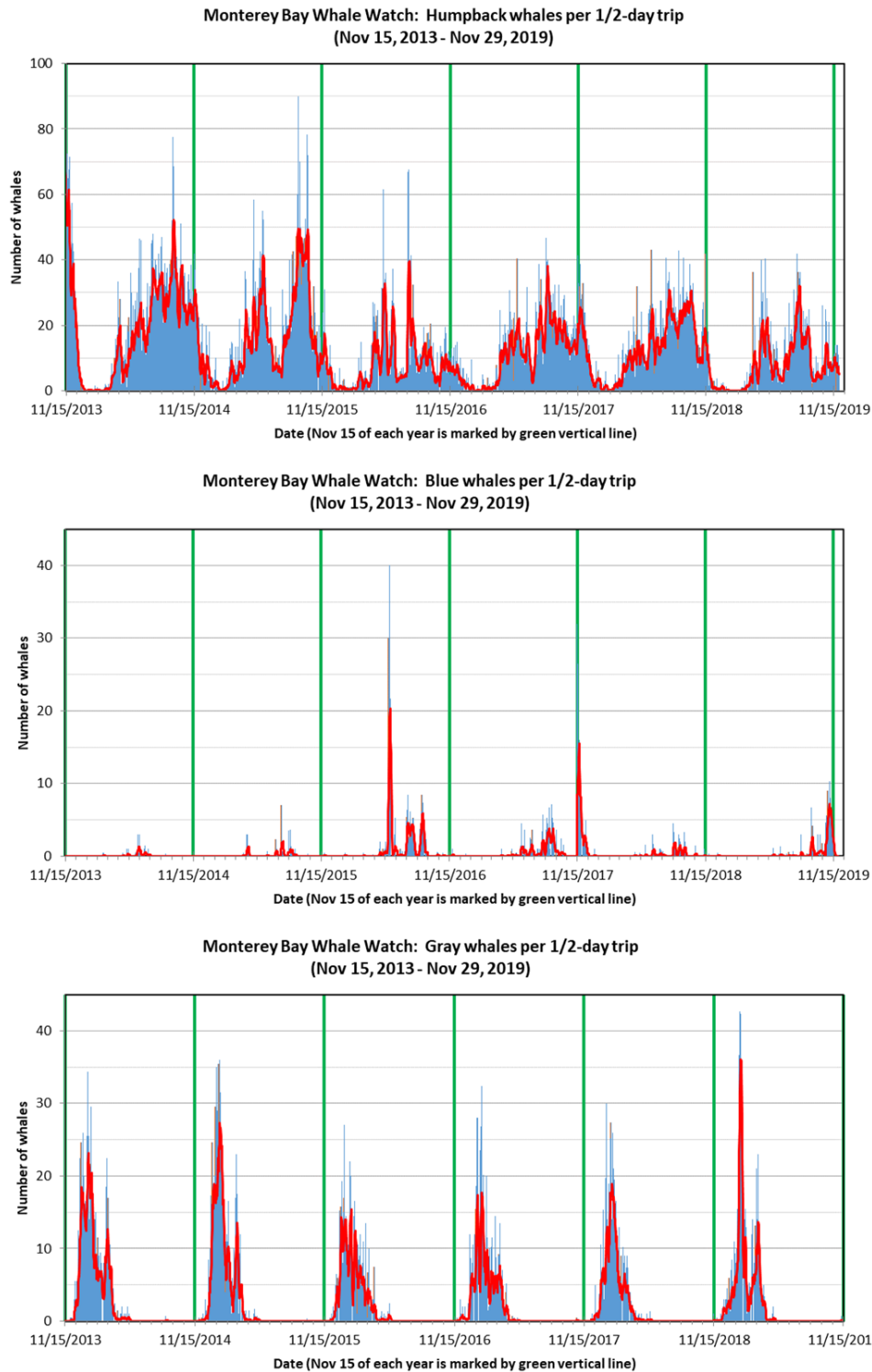


Figure 4. Sightings of Humpback, Blue, and Grey Whales in Monterey Bay per half-day whale watching trip, November 15 2013 to November 29 2019.

## FACTOR: FISHING DYNAMICS

Data provided by: California Department of Public Health and Pacific States Marine Fisheries Commission

### Domoic Acid

- Samples collected on November 13 indicated Usal area was still hot (see Figure 5). Samples collected on 11/23 are being processed. If 11/23 samples are below the action level (30 ppm), a second clean sample would be required prior to opening.

#### CDPH SUMMARY OF DOMOIC ACID LEVELS IN CRABS

JULY 1, 2019 - DECEMBER 3, 2019

PORT	AREA	SAMPLE COLLECTION DATE	CRAB TYPE VISCERA	INDIVIDUAL SAMPLE RESULTS (FDA ACTION LEVEL >30 PPM)	AVERAGE LEVEL (Information Only)	PERCENT OF SAMPLES EXCEEDING ACTION LEVEL
Crescent City	George Reef	10/2/2019	Dungeness	<2.5, 3.6, 7.1, 5.6, 8.5, 4.3	4.9 ppm	0%
	Klamath River	10/3/2019	Dungeness	4.8, 2.7, <2.5, <2.5, <2.5, 6.0	2.3 ppm	0%
Trinidad	Trinidad North	10/2/2019	Dungeness	3.7, <2.5, <2.5, <2.5, 2.6, <2.5	1.1 ppm	0%
	Trinidad South	10/2/2019	Dungeness	2.7, <2.5, <2.5, 2.5, <2.5, <2.5	0.9 ppm	0%
Eureka	LP Eureka	10/2/2019	Dungeness	<2.5, <2.5, 3.0, <2.5, 3.0, 5.2	1.9 ppm	0%
	Eel River	10/2/2019	Dungeness	<2.5, <2.5, <2.5, <2.5, <2.5, 3.5	0.9 ppm	0%
Fort Bragg	Usal	10/12/2019	Dungeness	6.1, 32, 4.1, 8.1, 13, 5.1	11.4 ppm	17%
	Point Arena	10/11/2019	Dungeness	3.8, 2.6, <2.5, 3.3, 4.4, 4.2	3.1 ppm	0%
	Usal	10/29/2019	Dungeness	16, <2.5, <2.5, 3.4, 6.7, 3.7	5.0 ppm	0%
	Usal	11/13/2019	Dungeness	9.9, 6.9, 14, 15, 17, 33	16 ppm	17%
	Usal	11/23/2019	Dungeness	Pending		
	Usal		Dungeness	Pending		
Bodega Bay	Point Reyes	9/25/2019	Dungeness	4.9, 4.7, 6.1, 2.5, 4.3, <2.5	3.8 ppm	0%
	Bodega Head	9/25/2019	Dungeness	11, 9.5, 4.5, 19, 43, 58	24 ppm	33%
	Russian River	9/21/2019	Dungeness	24, <2.5, <2.5, <2.5, <2.5, <2.5	4 ppm	0%
	Salt Point	9/21/2019	Dungeness	<2.5, <2.5, <2.5, <2.5, 12, <2.5	2 ppm	0%
	Bodega Head	10/8/2019	Dungeness	27, 10, 6.9, 5.9, <2.5, 20	12 ppm	0%
	Bodega Head	10/19/2019	Dungeness	8.4, 7.8, 8.1, <2.5, 3.3, 7.2	5.8 ppm	0%
Half Moon Bay/ San Francisco	Pillar Point	9/27/2019	Dungeness	<2.5, <2.5, <2.5, <2.5, <2.5, <2.5	Non-Detectable	0%
	Pigeon Point	9/27/2019	Dungeness	2.6, <2.5, <2.5, <2.5, <2.5, <2.5	0.4 ppm	0%
	Duxbury	10/15/2019	Dungeness	39, <2.5, <2.5, <2.5, 4.9, <2.5	7.3 ppm	17%
	Duxbury	10/28/2019	Dungeness	<2.5, <2.5, <2.5, 17, 2.9, 2.8	3.8 ppm	0%
	Duxbury	11/5/2019	Dungeness	<2.5, 36, <2.5, <2.5, <2.5, <2.5	6 ppm	17%
	Duxbury	11/11/2019	Dungeness	<2.5, <2.5, <2.5, 4.6, <2.5, <2.5	0.8 ppm	0%
	Duxbury	11/18/2019	Dungeness	3.4, 12, <2.5, <2.5, <2.5, <2.5	2.6 ppm	0%
Monterey	Monterey Bay	9/29/2019	Dungeness	5.8, 3.4, 2.9, 14, 5.9, 13	7.5 ppm	0%
Morro Bay	Avila Beach	9/25/2019	Dungeness	<2.5, <2.5, <2.5, <2.5, <2.5, 3.5	0.6 ppm	0%
	Avila Beach	9/25/2019	Rock	<2.5, <2.5, <2.5, <2.5, <2.5, <2.5	Non-Detectable	0%
San Pedro	San Pedro	11/12/2019	Rock	<2.5, <2.5, <2.5, <2.5, <2.5, <2.5	Non-Detectable	0%
San Clemente	San Clemente	10/23/2019	Rock	<2.5, <2.5, <2.5, <2.5, <2.5, <2.5	Non-Detectable	0%
San Diego	Cabrillo Nat. Mon.	10/6/2019	Rock	<2.5, <2.5, <2.5, <2.5, <2.5, <2.5	Non-Detectable	0%
	Cabrillo Nat. Mon.	10/7/2019	Spider	<2.5, <2.5, <2.5, <2.5, <2.5, <2.5	Non-Detectable	0%

1 SET = 6 SAMPLES

Figure 5. Domoic Acid Testing Results for Dungeness, Rock, and Spider Crabs as of December 3, 2019.

### Quality

- Testing in early November showed quality was below 23% in all testing areas (see Table 1). Seasons have been delayed in Washington, Oregon and California's Northern Management Area until at least December 15, pending further testing.
- Additional quality samples were collected on December 3 in Eureka, Crescent City, and Trinidad.

Table 1. 2019 Preseason Coastal Dungeness Crab Quality Test Results for WA, OR and CA, including District 10. Date = date traps were pulled. Test Areas followed by \* (Astoria, Garibaldi, Port Orford, Brookings) had only one test station each, with 18 pots per test station. Meat Recovery % of 'no pickout' had < 300 lbs for the area. Data provided by Pacific States Marine Fisheries Commission: <http://www.psmfc.org/crab/>.

Test Area	State or District	Optional Early Round: Date	Optional Early Round: Meat Recovery %	Round 1: Date	Round 1: Meat Recovery %
Northern	Washington	no test	no test	11/5/19	no pickout
Westport	Washington	10/24/19	20.97%	11/7/19	22.6%
Long Beach	Washington	10/23/19	19.1%	11/6/19	20.4%
Astoria (50-A)*	Oregon	no test	no test	11/6/19	20.3%
Garibaldi (50-B)*	Oregon	no test	no test	11/5/19	21.0%
Newport North (50-C and 50-D)	Oregon	no test	no test	11/5/19	21.7%
Newport South (50-E and 50-F)	Oregon	no test	no test	11/5/19	21.0%
Coos Bay North (50-G and 50-H)	Oregon	no test	no test	11/5/19	21.1%
Coos Bay South (50-I and 50-J)	Oregon	no test	no test	11/5/19	21.6%
Port Orford (50-K)*	Oregon	no test	no test	11/5/19	20.8%
Brookings (50-L)*	Oregon	no test	no test	11/5/19	22.3%
Crescent City	California	no test	no test	11/3/19	21.4%
Trinidad	California	no test	no test	11/3/19	20.2%
Eureka	California	no test	no test	11/3/19	21.9%
Bodega Bay	District 10	no test	no test	no test	no test
San Francisco	District 10	no test	no test	no test	no test

**FACTOR: OCEAN AND FORAGE**

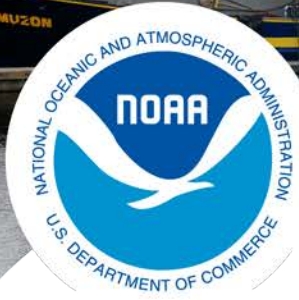
*No data was provided for this factor.*

# 2019 summary

**\*\*preliminary data through December 2, 2019\*\***

- **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)
    - 1 WDFW (1 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)





**NOAA**  
**FISHERIES**

- West Coast  
Region

# Dungeness crab + rock crab trap entanglement

20191121Mn

# November 21, 2019 entanglement

- Entangled humpback whale reported off La Jolla, CA
- Animal in poor health (lots of whale lice, not moving much), could indicate entanglement has been on whale for a while
- Most of gear removed from whale and recovered, including pulling trap from bottom (thanks to fisherman help)
- Whale swam off after entanglement removed



# November 21, 2019 entanglement recovered gear

