

Marine Mammals Ashore

What to do?



Jim Rice

Coordinator, Oregon Marine Mammal Stranding Network
Marine Mammal Institute, Oregon State University

Oregon Marine Mammal Stranding Network

NW Marine Mammal Stranding Network Contacts for Oregon, 2010 - 2011

Cascadia Research Collective - Cetaceans
(360) 943 - 7325
& WDFW MMI - Pinnipeds
(253) 589 - 7235

Portland State University /
Seaside Aquarium
(503) 738 - 6211

OSU Marine Mammal Program
(541) 270-6830

University of Oregon
(541) 888-2581 x215

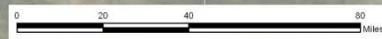
Legend

- Cascadia Research Collective, (360) 943 - 7325
- WDFW Marine Mammal Investigations, (253) 589 - 7235
- Portland State University / Seaside Aquarium, (503) 738-6211
- Central Oregon, Oregon State University, Marine Mammal Institute, (541) 270-6830
- Southern Oregon, University of Oregon / OR Institute of Marine Biology, (541) 888-2581 x215
- County Boundaries

Data Sources;

NOAA Fisheries, Protected Resources Division (Portland Office) produced most of the Marine Mammal Stranding Network shoreline segment designations using text descriptions in conjunction with NOAA's Medium Resolution Shoreline and county boundaries from the Interior Columbia Basin Ecosystem Management Project (ICBEMP). ESRI World Imagery from the ArcGIS Online Mapping Service provides background context.

NOAA Enforcement and Marine Mammal Stranding Hotline: 1-800-853-1964



Entire Coast

- NOAA Fisheries (NMFS)
- Oregon State Police
- Oregon Department of Fish & Wildlife
- Oregon Stranding Network Coordinator
- Oregon State Parks
- Oregon Stranding Network Volunteers

North Coast (Columbia River to Tillamook)

- Portland State University
- Seaside Aquarium

Central Coast (Tillamook to Reedsport)

- Hatfield Marine Science Center, OSU
- The Oregon Coast Aquarium
- Oregon State Police Volunteers

South Coast (Reedsport to CA Border)

- Oregon Institute of Marine Biology
- Oregon Department of Fish and Wildlife

Oregon Marine Mammal Stranding Network

Marine mammal
on the beach



Public → Oregon State Police Hotline
1-800-452-7888

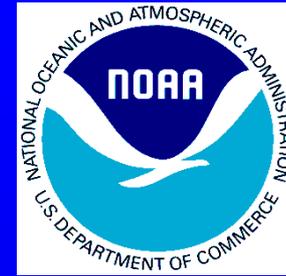
Stranding Network Coordinator

Scientific Experts

Volunteers

Newspapers, radio, TV

Network Authorization



- All marine mammals are federally protected by the Marine Mammal Protection Act
- NOAA Fisheries authorizes us to intervene on behalf of stranded marine mammals by special permission
- Only people authorized by NOAA may handle marine mammals - these include state and local officials. Violations are punishable by a \$10,000 fine

Oregon Marine Mammal Stranding Network

Objectives

- Promote scientific investigations of strandings
- Provide for the welfare of live stranded animals
 - reduce occurrences of harassment
 - disentanglement of whales and sea lions
- Minimize risk to public health and safety
- Advance public education
- Report **Level A Data** to NOAA for inclusion in national database

Collecting Level A Data

Level A Data are the basic types of information necessary to report a marine mammal stranding event to the NOAA Fisheries Service

They Include:

- Species Identification
- Location of Stranding (latitude/longitude)
- Body Length
- Sex
- Status of the animal - live, dead (fresh/decomposed)
- Description of any signs of human interaction (net entanglement, gunshot, ship strike)
- Presence / Description of tags or brands



Oregon Marine Mammal Stranding Network

We generally *Do NOT*:

- Dispose of dead marine mammals - generally the responsibility of State Parks
- Respond to bird, fish, or non-marine mammal calls
- Rehabilitate harbor seal pups or California sea lions - wild populations are healthy and growing in Oregon



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1-866-279-1484 maccrone@yahoo.com

Mitigating Beach Conflicts

- Public Outreach
 - ▶ Protected species
 - ▶ Stress is harmful
- Most people are well-intentioned but ill-informed about marine mammals
- Most will behave properly once they receive basic information



Seal Pups Rest on Shore.

Do not disturb them!

It's THE LAW.

1-800-452-7888

Report violations or animals in distress to the
Oregon State Police.

Bumper Stickers



DON'T TOUCH

SEAL PUPS

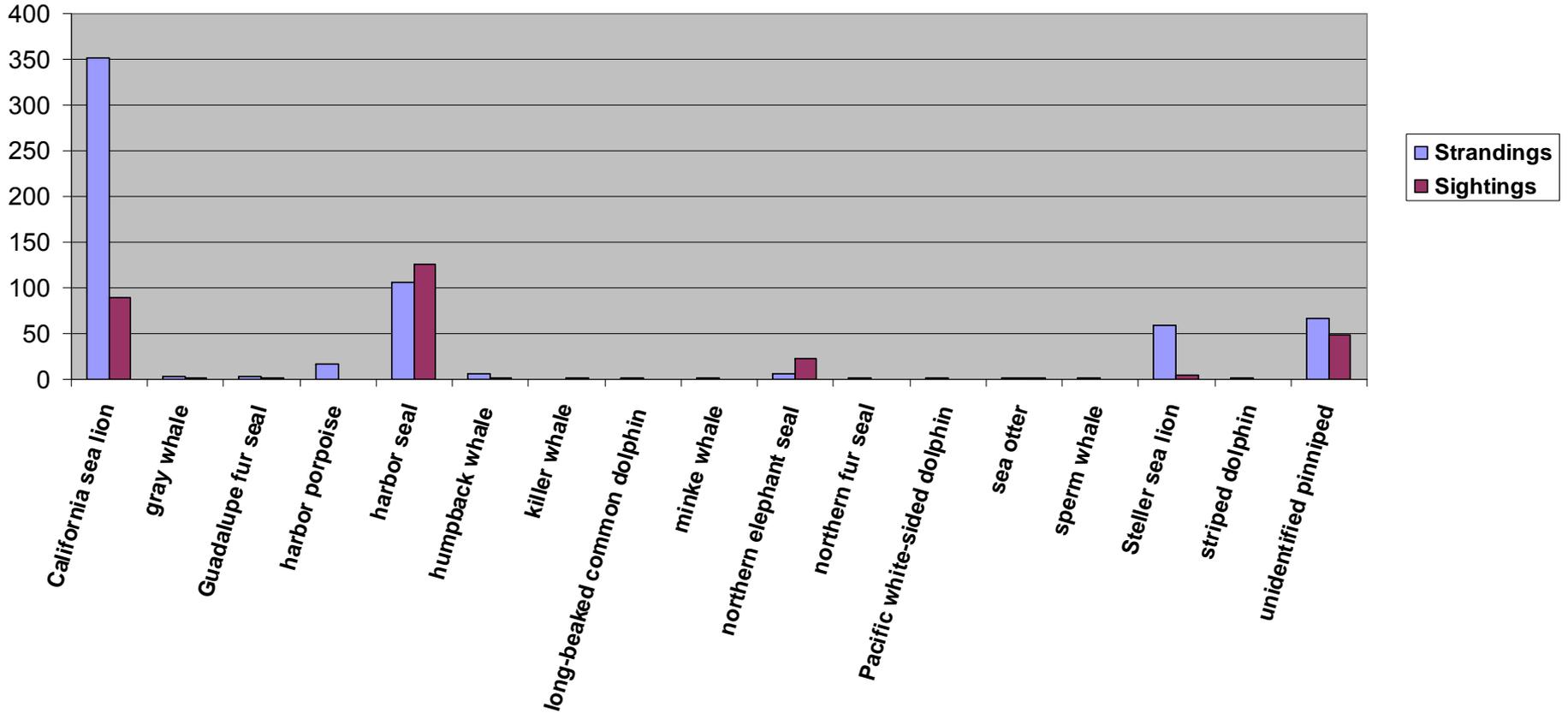
Oregon Marine Mammal Stranding Network

Periodic Interventions



2010 Oregon* Strandings

n= 928 includes Long Beach, WA



2010 Oregon Strandings

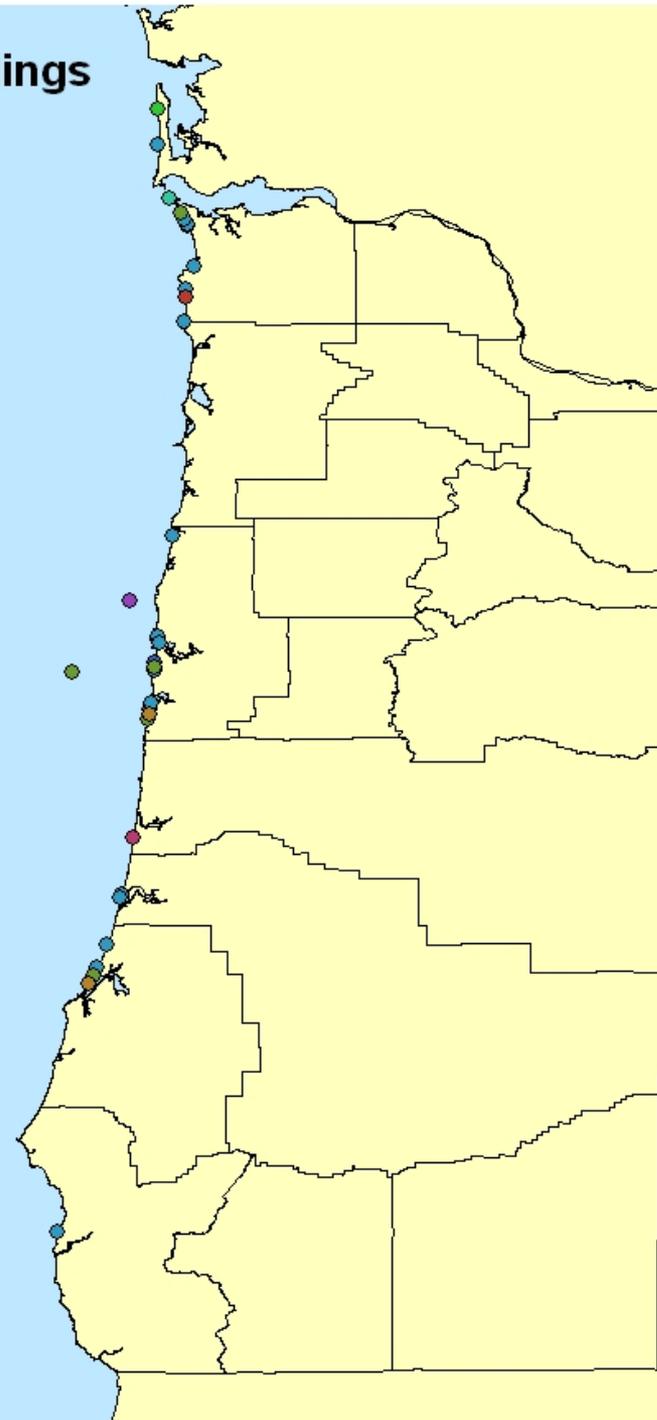
Pinnipeds
n = 593



0 5 10 20 30 40
Miles

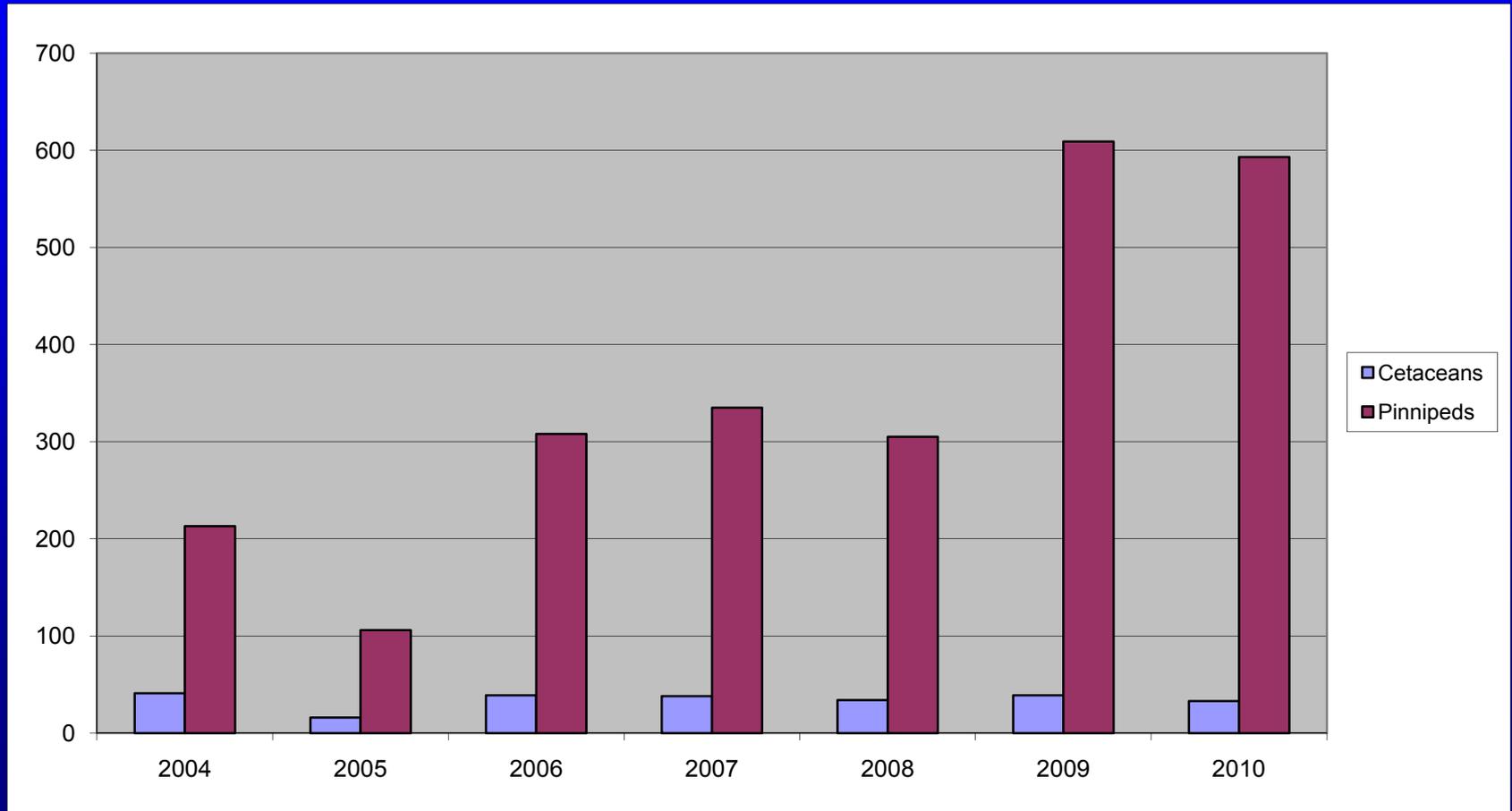
2010 Oregon Strandings

Cetaceans
n = 33



Confirmed Strandings

Oregon Marine Mammal Stranding Network



Unique Scientific Value

- Stranded animals offer a unique sample of relatively inaccessible wildlife
- They are biased in favor of the diseased segment of the population and are generally easy to examine thoroughly
- Diseases in marine mammals may reflect environmental changes such as ocean pollution, shifts in prey, biotoxins, and emerging pathogens

Collaboration with OSU College of Veterinary Medicine



Veterinary Diagnostic Laboratory



- Team of veterinary pathologists, other faculty, students
- Can provide detailed gross necropsy, histopathology, and microbiology results

Field Necropsy

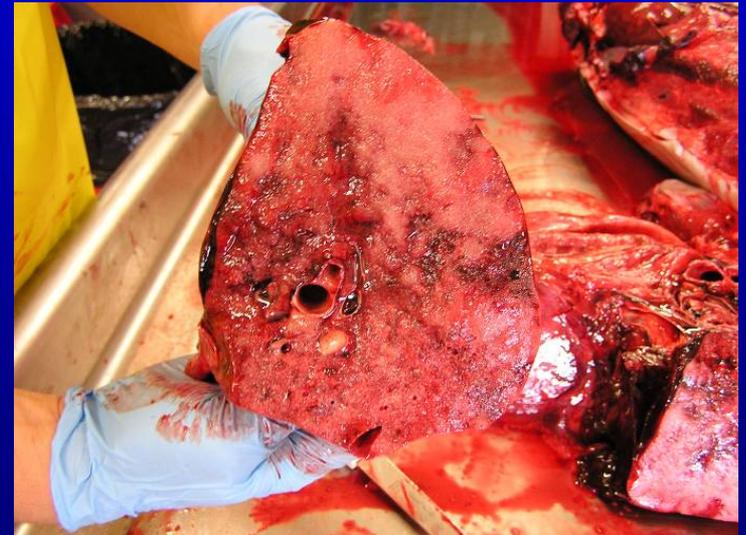


Lab Necropsy



Cryptococcus gattii

- Emerging disease in Pacific Northwest
- Fungus native to Australia - first detected in the region on Vancouver Island in 1999
- The fungus can reproduce in salt water; porpoises likely become infected when tainted water enters their blow holes
- 3 confirmed cases in Oregon porpoises so far



Cryptococcus Cases



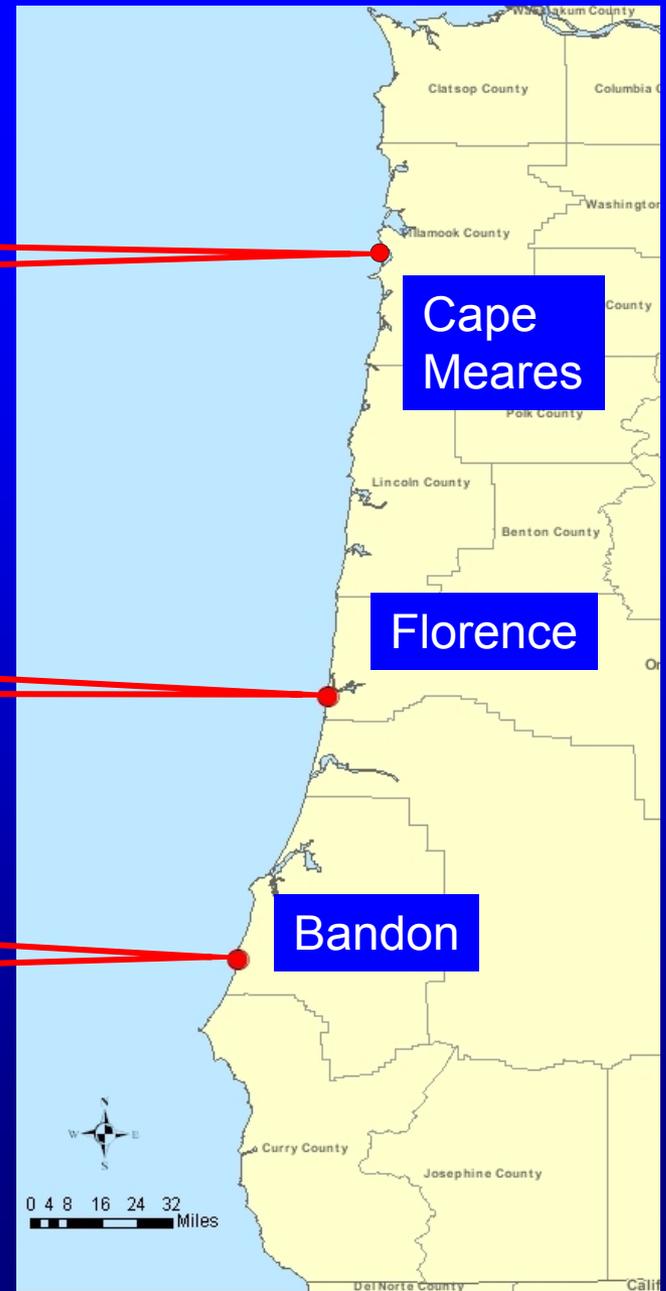
April 2008



July 2008



Sept 2007



Leptospirosis

in California sea lions



- A kidney infection that impairs the animal's ability to concentrate urine
- Causes sea lions to become lethargic, dehydrated; neurological signs
- Often beach themselves near streams seeking fresh water
- Potentially reversible but often fatal
- Transmissible to humans and dogs – public health concerns

Suspected Leptospirosis Cases



Neskowin
10/16/2006

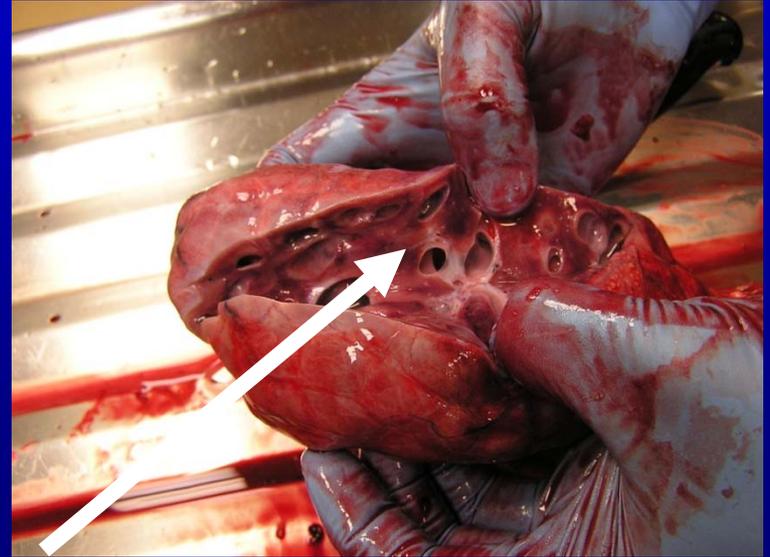
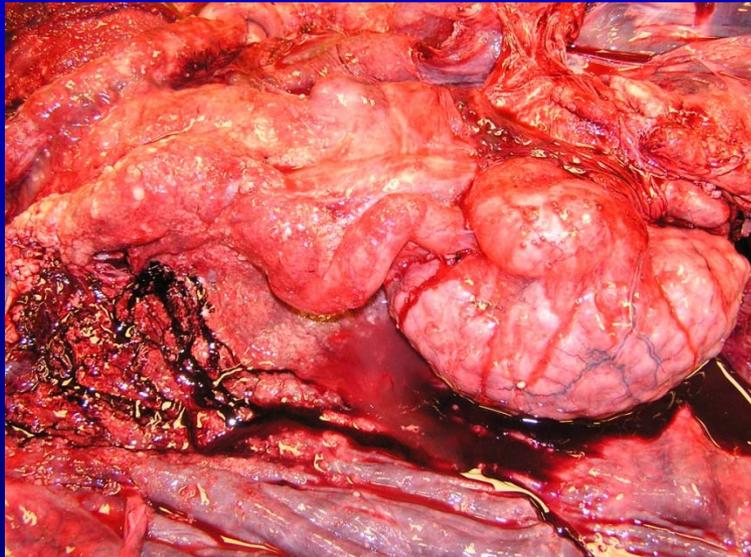
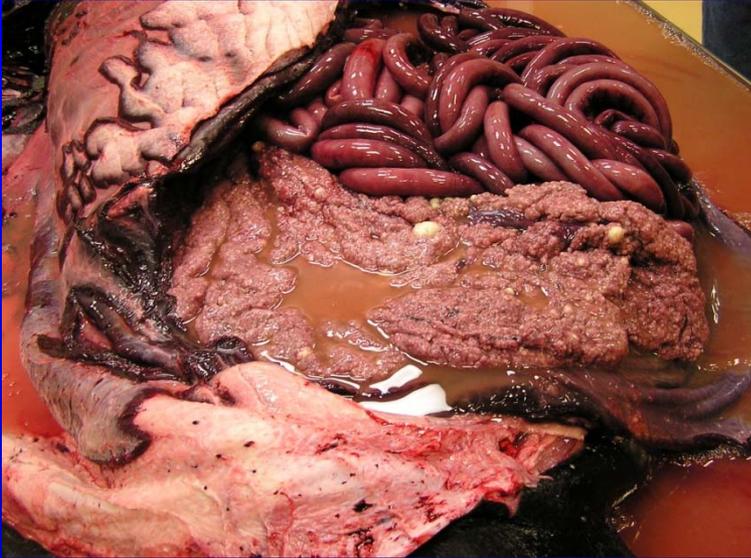


Lincoln City
10/23/2006



Driftwood SP
10/24/2006

Cancer in California sea lions



hydronephrosis of the left renal pelvis and many of the calyces. Much of the renal cortex and medulla has been destroyed with only fibrous tissue remaining

Why Do Marine Mammals Strand?

Many Reasons:

- ✓ Malnutrition
- ✓ Diseases and parasites
- ✓ Biotoxins (harmful algal blooms)
- ✓ Human impacts (oil spills, ship strikes, fisheries interactions, navy sonar, seismic exploration, chemical spills, explosions, marine debris...)
- ✓ Navigational problems (complex topography, gently sloping sandy seafloors, magnetic anomalies, wind-driven onshore currents)
- ✓ Social cohesion/group panic behavior in highly social cetacean species
- ✓ Combination of factors

Sentinels of Ocean Health

Evidence is mounting that marine mammal epizootics indicate human induced imbalances in marine and coastal environments

- Marine Morbilliviruses - Contaminant induced immune suppression?
- Marine Biotoxins - Harmful algal blooms ("red tides") are increasing in number, intensity and duration along the coasts of North America - related to increased nutrient load from runoff?
- Pathogen Pollution - Land-based diseases: *Leptospira*, *Toxoplasma* and *Sarcocystis* (protozoal encephalitis); bacteria from human sewage
- Anthropogenic Contaminants - persistent organic pollutants (POPs) including PCBs, DDTs, dioxins
 - Responsible for high cancer rates in California sea lions?

When Is a Marine Mammal Stranded?

When it's:

- Dead
- **Alive** and:
 - Can't get back to the water
 - Is critically injured or ill
 - Can't get back to its natural habitat



When Is a Marine Mammal Stranded?

- Any whale or dolphin or porpoise on the beach is stranded
- A seal or sea lion that is injured or sick and cannot return to the water is stranded

BUT

- Healthy seals and sea lions are also found on land and they are NOT stranded

Appearances Can Be Deceiving!

Some “healthy”
animals look sick

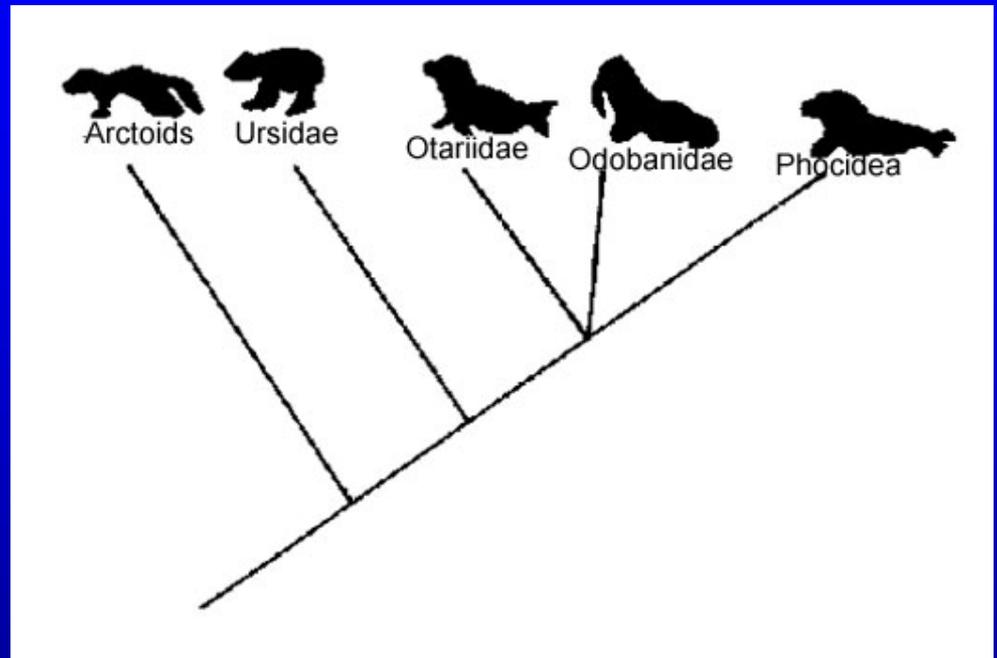


Molting elephant seal-
NOT stranded!

Suborder Pinnipedia

Latin for "feather or fin foot"

Related to other carnivores, including bears, dogs, raccoons, and weasels (otters)

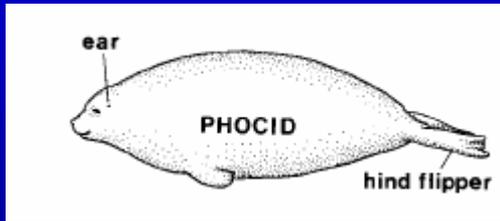


- Family **Otariidae** - sea lions and fur seals
- Family **Odobenidae** - walruses
- Family **Phocidae** - “true” seals

How to tell a Seal from a Sea Lion (or fur seal)



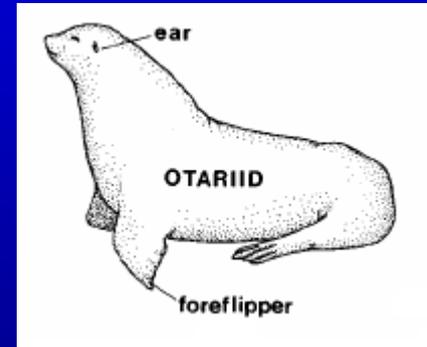
Phocid



- Short front flippers
- No external ear flaps



Otariid



- Long front flippers
- External ear flaps

Poorly Understood Facts About Pinnipeds

- They are amphibious
- Don't need to remain wet
- Need to rest on land
- Move awkwardly on land
- Capable of extended fasting
- Should be left alone



Harbor Seal

(*Phoca vitulina*)



Maximum Measurements:

Length	Male	6'3" (1.9 m)
	Female	5'7" (1.7 m)
Weight	Male	370 lb (170 kg)
	Female	290 lb (130 kg)

- Snout blunt
- Color variable (gray to tan to brownish-black, with darker spotting);
- Pups gray to tan

(white lanugo typically indicates premature birth)



Dependent Pups



- Harbor seals nurse for 3-4 weeks
- Harbor seal mothers routinely leave pups ashore unattended while they forage at sea
- If a seal pup is removed from where it receives care, IT WILL DIE

Recently Weaned Harbor Seals

Points to remember

- Their mothers have recently abandoned them
- They are learning how to survive on their own
- They are often thin, injured, and not thriving



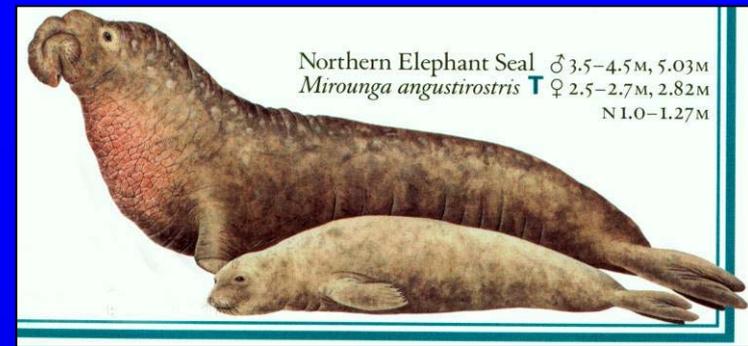
Elephant Seal

(*Mirounga angustirostris*)

Maximum Measurements:

Length	Male	13'6" (4.1 m)
	Female	10' (3 m)
Weight	Male	4,400 lb (2,000 kg)
	Female	1,300 lb (600 kg)

- Males much larger than females
- Adult males have inflatable proboscis
- Color gray to brown with no markings – black whiskers
- “Catastrophic Molt” April-August, shed hair and skin



Northern Elephant Seal Skin Disease

- Unknown etiology
- Alopecia, ulcers, necrosis, sepsis



- Affects animals under age 2
- Higher serum PCB and DDE

California Sea Lion

(*Zalophus californianus*)

Maximum Measurements:

Length	Male	7'10" (2.4 m)
	Female	6'7" (2.0 m)
Weight	Male	860 lb (390 kg)
	Female	240 lb (110 kg)

- Snout long, straight, narrow
- Color dark brown, juveniles and females lighter
- Extreme sexual dimorphism,
- Males with prominent sagittal crest, more muscular neck
- Bark-like vocalizations
- Population at about 300,000



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PHOTO BY BRUCE SORENSEN

Entangled Sea Lions

Limited options

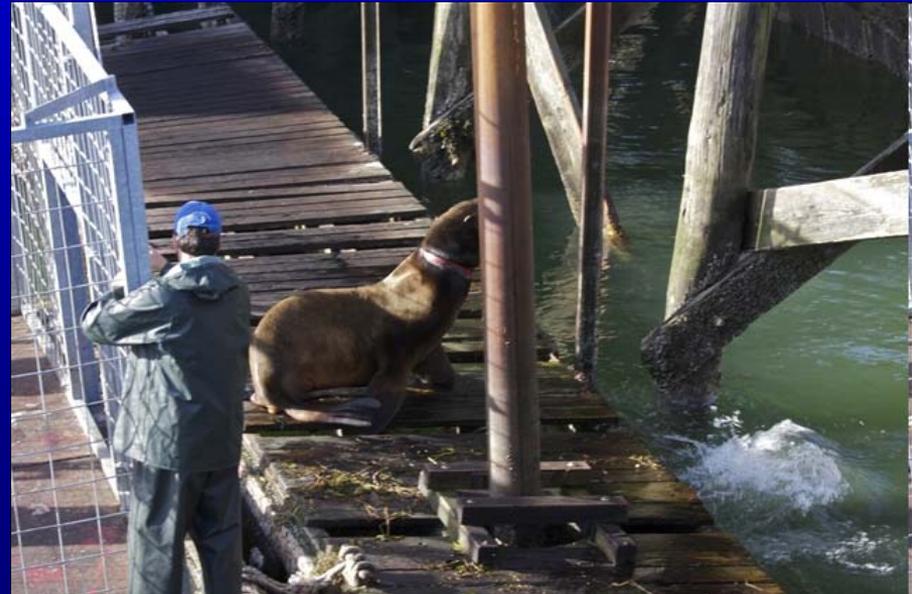


Response: Monitor condition, educate public, possibly disentangle

Sea Lion Capture Cage – Newport Bayfront



Sea Lion Disentangled March 31, 2010



<http://www.youtube.com/user/OregonStateUniv#p/search/2/zRaSQQ-3x1o>

Rescue of entangled California sea lion on Lincoln Beach, May 20, 2010



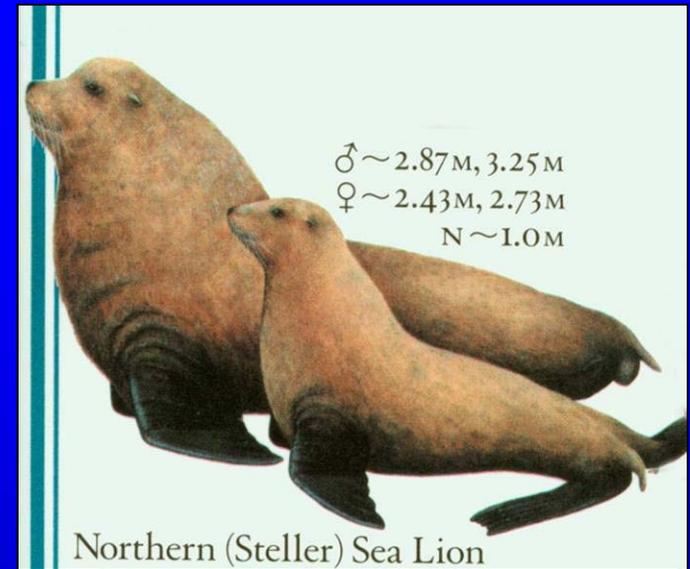
Steller Sea Lion

(*Eumetopias jubatus*)

Maximum Measurements:

Length	Male	11' (3.3 m)
	Female	9'6" (2.9 m)
Weight	Male	2,400 lb (1,100 kg)
	Female	770 lb (350 kg)

- Front flippers broad
- Color light brown to blond, darker ventrally than dorsally
- Adult males much larger, mane
- No sagittal crest on head
- Breeding area at Three Arch Rocks
- Listed as a *Threatened* species



Steller Sea Lion Disentangled - Sea Lion Caves

March 18, 2010



<http://www.youtube.com/watch?v=bhtZnsw4ZwQ>

Northern Fur Seal

(*Callorhinus ursinus*)

Maximum Measurements:

Length	Male	6'11" (2.1 m)
	Female	4'11" (1.5 m)
Weight	Male	600 lb (270 kg)
	Female	132 lb (60 kg)

- Small head, short snout
- Very long hind flippers
- Fur has coarse outer guard hairs
- Males brown, females dark gray
- Extreme sexual dimorphism, adult males with massive neck and bushy mane



Guadalupe Fur Seal

(*Arctocephalus townsendi*)

- Longer snout with a prominent bulbous nose
- Fur on the dorsal side of the front flippers which extends well beyond the wrist area.
- Between June 2007 and July 2008 WA and OR responded to 23 strandings



Guadalupe fur seal flipper

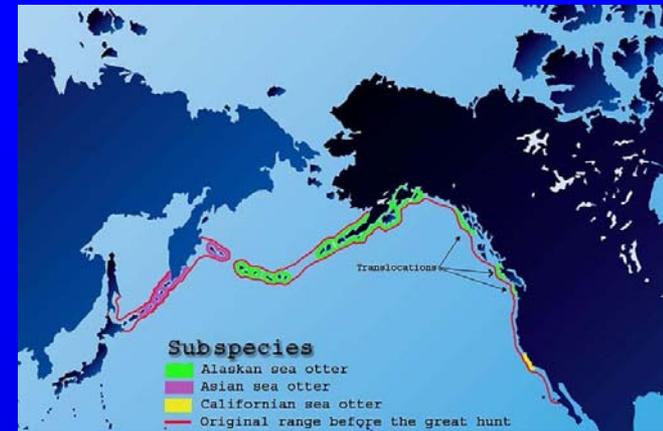


northern fur seal flipper

Sea Otter

(*Enhydra lutris*)

- Populations in California and WA
- Confirmed sighting in Depoe Bay, Oregon, Feb 09
- A “keystone species”; controls urchin populations, promotes kelp forest communities
- Often confused with Northern River Otter

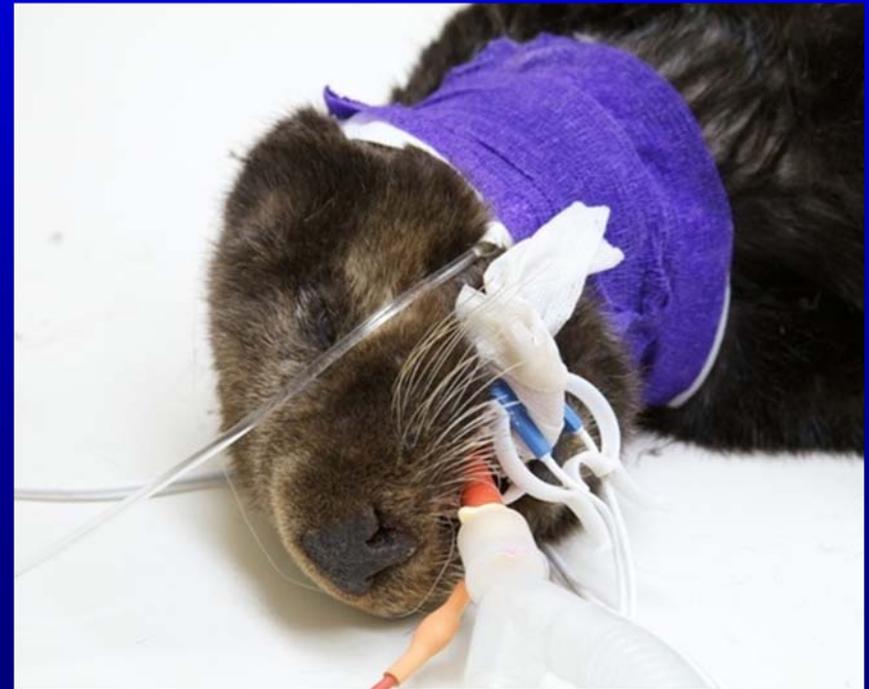


Stranded Sea Otter

December 14, 2010
South Beach, Newport

First documented Oregon
sea otter stranding in
decades

Otter died from shark bite
injuries



Pinnipeds on the Beach

DO

- Keep people and dogs away
- Keep the area quiet
- Avoid contact with the animal



DO NOT

- Pour water on the animal
- Attempt to return animal to the water
- Offer the animal any food



Keep a Safe Distance

Stay at least 50 yards away-
1/2 length football field



Marine Mammals are wild animals. They can be aggressive and dangerous when approached.

Stranded Cetaceans



- Live whales, dolphins, and porpoises are completely helpless on land
- Most that come ashore are sick and not likely to survive (mass strandings are exceptions)

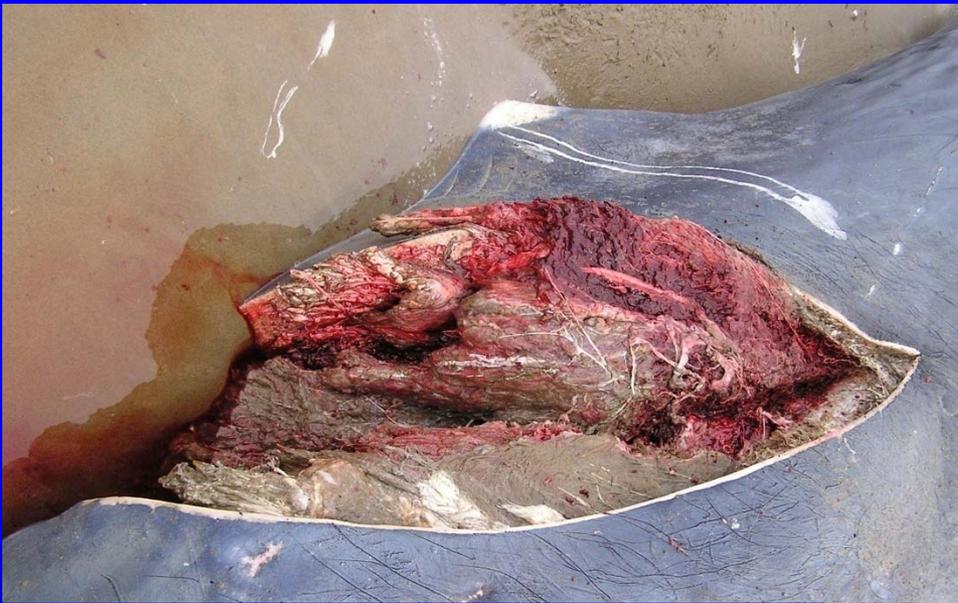


Mass stranding of 41 sperm whales – Florence, OR 1979

Entangled Whales

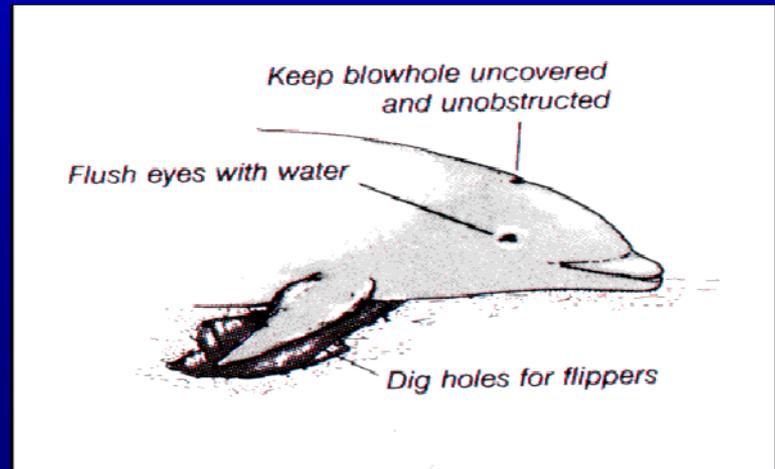


Ship Strike



Cetacean Supportive Care on the Beach

- Protect animal from harsh wind or sun
- Keep animal comfortable
 - Dig trenches for pectoral flippers
 - Rinse any sand out of eyes
 - Keep the area quiet
- Make sure the animal is not too cold or too hot



Harbor Porpoise

(*Phocoena phocoena*)



Size

- Adult length: about 5 feet (155 cm) long
- Adult weight: about 120 pounds (55 kg).
- Calf length: 27 to 35 inches (70-90 cm)
- Calf weight: 14 to 22 pounds (6.4-10 kg) at birth

Appearance

- Back, flippers and flukes appear dark gray or nearly black.
- Underside is a light gray to white in color.
- Dorsal fin is triangular rather than sickle-shaped

Diet

Feed on bottom dwelling and schooling fishes. Weaning porpoises eat small crustaceans, such as euphausiid shrimp.

Sea Turtles

- All sea turtles are listed as either Threatened or Endangered
- Oregon Coast Aquarium can provide rehabilitation
- Cold-stunned turtles often appear dead but might be salvageable



So How Can You Help?

- Observe and Report Strandings
 - Describe appearance, approximate size
 - General condition - alive or dead; fresh/decomposed
 - Location - be as specific as possible
 - Presence of tags - color, number, location
 - Take *digital pictures!*
- Help to educate the general public to reduce harassment and enhance public safety



Report Marine Mammal Stranding

OREGON SHORES

- Who We Are
- Position Statements
- Beach Bill 35th Ann
- Books
- Links: Env Groups
- Links: Government
- Links: Online Tools
- Links: Print Media
- WebCams
- Legal Notices
- Membership Form
- Donate Online
- Contact Us

COASTWATCH

- Tour of the Miles
- CoastWatch Stories
- Watchful Eyes
- CW Training Survey
- CW Mile Reports:
 - Getting Started Online
 - Coastwatcher's Knapsack
 - Online Mile Report
 - Online Mile Dispatch
 - Paper Report form
 - Observation Checklist
 - Mile Reports Browser
 - Summaries by County
 - CoastWatch Bookshelf
 - OPRD Vehicle Regs
 - OPRD Planning Maps
- Stranded Marine Mammal

LAND USE

- Gravel Mining Guide
- South Coast Rivers
- Global Warming

OCEAN PROGRAM

- The Wide, Wide Sea
- Marine Reserves
- OS Position on MR's
- PISCO booklet

FORUM

LOG IN



Stranding Response Program.

Marine mammals are protected by federal law. It is illegal for unauthorized persons to disturb, handle, or feed them.

ALIVE, HEALTHY, AND RELATIVELY SAFE FROM HUMANS? For example, if the animal has 'hauled out' on an offshore rock or looks well protected from humans and dogs, just click "Cancel" at the bottom of this page. Please stay at least 100 feet away.

IS THE ANIMAL DEAD, INJURED, OR DISTRESSED? If you find a marine mammal on the beach, recently dead or obviously injured, please use **this page** to send a report to Jim Rice, OMMSN Coordinator, or call **(541) 270-6830**, as soon as possible. Provide as much information as you can, but don't be too concerned if you need to leave a few of the items blank.

LINKS TO MORE INFORMATION: The Oregon Marine Mammal Stranding Network provides a wealth of resources on marine mammals, including excellent identification tips and photos. They also have downloadable Caution signs you can print out and post near live animals. There's lots more West-coast info at NOAA's National Marine Mammal Laboratory. More information about stranding networks nationwide can be found at NOAA's Marine Mammal Health and

OBSERVER CONTACT INFO

Full name

Telephone

EMail address

Carbon copy Send a copy of this message to me, for my records

Your real name, not a CoastWatch Nickname.

If possible, please provide a phone number and email address, in case Jim needs to contact you in the next few hours.

One copy, with any photos, goes to the Webmaster. In Curry and Coos, another copy goes to the respective CW County Coordinator.

STRANDED MARINE MAMMAL

Name or Species

Morphology Sex: Unknown Age: Unknown Length:

Condition

Injuries

Tags

Exact location

Date and time Fri February 27, 2009 15:04 PM

Common name, genus, or species

Alive or dead, robust or thin, injured, lethargic, etc.

Any evident injury, bleeding? Cause of death?

Note any brands or tags - color, number, location on body

Precise description or GPS coordinates, not just a CoastWatch Mile number

Date and time of first observation, not the current time

Additional notes

Please note if any other action has been taken, or anyone else notified.

PLEASE INCLUDE UP TO FIVE PHOTOS

Photo 1

Photo 2

Photo 3

Photo 4

Photo 5

Please show all sides of the animal, lesions, wounds, tags, any obvious signs of human interaction (entanglement, gunshot, etc), and the general location of where the animal is.

Photos will be sent to Jim Rice as email attachments, so please keep them small -- files can total up to 5 MB. If you need to send more or larger photos, please send them to Jim Rice directly.



Location, Location, Location !

<http://maps.google.com/>

- Right-click on position
- Select “What’s here?”
- Click on green arrow for coordinates

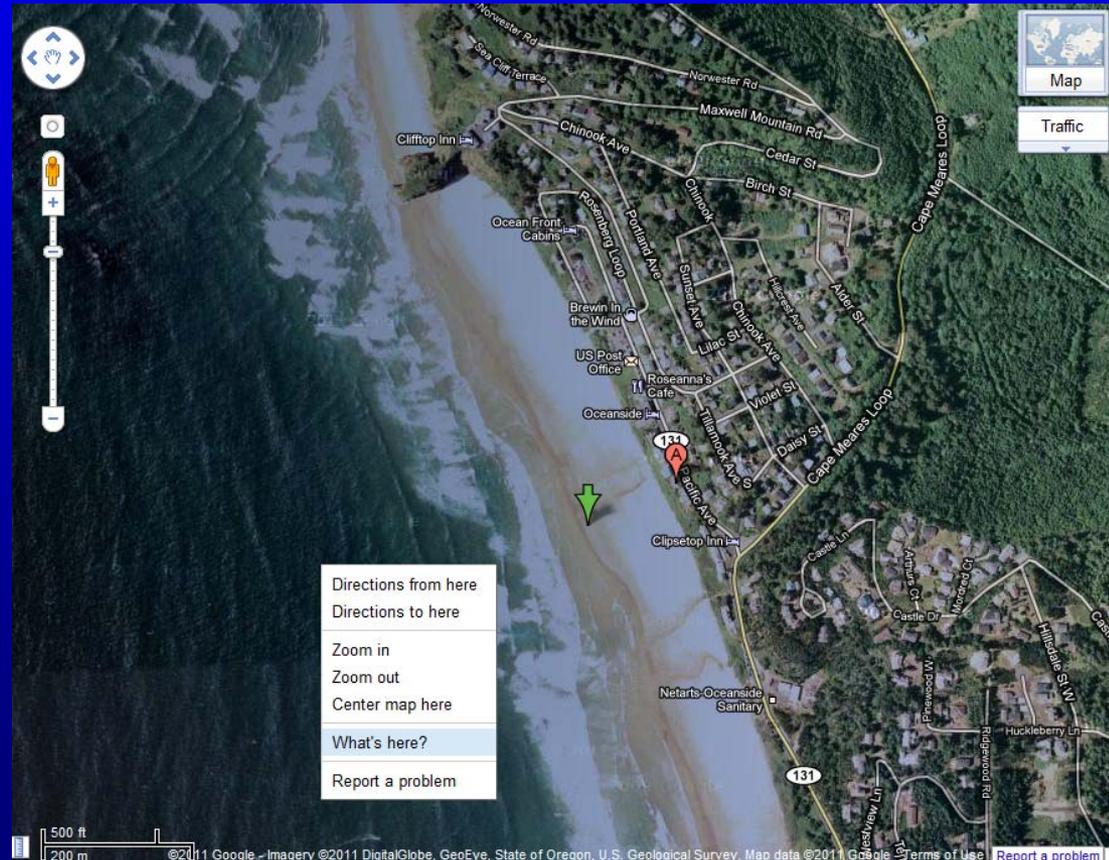


Photo Documentation



What to photograph:

- The general location
- All sides of the animal
- Lesions, wounds
- Tags
- Any obvious signs of Human Interaction (entanglement, gear etc).

Photograph live animals from a distance

Post signs

Help spread the word

- ✓ Protected species
- ✓ Stress is harmful

- Most people are well-intentioned but ill-informed about marine mammals
- Most will behave properly once they receive basic information

**Seals and
Sea Lions
Rest on
Oregon Beaches**



DO NOT DISTURB!

- Please stay at least 50 yards away from them
- Do NOT pour water on seals or sea lions
- Do not allow dogs to approach

**Federal and State Laws Prohibit Touching,
Feeding, or Disturbing Marine Mammals.**

**Report Violations or Animals in Distress to
the Oregon State Police**

1-800-452-7888

Safety



- Avoid handling live animals - even seal pups have teeth!
- Stranded animals are stressed. They will consider you a threat, even if you are trying to help
- Marine mammals, dead and alive, may carry viruses and bacteria that can be transmitted to humans and pets. Use common sense; practice good hygiene

Human Stress Factors

- Marine mammals spark strong human emotions, potentially complicating effective stranding response
- Animals die through natural selection – this can be difficult to watch
- Euthanasia is sometimes an option to relieve suffering
- We need to better educate the public about marine mammals and the need to **Share the Shore**



OREGON MARINE MAMMAL STRANDING NETWORK

OMMSN

Marine Mammal Institute

<http://mmi.oregonstate.edu/ommsn>

- 24-Hour Emergency Hotline (Oregon State Police)
1-800-452-7888
- Stranding Network Office
541-867-0446 (M-F, 8:00 a.m. to 5:00 p.m.)
- Stranding Cell Phone: **541-270-6830**
- E-Mail: jim.rice@oregonstate.edu

Hatfield Marine Science Center
2030 SE Marine Science Drive
Newport, Oregon 97365