

Appreciating the Complexity of Entanglements

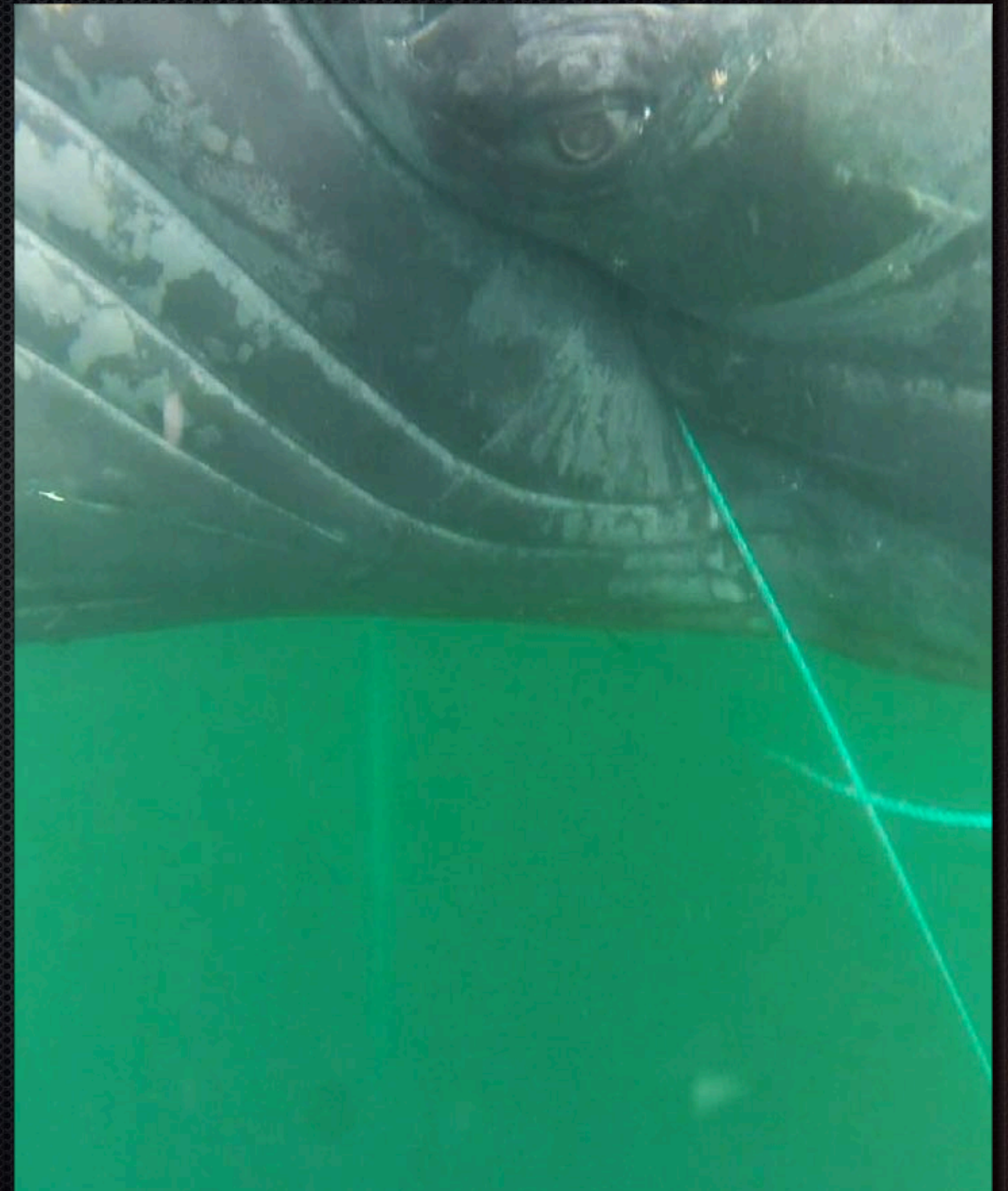


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Primary Disentangler, West Coast
Entangled Whale Response Network
3 September 2019

Documentation

- ✦ Getting a grip on the extent of the issue
- ✦ Properly attributing entanglements
- ✦ Understanding Mechanism of Injury (MOI)
- ✦ Progression of injury; prognosis for survival; fatalities; ESA & PBR
- ✦ Time, location, and species trends
- ✦ Inform decision makers, gear developers



Materials

Different entanglements



Gill Net



Monofilament Long-line



3/4" Nylon Braid Buoy Mooring

Materials

Different entanglements



D-Crab

NOAA FISHERIES MMHSRP PERMIT # 18786-03
Photo Credit: Tackaberry/Flynn, Cascadia Research Collective



Small Diameter Monofilament



Aquaculture Frame

Materials

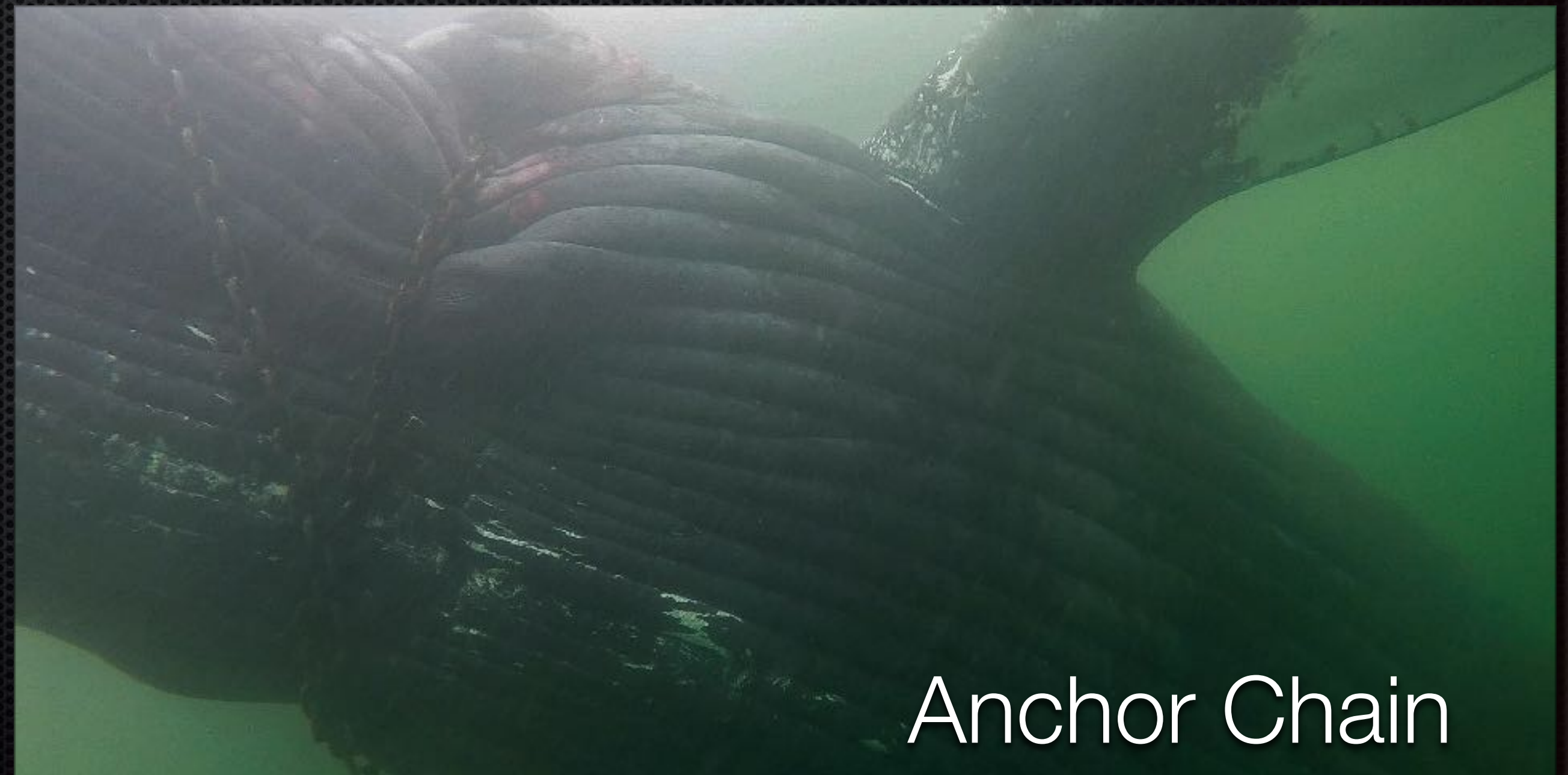
Different entanglements



Sein Net



Non-crab Ground Gear



Anchor Chain

Materials

Different entanglements



Unknown



Multiple Sets



Multiple Fisheries

Materials

Different entanglements



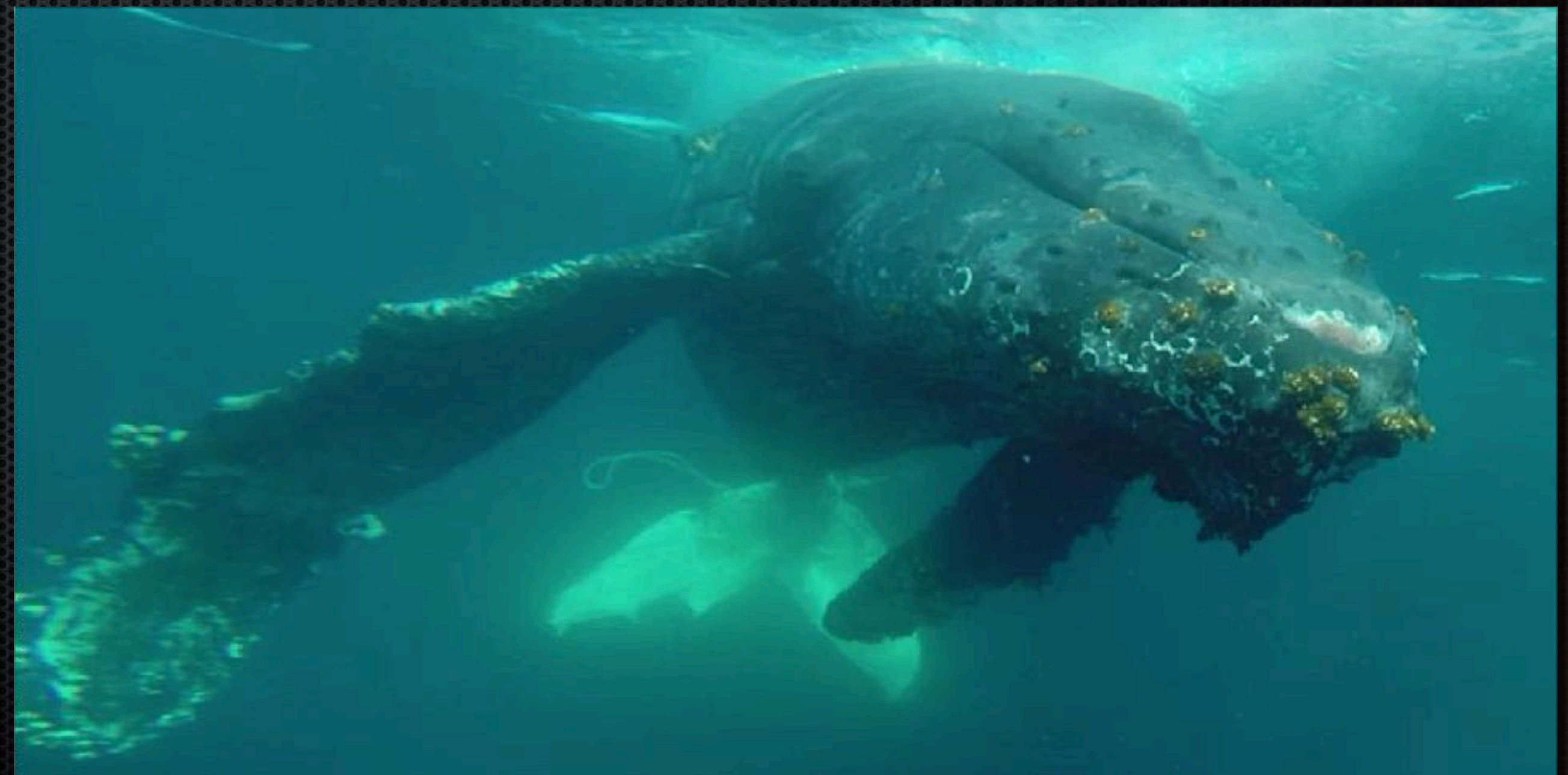
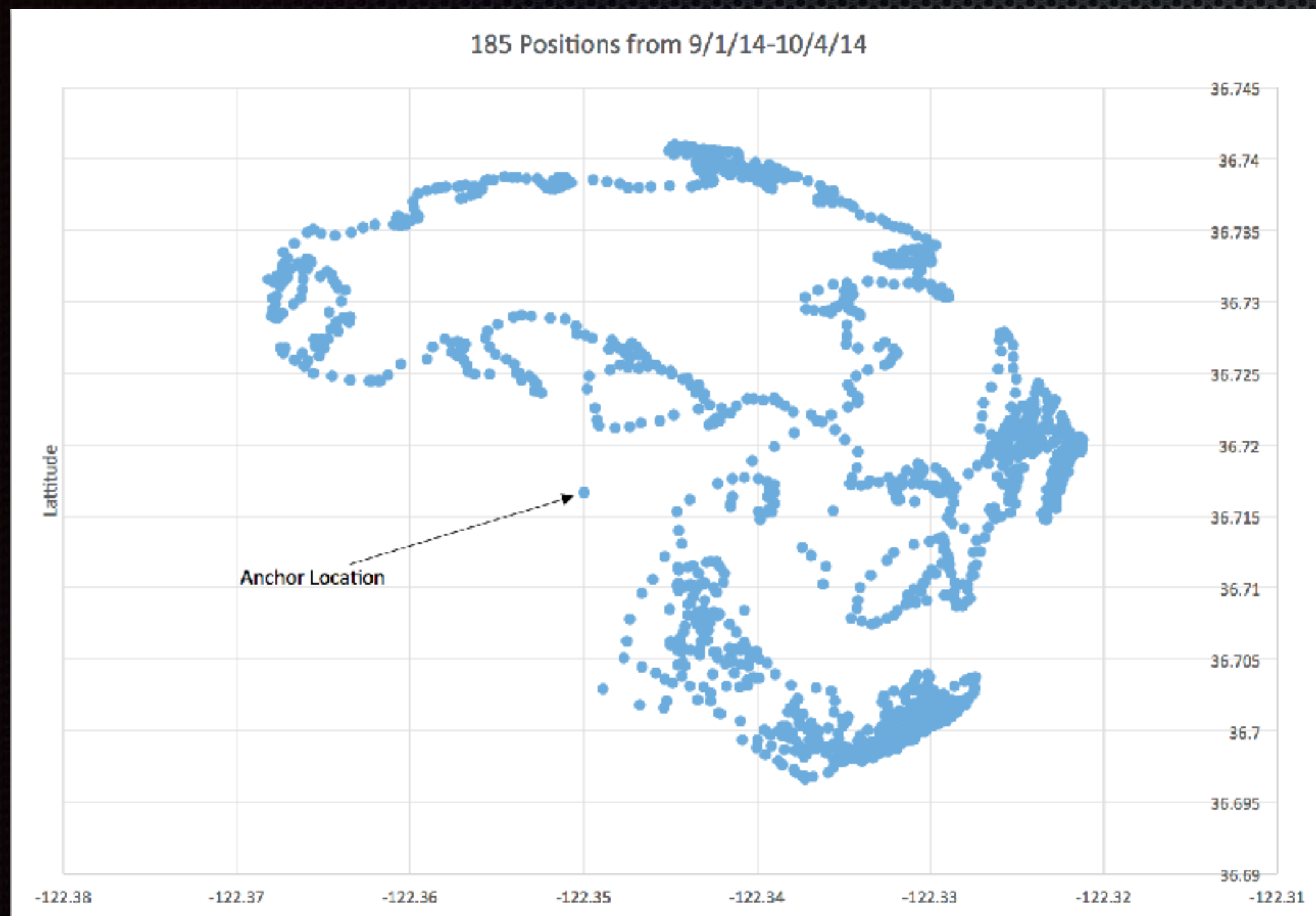
Bull Kelp

MIGRATION OF AN ENTANGLEMENT



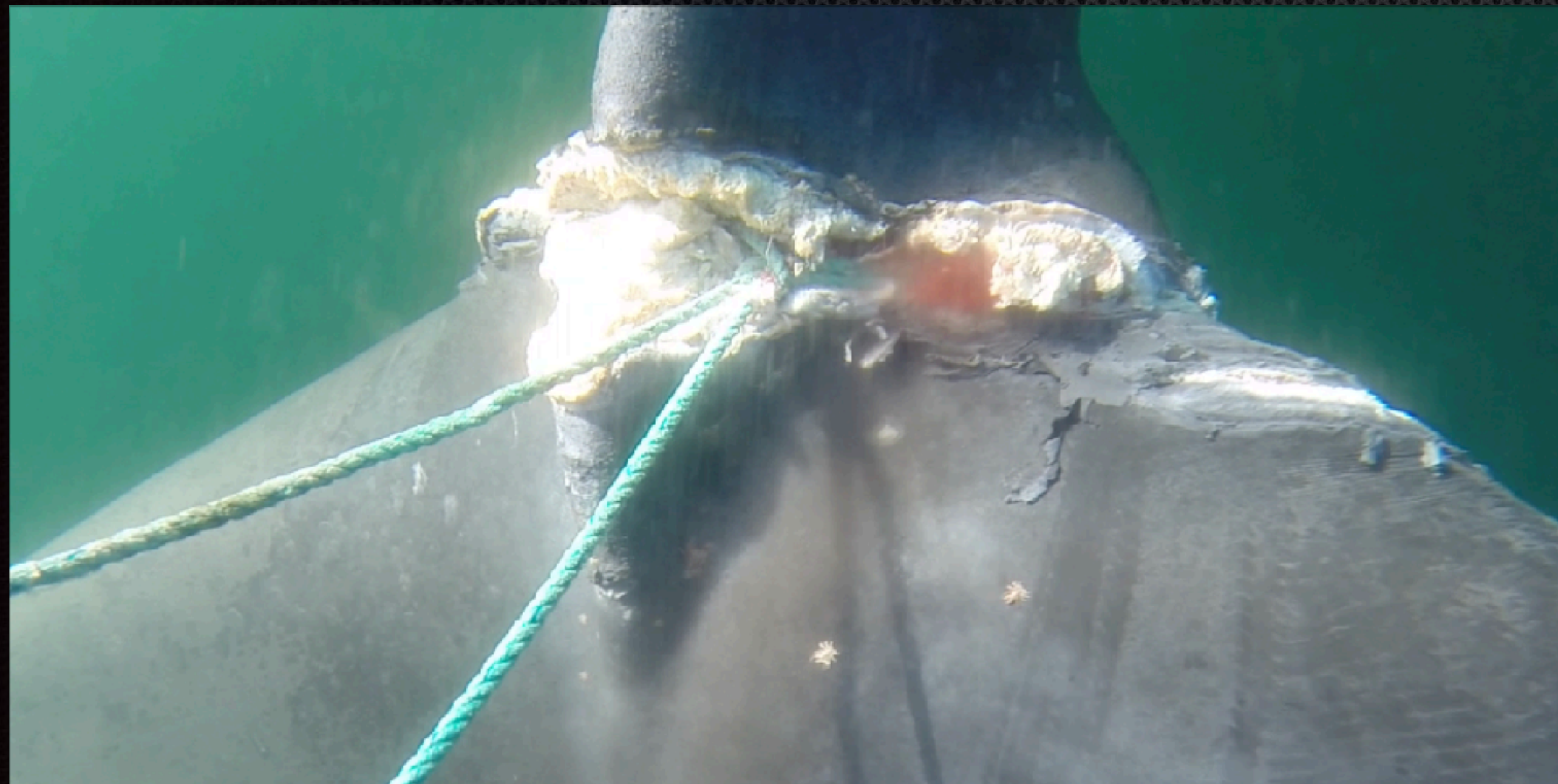
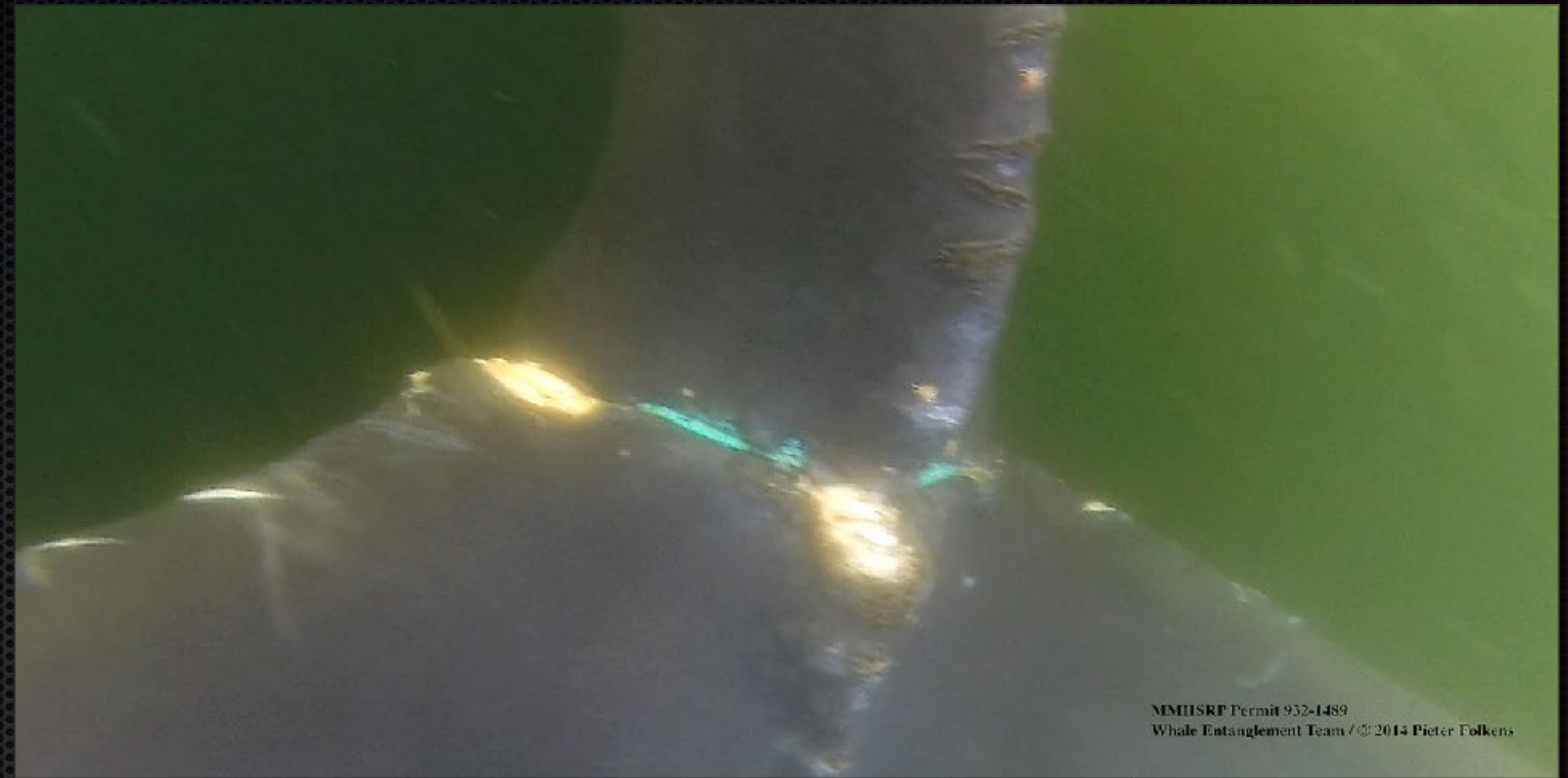
Time

Entanglement to injury,
the progression of decline



Time

From entanglement to injury
. . . to recovery.



Interpret evidence

Evaluating survivors as to type
and propensity



Catastrophic

Understanding how types of entanglements lead to severe injuries



Case Study — Influencing the RAMP

- ❖ Commercial D-Crab gear
- ❖ Gear set and entangled in WA
- ❖ Dragged gear into California
- ❖ Got hung up in CDIP Buoy
- ❖ Freed, but some line remained
- ❖ Recorded as CA entanglement, a probable fatality



Survivors

- “Rope” a.k.a. CRC-12578
- First documented as a formerly entangled adult in April 2009
- Sighted 22 times, most recently 29 August 2019, in the same general area (Santa Barbara Channel)
- Site tenacity — returns to same area



Fine-tuning the RAMP

The CA D-Crab fishery needs good forensic analysis so that this specific fishery is not singled out as cause of unintended injuries

