

Briefing on the Complexity of Large Whale Entanglements

Joint Committee on Fisheries and Aquaculture

28 November 2018

Pieter A. Folkens



PRIMARY SPECIES INVOLVED



Humpback Whale



Gray Whale

OTHER SPECIES OF CONCERN



Blue Whale



North Pacific Right Whale

OTHER SPECIES KNOWN

- ❖ Fin Whale
- ❖ Killer Whale
- ❖ Minke Whale
- ❖ Bryde's Whale
- ❖ Sperm Whale



MMHSRP #18786-03 Photo: Doug Croft/WET | NMTC 15621 | Doug Croft

TYPES OF ENTANGLEMENT

- ❖ Type I — Head (including mouth)
- ❖ Type II — Appendage (pectoral fins)
- ❖ Type III — Thoracic/Lumbar (body)
- ❖ Type IV — Peduncle (post dorsal fin)
- ❖ Type V — Flukes
- ❖ Type VI — Compound/Complex



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Photo: San Diego Whale Watch

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Photo: Kevin Roberts

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Photo: F. Brennan

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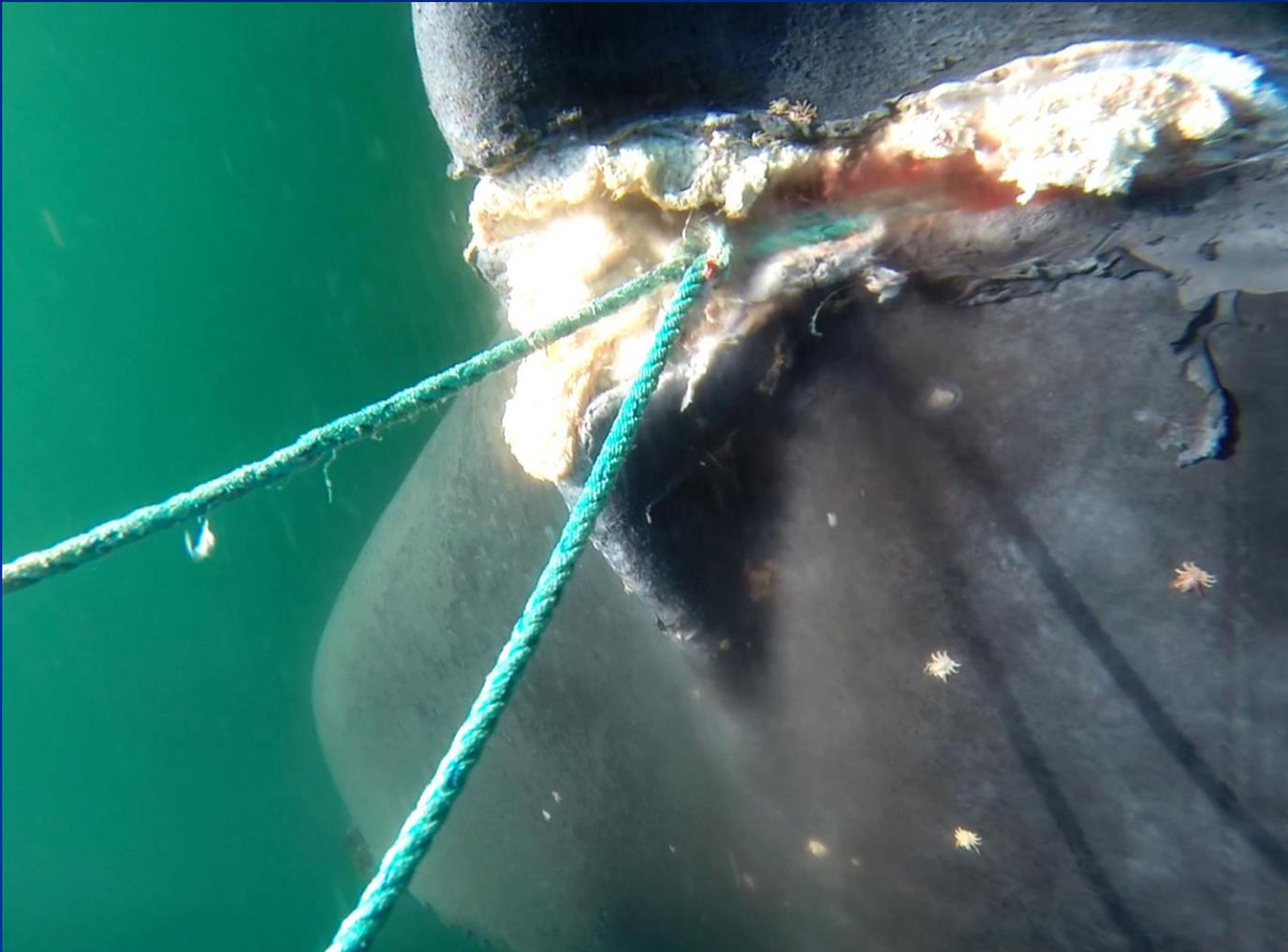
Gear from two fisheries, 15-sets with 12 traps each; anchors, buoys, and lines; involving the head, mouth, one flipper, peduncle and flukes.

A photograph showing a large, tangled pile of ropes and floats on a grey concrete surface. The ropes are multi-colored, with shades of blue, white, and tan. Two floats are prominent: one is bright yellow and the other is white with some greenish-brown staining. The ropes are knotted and looped in a complex, chaotic pattern.

ENTANGLING MATERIALS

It's not only Dungeness crab gear.

VARIOUS ENTANGLING MATERIALS



- ❖ Blue Steel rope (3-strand)
 - ❖ ground fisheries
 - ❖ recreational crab
- ❖ Monofilament Longline
- ❖ Gill Net (monofilament)
- ❖ Sein Net (nylon)
- ❖ Other

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Photo: Monterey Bay Whale Watch

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Photo: Michael White

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J. Moran/ NMFS (NOAA MMHSRP- permit # 18786-01)

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INJURIES CAUSED BY ENTANGLEMENT

ENTANGLEMENT INJURIES

- ❖ Abrasion/Chafing
- ❖ Physical deformation
- ❖ Amputation
 - ❖ Fluke
 - ❖ Appendages (flipper)
- ❖ Nutritional stress
- ❖ Infection, infestation
- ❖ Drowning



ENTANGLEMENT INJURIES

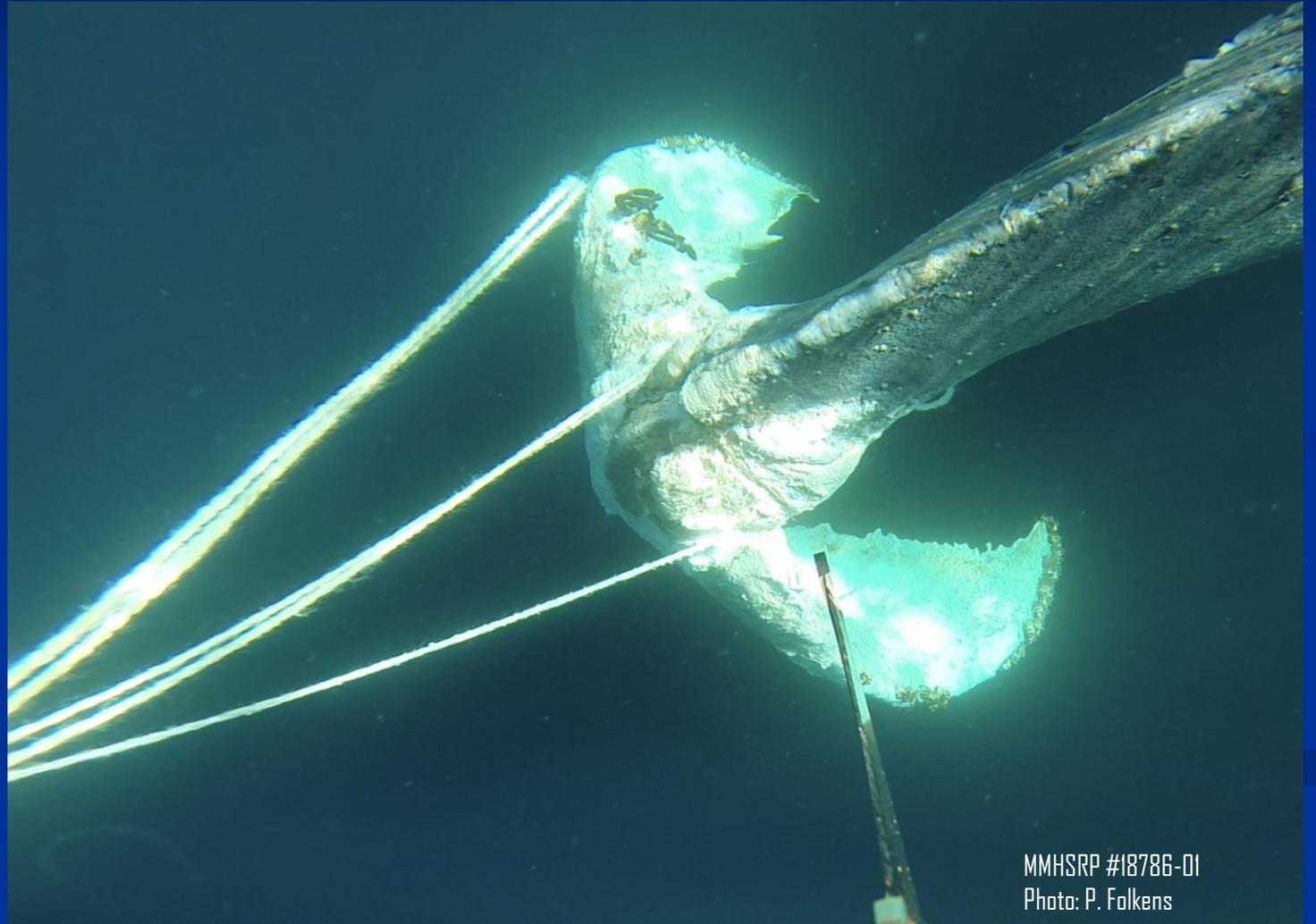
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Photo: K. Spencer/Fast Raft

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MMHSRP #18786-01
Photo: P. Folkens

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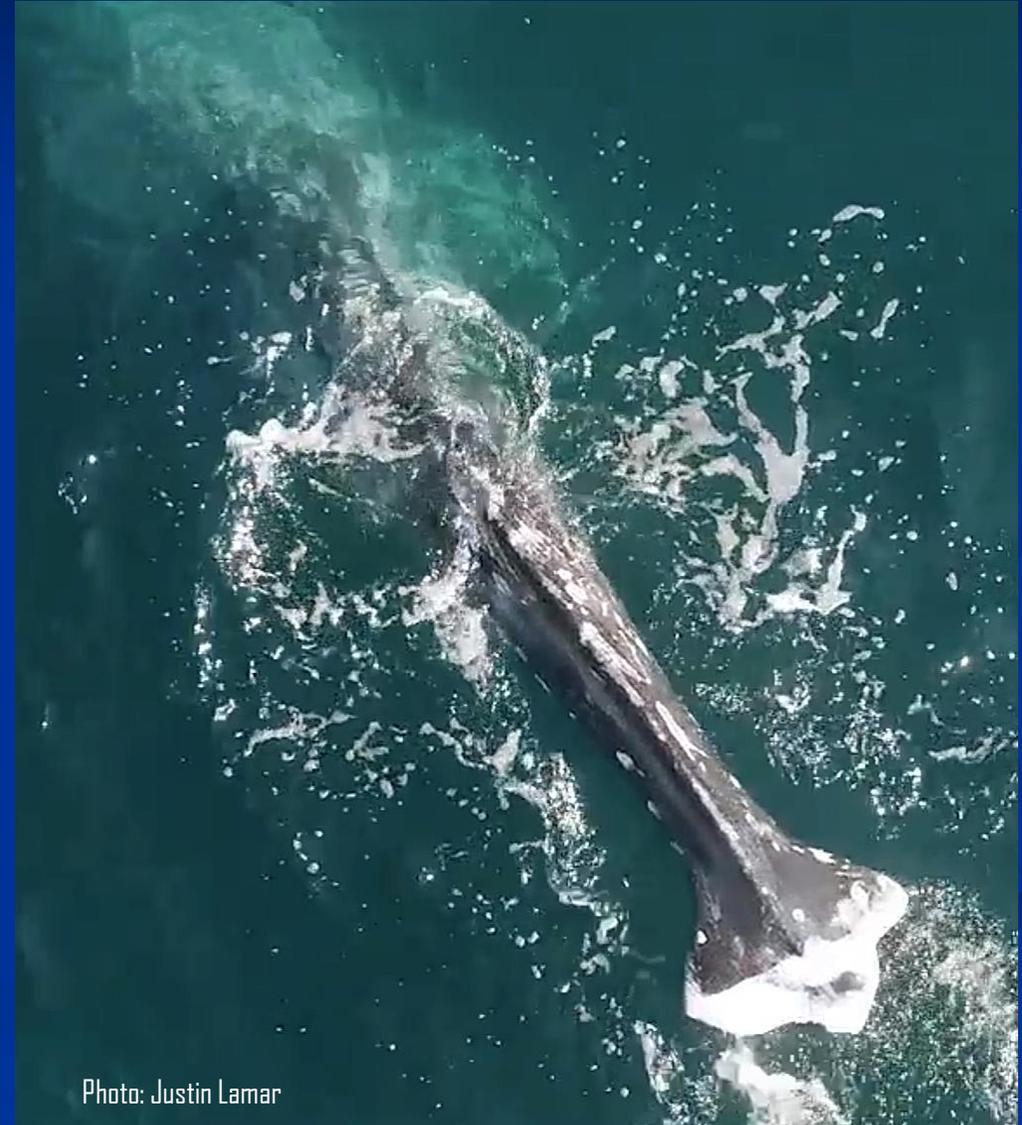


Photo: Justin Lamar

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Photo: Brooke Palmer

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MMHSRP #18786
Photo: P. Falkens

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Photo: S. Hollingsworth

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Photo: B. Alps/Photocetus

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CONTRIBUTING FACTORS



It's more complex than simply whale
meets fishing gear

WHALE BEHAVIOR



... and vertical lines in water

Photo: K. Spencer

CONTRIBUTING FACTOR

Whale Behavior



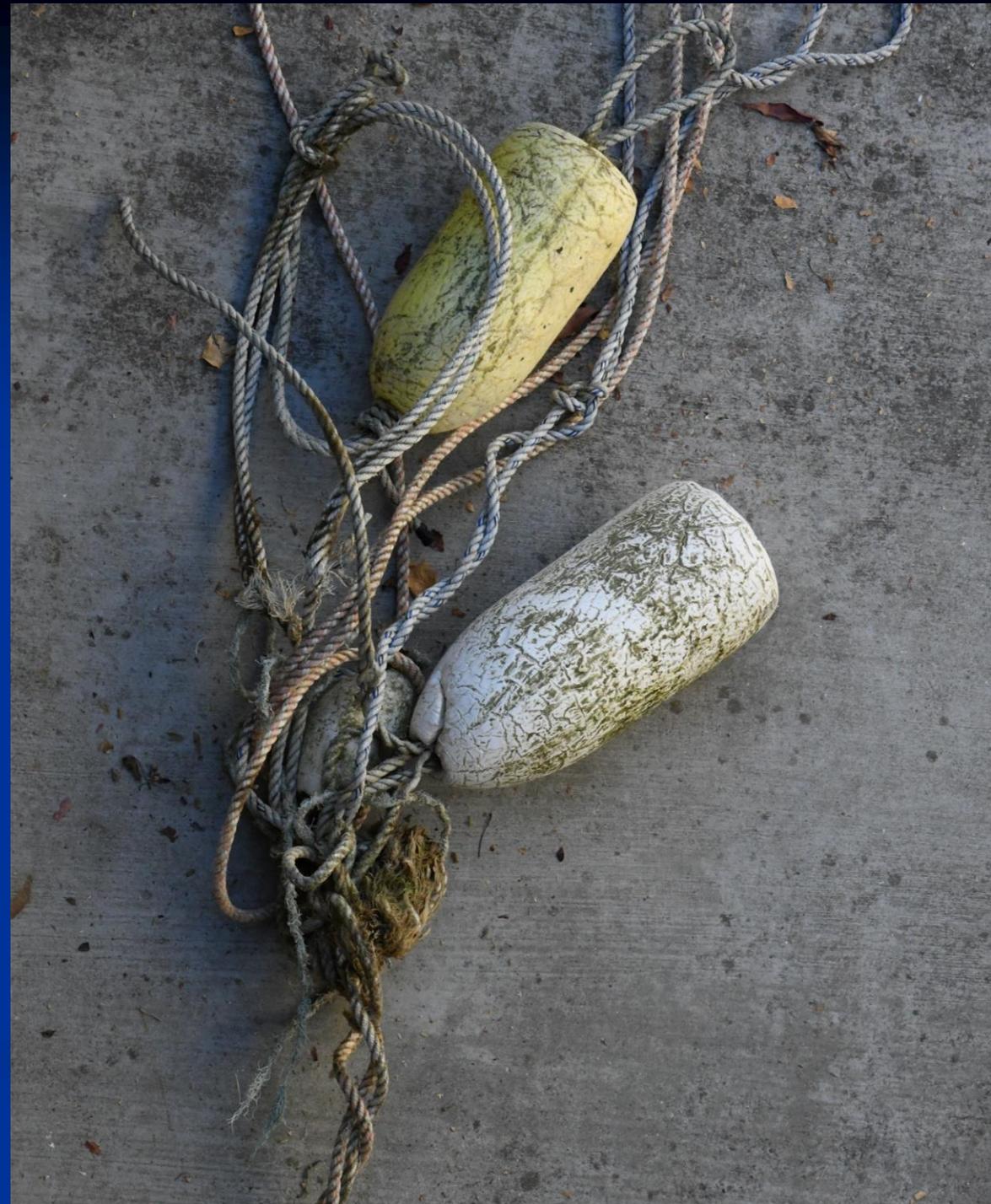
CONTRIBUTING FACTOR

Whale Behavior



CONTRIBUTING FACTOR

Rope
Behavior



ROPE BEHAVIOR



RESPONDING TO LARGE WHALE ENTANGLEMENTS



A Team Effort

MMHSRP #18786-03
Photo: Dawn Goley



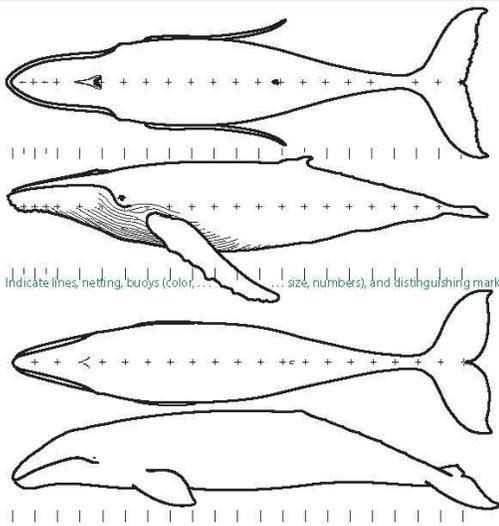
California Whale Rescue Reporting Card

MINOR PERMIT #18786
CA Whale Stranding Scheme 2015

Ocean users play an important role in helping marine mammals in distress. Please report injured, entangled, stranded, ship-struck, and other health concerns to NOAA Fisheries' **24/7 Hotline at (877) SOS-WHALE (877-767-9425)**, or hail the USCG on **VHF CH-16**. Try to obtain photos of injuries and entangling gear. Otherwise use the illustration below. Your report will be relayed to trained responder(s). This card prompts for information, that is necessary to launch an appropriate response, and is valuable toward reducing threats in the future.

Safety first! Marine mammal rescue is dangerous. Do not assist without guidance and authorization. Stay a safe distance away—100 yards for humpback whales and 50 yards is recommended for other marine mammals.

Please be aware that it is not possible or appropriate to respond to every entangled, stranded, ship-struck, or otherwise distressed marine mammal. For strandings, rehabilitation and subsequent release may be possible. For ship-strike events, the animal may be monitored and assessed. For an entangled or hooked animal, an authorized team may free it. If a response is mounted, standing by and monitoring the animal from a safe distance until responders arrive is extremely valuable.



Starts With Good Information

Reporting Cards

Entanglement Hotline: (877) SOS-WHAL (877-767-9425)

Marine Mammal in Distress Reporting Card

Report injured, entangled, stranded, ship-struck marine mammals as soon as possible. Reports will be relayed to trained responders. Authorized personnel will guide you as to what to do next. Prompt reporting is the best way to help distressed animals. The following information will aid responders in mounting an appropriate response.

DATE: _____ TIME OF LAST SIGHTING: _____

NAME: _____ VESSEL/CALL SIGN: _____

PHONE NUMBER (Cell): _____

GENERAL LOCATION (Landmarks): _____

SPECIFIC LOCATION: _____ °N _____ °W

SPECIES (If known): _____

APPROXIMATE SIZE/AGE CLASS: _____

NATURE OF THE DISTRESS (Describe in detail what you see; colors, numbers, type of line):

GENERAL CONDITION OF THE WHALE: _____

WEATHER/SEAS (Wind, swell, visibility): _____

IS THE ANIMAL MOVING? Y / N speed _____ heading _____

CAN YOU STAND BY? Y / N HOW LONG? _____ PHOTOS? Y / N VIDEO? Y / N

CONTACT INFORMATION FOR PHOTOS: _____

To report incidents of marine mammal harassment, call NOAA's Office of Law Enforcement at (800) 853-1964. Report injured or stranded sea turtles to the NOAA Fisheries' Marine Turtle Stranding Hotline at (808) 983-5730.

The West Coast Marine Mammal Response Network is coordinated by NOAA Fisheries Protected Resources Division and California Whale Rescue. It is authorized under NOAA Fisheries' Marine Mammal Health and Stranding Response Program permit #18786. The Network includes NOAA Sanctuaries, the Coast Guard, researchers, fishermen, tour operators, and many private citizen volunteers.



OUTREACH

Ocean Users' Guidelines

- Remain at least 100 yards/meters away from whales and where marine mammals come ashore.
- Remain at least 50 yards/meters away from pinnipeds at sea and other marine animals (dolphins, porpoises, sea otters, and sea turtles). If you see a stranded animal, call 24-hour toll free hotline 877-SOS-WHALE (877-767-9425).
- Do not feed, touch, ride, or swim with marine mammals or sea turtles. Avoid approaching marine mammals or sea turtles when swimming or diving.
- Avoid following behind or directly approaching in front of the animal(s). Attempt to parallel an animal's course, do not travel at speeds faster than the animal(s), and maintain a constant speed.
- Should dolphins or porpoises choose to ride the bow wave of your vessel, reduce speed gradually as necessary, and avoid sudden course changes.
- If approached by a marine mammal or sea turtle, put the engine in neutral and allow the animal to pass. Do not engage propellers until the animal(s) are observed at the surface and are clear of the vessel.
- Marine mammals and sea turtles should not be trapped between vessels or between vessels and the shore.
- Communicate with other vessel operators in the area to minimize disturbance to marine mammals. Wait your turn from a distance and then approach cautiously after other vessels have left.
- When marine wildlife is known to be in an area, post a look out, reduce speed, and be cautious. Marine animals may surface unpredictably at any time or location.

Guidelines Specific to Sea Otters

- Sea otter mothers and pups need more resting time than many other animals in order to stay healthy. Please respect an otter's needs and keep your distance. If you approach a sea otter on a kayak, surfboard, or boat, and the animal dives as a result of your approach, you have caused a disturbance.

Report Marine Mammals in Distress

24-hour Toll Free Hotline:
877-SOS-WHALE (877-767-9425)
 or **Hail the United States Coast Guard on VHF CH-16**

Report incidents of marine mammal harassment to NOAA's Office of Law Enforcement at 800-853-1964.

Immediate reporting of injured, entangled, stranded, or ship-struck marine mammals to the hotline is the best way to help a distressed animal. If possible, please stay with the animal while maintaining 100 yards/meters distance from the animal. Authorized personnel will guide you as to what to do next.

Provide information below to help authorized responders:

- Your name and phone number (to contact you for more information)
- Date and time of sighting
- Species (if known, otherwise a general description)
- Location (be as specific as possible, include latitude and longitude if available), weather conditions/sea state
- Nature of distress (entanglement, visible injury, etc.)
- Other details: size, is the animal swimming (speed and direction heading, diving, breathing), description of entanglement, any photos or video taken, etc.
- Can you stay with the animal; if so, for how long?



This guide was developed by Marine Life Studies, 4th Edition. Photos by Peggy Stap. Illustrations by Pieter Folkens, A Higher Porpoise Design Group. © 2016 Printed in USA on a waterproof recyclable material. Photos taken under authority of NOAA permit 1094-1836, MMHSRP permit 932-1489. www.MarineLifeStudies.org www.WhaleEntanglementTeam.org

Marine Mammals of CALIFORNIA

A Waterproof Ocean Users' Guide



MARINE MAMMALS OF CALIFORNIA

Multiple ocean environments come together along the California coast, providing a suitable habitat for a wide variety of marine life. This area sports one of the most diverse assemblages of marine mammals in the world. Some species are resident (harbor seal, minke whale, sea otter, and California sea lion), several are transient (gray whale and killer whale), while others use the area as a seasonal destination (humpback whale, elephant seal, and northern fur seal).

Ocean users play important roles in marine mammal conservation. You can make a meaningful contribution in protecting marine mammals by following the information provided in this guide.

PINNIPEDS — SEALS & SEA LIONS

Pinnipeds divide their lives between foraging at sea and coming ashore to rest, mate, give birth, suckle their young, or molt. Pinnipeds are classified into two families. Otariids (sea lions and fur seals) have external ear flaps and can rotate their hind flippers under their pelvis to walk on all fours on land. Phocids (seals) have no external ear flaps and drag their hind limbs, moving like an inch worm on land.

OTARIID PINNIPEDS



PHOCID PINNIPEDS



BALEEN WHALES & LARGER TOOTHED WHALES

Whales and dolphins are in the order Cetacea in two living groups—Mysticeti (baleen whales, paired blowholes) and Odontoceti (toothed whales, one blowhole).

MYSTICETES



LARGE ODONTOCETES



SEA OTTER

Otters are members of the weasel family that have adapted to life almost entirely in the water. Sea otters are endangered and occasionally come ashore.



SMALL TOOTHED WHALES, DOLPHINS & PORPOISES



FACTORS CONSIDERED

- ❖ Quality of the report
 - ❖ Reporting Party available?
- ❖ Ability to stand by
- ❖ Species
- ❖ Age
- ❖ Location
- ❖ Support vessel(s), UAS?
- ❖ Qualified responders available
- ❖ Severity of the entanglement
 - ❖ Life threatening?
- ❖ GAR Model results
- ❖ Time of day
- ❖ Weather and sea state
- ❖ Authorization (NMFS PRD)
- ❖ Cost



ENTANGLED WHALE RESPONSE



- ❖ Timely report and evaluation
- ❖ Responder network notification
- ❖ Decision to act
- ❖ Re-sight the entangled whale
- ❖ Photo ID to extent possible
- ❖ Acquire working line
- ❖ Attach telemetry tag
- ❖ "Keg" to slow the whale
- ❖ Work up the line; close-in analysis
- ❖ Demeanor of the whale
- ❖ Reevaluate entanglement
- ❖ Plan the cut (one if possible)
- ❖ Retrieve the entangling gear
- ❖ Post-cut evaluation



ONE CUT



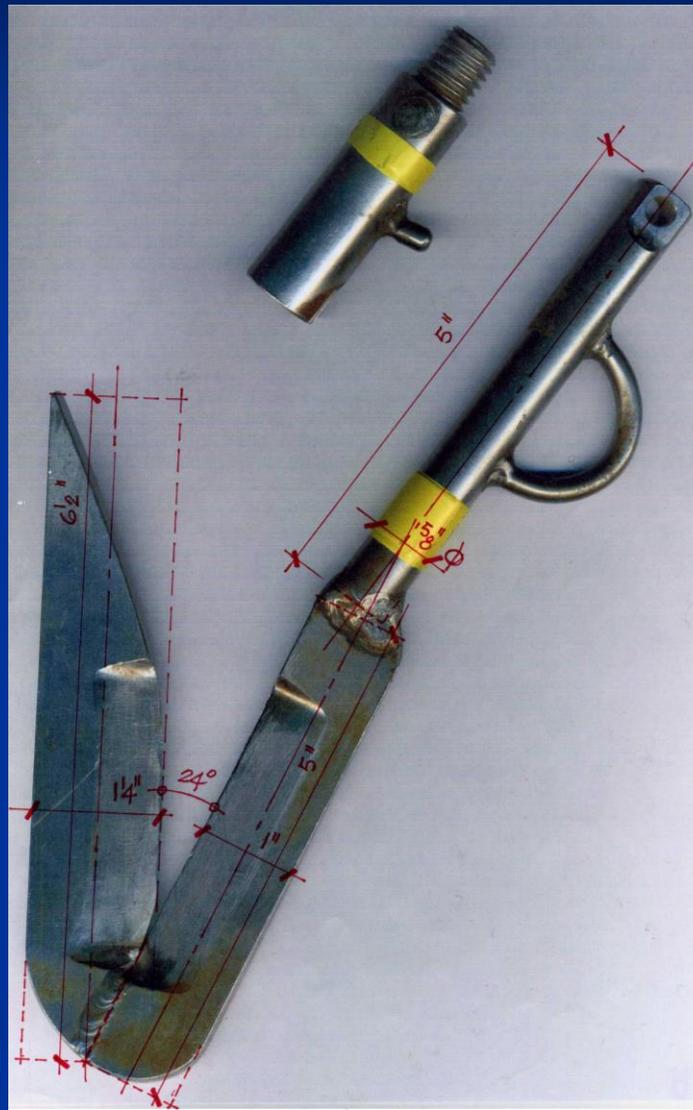
DEMEANOR OF THE WHALE



CUSTOM TOOLS



CUSTOM TOOLS



SECONDARY GOAL: RETRIEVING GEAR



RESPONDING PARTNERS



NETWORK NEEDS

- ❖ Reimbursement of response costs
- ❖ New tool development
- ❖ Comms system — radios, Plum case
- ❖ Printing for outreach materials
- ❖ Training & Cross-training
- ❖ Removed gear Cache
- ❖ Support for research & DSW



MMHSRP #18786 Photo: P. Stap

Thank you!

