



**NOAA
FISHERIES**

Pacific Islands
Regional Office

Protected Species Workshop

Aloha and Welcome!

May 1, 2015



**NOAA
FISHERIES**

Pacific Islands
Regional Office

NOAA Sustainable Fisheries' Objectives and Goal:

To maintain healthy stocks, eliminate overfishing, and rebuild overfished stocks important to commercial, recreational, and subsistence fisheries. Under these objectives, the goal is to increase long-term economic and social benefits to the nation from living marine resources.



NOAA
FISHERIES

Pacific Islands
Regional Office

Importance of fisheries to our economy:

Locally: Hawaii longliners (164 limited entry; about 139 currently active)
Direct ex-vessel wholesale value of catch almost \$76/88.5 million in 2011/2013.

Indirect value to our local economy in 2011/13:

\$109 /127 million generated in non-fishery sectors

\$51/59 million in household income – salaries

911/1062 jobs

\$7/8 million in tax revenue

Reason for being here:



NOAA
FISHERIES

Pacific Islands
Regional Office

§660.34 Protected Species Workshops

(a) Each year, both the owner and the operator of a vessel registered for use under any longline permit issued under § 660.21 must attend and be certified for completion of a workshop conducted by NMFS on interaction mitigation techniques for sea turtles, seabirds and other protected species.

Reason for being here (continued):



**NOAA
FISHERIES**

Pacific Islands
Regional Office

CFR Title 50-Wildlife and Fisheries

SUBCHAPTER C--MARINE MAMMALS

Part 229 – Authorization for Commercial Fisheries Under Marine Mammal Protection Act of 1972

229.37 – False Killer Whale Take Reduction Plan

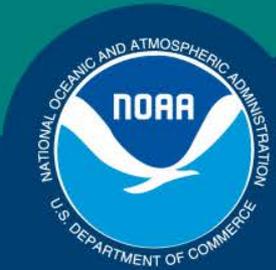
Part 665-Fish. in the Western Pacific
Subpart F-Western Pacific Pelagic Fisheries

665.812 – Sea turtle take mitigation measures

665.814 - Protected species workshop – sea turtles, sea birds and other protected species (marine mammals)

665.815 – Pelagic longline seabird mitigation measures

Science, Service, Stewardship



Identification, Handling, and Release Guidelines for Dolphins and Whales

Protected Species Workshop

May 1, 2015

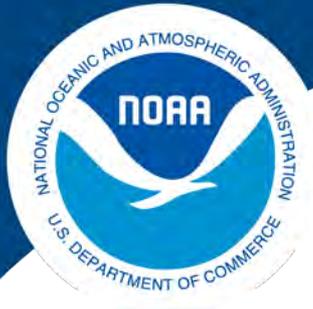
**NOAA
FISHERIES
SERVICE**



NOAA
FISHERIES

Objectives- What you will learn

- Species identification for common animals in the fisheries.
- What to do if an animal is hooked or entangled in your fishing gear.
- Fishermen requirements for reporting any animal caught under the Marine Mammal Authorization Program.
- How animals are handled by fishermen during interactions can affect the fisheries.
- Other ways you may reduce or avoid both getting whaled and seriously injuring or killing marine mammals.



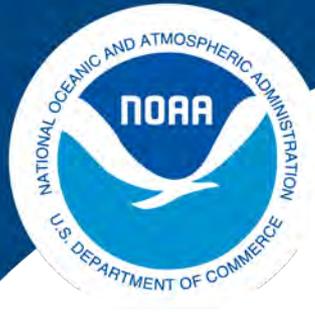
NOAA
FISHERIES

MMAP Mortality / Injury Reporting Form

Mortality – means the animal has been killed

Injury – means the animal has suffered a wound or other harm- big or small

- An animal released with fishing gear attached, ingested, or going through the body is considered to be injured

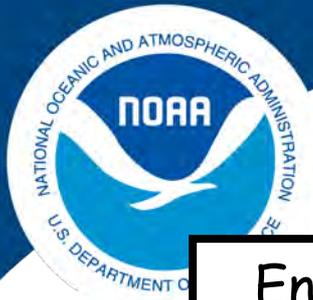


NOAA
FISHERIES

“Serious” and “Non-serious” Injury

- If the animal is not dead, the injury to the animal is either serious or non-serious.
- A serious injury is one that is likely to lead to death in the future- 51% or greater chance of death.
- A non-serious injury is one that is not likely to lead to death- the animal should be ok.
- If an animal is determined to be seriously injured, it is considered the same as a mortality.
- NMFS looks at all interactions and makes each injury determination individually- no pre-judgment.

General example and not complete or exact. Other information also considered.



**NOAA
FISHERIES**

Interaction

Entangled

Hooked

Gear removed

Gear attached

Outside
Mouth

Inside
Mouth

Animal can
move and eat

Animal cannot
move or eat normally

Not serious injury- OK

Serious injury- not OK



Serious Injury Determination - Example

False killer whale with an ingested hook and gear in mouth

NOAA FISHERIES

- Hooks around head and mouth can be considered serious because this may impair feeding.
- This gear was ingested.
- Animal considered **seriously injured.**

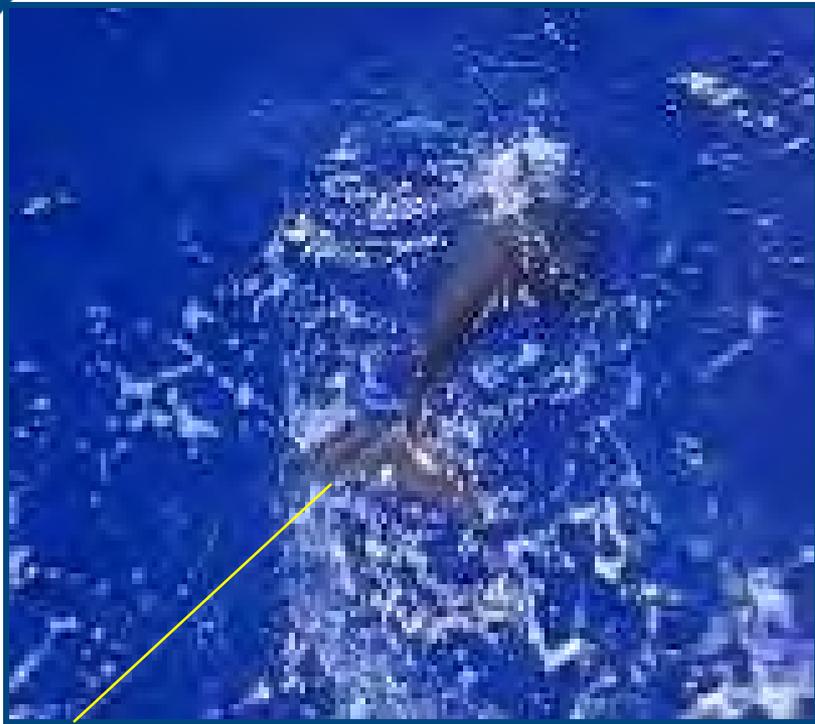


Photo: NMFS PIRO Observer Program



Serious Injury Determination - Example

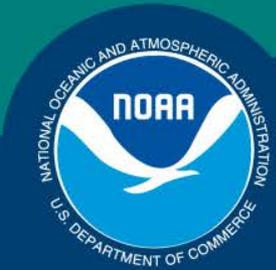
False killer whale that was hooked in tail



- Line cut with only 1 ft of line and hook attached.
- Hook not around head or mouth, cannot wrap around flippers, tail or head, swimming actively.
- Animal considered not seriously injured.

Photo: NMFS PIRO Observer Program

Science, Service, Stewardship



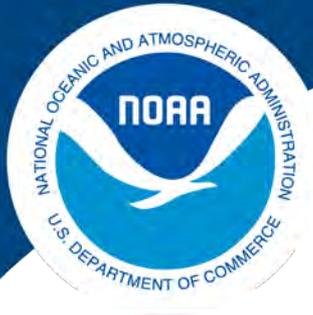
Longline Fishing Requirements to Reduce Takes of False Killer Whales

Protected Species Workshop

May 1, 2015

**NOAA
FISHERIES
SERVICE**

NOAA

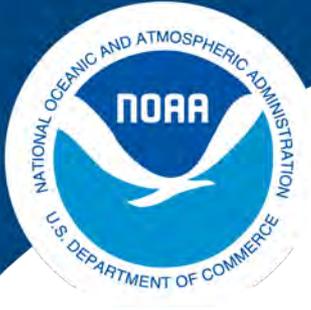


**NOAA
FISHERIES**

**Title 50 Code of
Federal Regulations
(CFR), section 229.37**

False Killer Whale Take Reduction

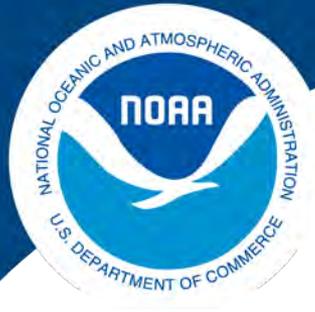




NOAA
FISHERIES

Gear Requirements: Deep-set

- Circle hooks with a maximum wire diameter of 4.5 mm, with a 10-degree or less offset. At least some part of the hook shank must be made of round wire so that the wire diameter can be measured.
- Monofilament nylon branch line or leader must have a diameter of 2.0 mm or larger. Any other material (e.g., wire cable) must have a breaking strength of 400 pounds or greater.



**NOAA
FISHERIES**

Responsibilities of Captain and Crew

- *Captain* must supervise, and be in visual and/or verbal contact with, the crew during any handling or release of marine mammals.
- *Captain and crew* are encouraged to maintain their fishing gear such that the hook is the weakest part of the branch line.



NOAA
FISHERIES

Placards

Notify Captain Immediately if a Whale or Dolphin is Hooked or Tangled in Fishing Gear

Ipagbigay alam agad sa kapitan kung ang balyena o lumba-lumba ay nakasabit o nakabuhol sa tali

Beritahukan Kapten Kapal segera ketika seekor Paus atau Lumba-Lumba terjerat atau tersangkut mata pancing

Thông báo cho thuyền trưởng ngay lập tức nếu một con cá voi hay cá heo bị vướng vào dây câu hoặc bị móc bằng lưới câu



U.S. Department of Commerce | National Oceanic and Atmospheric Administration | National Marine Fisheries Service

****REQUIRED****

MUST BE POSTED ON THE LONGLINE VESSEL IN A LOCATION THAT IS REGULARLY ACCESSIBLE AND VISIBLE TO THE CREW

Marine Mammal Handling and Release Guidelines

SAFETY FIRST!

Hooked or entangled marine mammals can be very powerful and unpredictable.

Small Whales and Dolphins *(such as short-finned pilot whales, false killer whales, and Risso's dolphins)*

1. Make sure the crew is ready to help, and have dehooking and line-cutting equipment available.
2. Avoid sudden actions and movements that may scare the animal.
3. Do NOT use gaffs or sharp objects to grab or hold an animal.
4. **Determine if the animal is hooked or entangled.**



False Killer Whale

If the animal is hooked:

1. Maintain tension on the line, giving the hook a chance to straighten and release the animal without the hook or trailing line attached.
2. If the hook does not straighten, use a dehooker to remove the hook.
3. If the hook is not straightened or removed, use a long-handled line cutter to cut the line as close as you can to the hook.



Risso's Dolphin

If the animal is entangled:

1. If the mainline and branchline are tangled around the animal, secure the far side of the mainline to the boat. This will keep any remaining gear in the water from pulling on the line and the animal.
2. Use a long-handled line cutter to cut as much line off the animal as you can.

Large Whales *(such as fin whales, sperm whales, and humpback whales)*

- If a large whale is alive and hooked or entangled in fishing gear, immediately call the Disentanglement Hotline at 1-888-256-9840, or the U.S. Coast Guard on VHF Ch.16 for instructions.
- Move the vessel to minimize tension on the fishing gear.
- If a large whale is dead and hooked or entangled in fishing gear, immediately call the U.S. Coast Guard on VHF Ch.16 for instructions.



Humpback Whale

For All Interactions

- **The captain must be notified to supervise the handling and release of the animal.**
- Have an identification guide, pen and paper available.
- Write down a description of the animal and its injuries (take photos if possible):
 - How long was the animal?
 - What did the animal look like? Did it have stripes, spots, or different colors?
 - Was there fishing gear on the animal when it was released? If so, where, what kind, and how much?
 - Did you see any tags on the animal? If yes, did you see any letters or numbers on the tag?

After an interaction with a marine mammal, get the rest of your fishing gear out of the water. Then record all the information about the interaction on your Marine Mammal Authorization Program Mortality / Injury Reporting Form, even if you had an observer aboard. Mail the form when you get to port.

CAUTION: Whales and dolphins may become hooked or entangled by longline gear, especially while eating bait or catch. If you suspect marine mammals are eating your bait or catch, consider moving 100 kilometers / 54 nautical miles or more to reduce the chance of marine mammal interactions.

For more information, contact NOAA Fisheries Pacific Islands Regional Office, Sustainable Fisheries Division at (808) 944-2200.



U.S. Department of Commerce | National Oceanic and Atmospheric Administration | National Marine Fisheries Service





NOAA
FISHERIES

Marine Mammal Handling and Release Guidelines

Marine Mammal Handling and Release Guidelines

SAFETY FIRST!

Hooked or entangled marine mammals can be very powerful and unpredictable.

Small Whales and Dolphins *(such as short-finned pilot whales, false killer whales, and Risso's dolphins)*

1. Make sure the crew is ready to help, and have dehooking and line-cutting equipment available.
2. Avoid sudden actions and movements that may scare the animal.
3. Do NOT use gaffs or sharp objects to grab or hold an animal.
4. **Determine if the animal is hooked or entangled.**



False Killer Whale

If the animal is hooked:

1. Maintain tension on the line, giving the hook a chance to straighten and release the animal without the hook or trailing line attached.
2. If the hook does not straighten, use a dehooker to remove the hook.
3. If the hook is not straightened or removed, use a long-handled line cutter to cut the line as close as you can to the hook.



Risso's Dolphin

If the animal is entangled:

1. If the mainline and branchline are tangled around the animal, secure the far side of the mainline to the boat. This will keep any remaining gear in the water from pulling on the line and the animal.
2. Use a long-handled line cutter to cut as much line off the animal as you can.

Large Whales *(such as fin whales, sperm whales, and humpback whales)*

- If a large whale is alive and hooked or entangled in fishing gear, immediately call the Disentanglement Hotline at 1-888-256-9840, or the U.S. Coast Guard on VHF Ch.16 for instructions.
- Move the vessel to minimize tension on the fishing gear.
- If a large whale is dead and hooked or entangled in fishing gear, immediately call the U.S. Coast Guard on VHF Ch.16 for instructions.



Humpback Whale

For All Interactions

- **The captain must be notified to supervise the handling and release of the animal.**
- Have an identification guide, pen and paper available.
- Write down a description of the animal and its injuries (take photos if possible):
 - How long was the animal?
 - What did the animal look like? Did it have stripes, spots, or different colors?
 - Was there fishing gear on the animal when it was released? If so, where, what kind, and how much?
 - Did you see any tags on the animal? If yes, did you see any letters or numbers on the tag?

After an interaction with a marine mammal, get the rest of your fishing gear out of the water. Then record all the information about the interaction on your Marine Mammal Authorization Program Mortality / Injury Reporting Form, even if you had an observer aboard. Mail the form when you get to port.

CAUTION: Whales and dolphins may become hooked or entangled by longline gear, especially while eating bait or catch. If you suspect marine mammals are eating your bait or catch, consider moving 100 kilometers / 54 nautical miles or more to reduce the chance of marine mammal interactions.

For more information, contact NOAA Fisheries Pacific Islands Regional Office, Sustainable Fisheries Division at (808) 944-2200.







**NOAA
FISHERIES**

**Testing hook-tissue interactions
in toothed whale mouths**

(PART 1)

**Bill McLellan
UNC Wilmington**





NOAA FISHERIES

Testing Hook-Tissue Interactions in pilot whale mouths

Part 2

Bill McLellan
Logan Arthur
D. Ann Pabst



Longline hook entanglement in the mouths of pelagic odontocetes

William McLellan^{1,2}, Logan Arthur¹, Derek D. McLellan¹, David W. Tomerai¹, Paul MacLellan¹, Jonathan Lloyd and D. Ann Pabst¹

¹U.S. Fisheries, Office of Science and Conservation, Division of Fisheries and Aquaculture, National Marine Fisheries Service, 1315 North Beach Road, Silver Spring, MD 20910

²Department of Biology, University of North Carolina at Wilmington, 619 S. Wells Road, Wilmington, NC 28403

Longline hook entanglement in the mouths of pelagic odontocetes is a common occurrence. However, the mechanisms of hook entanglement and the resulting tissue damage are not well understood. We conducted a series of experiments to determine the forces required to break different hook types and to measure the forces exerted by the mouths of pilot whales. We found that Korean carbon hooks were highly variable in breaking strength and often exploded, leaving hook shards. Mustad hooks were highly predictable and bent open, exposing the barb that cut the hook free. All hooks, if able to wrap around the lower jaw, could break the jaw. Better identification of hook types is required to better predict behavior.

Take Homes from 1st Study

- Korean Carbon hooks were highly variable in breaking strength and "exploded" leaving hook shards
- Mustad hooks were highly predictable and bent open exposing the barb that cut the hook free
- ALL hooks, if able to wrap around the lower jaw, could break the jaw
- Better identification of hook types is required to better predict behavior