

2017 Revision
EXAMINERS GUIDE

MARINE MAMMAL STRANDING REPORT – LEVEL A
(NOAA Form 89-864, OMB No. 0648-0178)

MARINE MAMMAL REHABILITATION DISPOSITION REPORT
(NOAA Form 89-864, OMB No. 0648-0178)

PROTOCOL FOR EXAMINING MARINE MAMMALS FOR SIGNS
OF HUMAN INTERACTION
(NOAA Form 89-864, OMB No. 0648-0178)

I. INTRODUCTION

This document outlines the instructions for completing the Marine Mammal Stranding Report - Level A (NOAA Form 89-864), the Marine Mammal Rehabilitation Disposition Report (NOAA Form 89-878), and the Protocol for Examining Marine Mammals for Signs of Human Interaction for marine mammal stranding events in the United States. These instructions provide guidance to standardize the data provided by the National Marine Mammal Stranding Network (Network) to the National Marine Fisheries Service (NMFS).

II. BACKGROUND

Under Title IV (16 U.S.C. 1421) of the Marine Mammal Protection Act (MMPA), the Secretary of Commerce (Secretary), who has delegated responsibility under this Act to the NOAA Assistant Administrator for Fisheries, is responsible for collecting, compiling, and analyzing information on marine mammal strandings, by region, to monitor species, numbers, conditions, and causes of illnesses and deaths of stranded marine mammals. The Secretary is also responsible for collecting information on other life history and reference level data, including marine mammal tissue analyses, that would allow comparisons of the causes of illness and deaths in stranded marine mammals with physical, chemical, and biological environmental parameters.

Collecting this information is authorized and mandated under three provisions of the MMPA. Under the MMPA, the Secretary is charged with the protection and management of marine mammals. This includes making determinations on the sustainability of population stocks, on the impact of fisheries and other human activities on marine mammals, and on the health of marine mammals and relative environmental considerations. NMFS has the responsibility to carry out the following MMPA mandates:

- Section 402(b) of the MMPA (16 U.S.C. 1421a) requires the Secretary to collect

and update information on strandings. It further provides that the Secretary shall compile and analyze, by region, the species, numbers, conditions, and causes of illnesses and deaths in stranded marine mammals.

- Section 404 (a) of the MMPA (16 U.S.C. 1421c) mandates that the Secretary respond to unusual marine mammal mortality events. Without a historical baseline provided by marine mammal information collected from strandings, detection of such events could be difficult and the investigation could be impeded.
- Section 401 (b) of the MMPA (16 U.S.C. 1421) requires NMFS to facilitate the collection and dissemination of reference data on the health of marine mammal populations in the wild and to correlate health with physical, chemical, and biological environmental parameters. In order to perform this function, NMFS must standardize data collection protocols for health and environmental data correlations.

The Network is made up of organizations authorized by NMFS (via Stranding Agreements or another official agreement under §112(c) of the MMPA) which allows the Secretary to enter into agreements in order to fulfill the general purposes of the Act to collect scientific data and specimens, record information on stranding events and assist local and Federal authorities in the response to stranded marine mammals under §109(h) of the MMPA. The Network is also authorized to assist with detection and investigation of marine mammal unusual mortality events. The majority of Network members are affiliated with academic institutions, non-profits, aquaria, or state, federal, and local agencies. Network members are required to submit basic Level A data on all strandings including date and location, species, condition of animal, sex of animal, length, disposition of the animal and tissues or specimens, and any personal observations. Network members complete the Marine Mammal Stranding Report – Level A Form as part of their immediate response and forward the form to the NMFS in a timely manner, as specified in the Stranding Agreement.

Data from the **Marine Mammal Stranding Report – Level A (see Definitions of Terms for the Level A Report starting on page 8)** forms provide NMFS with basic information on stranding event as well as morphology, life history, biology and general health. These data provide information necessary to detect elevated stranding rates. Upon further diagnostic examination, the die-offs were linked to mortality events such as the morbillivirus outbreaks which caused massive die offs of bottlenose dolphins in 1987-88 and 2013-15 and the leptospirosis outbreak in California sea lions in 1984. Recording data on gross mortalities may serve as an indicator that a particular population is impacted, threatened or at increased risk, and when provided in a timely manner, may aid in dynamic management practices. Stranding data provide an important baseline for detecting and monitoring the impacts of environmental phenomena, such as El Niño and harmful algal blooms (HABs).

The **Marine Mammal Rehabilitation Disposition Report (see Definitions of Terms for the Marine Mammal Rehabilitation Disposition Report starting on page 19)** provides NMFS with information on the disposition of animals admitted into rehabilitation, the success of medical treatment, and the number of animals released back

into the wild. This information also assists NMFS in tracking marine mammals that are transferred into permanent care. This form is only completed when live stranded marine mammals are transferred to rehabilitation facilities.

Under MMPA section 104(c)(10), NMFS is required to maintain an inventory of live marine mammals held in permanent captivity. The data provided in the Rehab Disposition form are used to track when animals are deemed non-releaseable and transferred from rehabilitation facilities to public display or research facilities that hold an APHIS license under 7 U.S.C. 2131.

The **Protocol for Examining Marine Mammals for Signs of Human Interaction** provides NMFS with consistent and detailed information on signs of human interaction in stranded marine mammals. This form also includes a subjective section that allows the examiner to evaluate the likelihood that human interaction contributed to the stranding of the animal. This information assists NMFS in tracking resource conflicts and will provide a solid scientific foundation for conservation and management of marine mammals. With a better understanding of interactions, appropriate measures can be taken to resolve conflicts and, stranding data are the best source of information regarding the occurrence of different types of human interaction. The form will be required in all five NMFS Regions. While the stranding network is encouraged to use this form for all events that require a Marine Mammal Stranding Report – Level A, this form is only required for all species listed as Endangered or Threatened, all large whales, and all cetaceans that strand as a Code 1-3 (see Definitions).

III. REPORTING

Public reporting burden for collecting this information is estimated to average 30 minutes per response for each form, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the information. Time spent responding to the stranded marine mammals is not included in this public burden time, as a universal estimate is impossible to make.

Notwithstanding any other provision of the law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with, a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number.

Under the MMPA Section 410(3), a stranding is defined as an event in the wild where:

- (A) A marine mammal is dead and is -
 - (i) on a beach or shore of the United States; or
 - (ii) in waters under the jurisdiction of the United States (including any navigable waters); or

- (B) a marine mammal is alive and is -
 - (i) on a beach or shore of the United States and unable to return to the

- water;
- (ii) on a beach or shore of the United States and, although able to return to the water, is in apparent need of medical attention; or
- (iii) in the waters under the jurisdiction of the United States (including any navigable waters), but is unable to return to its natural habitat under its own power or without assistance.

Level A data: Basic minimum data to be collected; corresponds to the information required on these stranding forms. Collection of Level A data is mandatory for all members of the Network. This information is not considered proprietary and will be available to the public upon written request to the NMFS regional stranding coordinator. These data will be released provided that the requestor describes the intended use of the data and credit the Network and NMFS in any publications.

Level B data: Supplemental or intermediate data to the Level A data that includes additional information about the stranding event and life history data. Examples of these types of data include: weather and tide conditions, offshore human/predator/prey activity, morphometrics, pre-stranding/stranding/rehabilitation behavior, stranding/rehabilitation health assessments, and life history samples (teeth, jaw, status of reproductive organs, stomach and intestinal contents, etc.).

Level C data: Detailed data and results from tissues collected for histopathology, toxicology, microbiology, virology, parasitology, etc.

Level B and C data are proprietary and distribution of such information is under the discretion of the respondent or on-site coordinator in the case of an official marine mammal unusual mortality event. This Examiner’s Guide provides instructions for completing the Level A data form and the Rehab Disposition form; no standardized forms for Level B or C data have been developed.

The Level A form should either be completed online or on a paper copy and sent to the NMFS Regional Stranding Coordinator promptly following the examination of the animal (or as stated according to the Stranding Agreement) to ensure that the data will be available in near real time. If information regarding a stranding event is obtained after the Level A form, Rehabilitation Disposition form, or Human Interaction forms have been submitted to NMFS, please either edit the information in the online database, or forward such information in a separate communication to the NMFS Regional Stranding Coordinator, referring to the specific field number.

IV. LEVEL A MATRIX

When the Level A Marine Mammal Stranding Form Should Be Completed by a Stranding Network Participant

✓YES

✗NO

Description	Guidance	Additional Info
Single or multiple marine mammals that meet(s) one of the following criteria and responded to by the stranding network: <ul style="list-style-type: none"> • Dead and on a beach • Dead and floating • Alive, onshore, and unable to return to the water • Alive, onshore, and able to return to the water but in need of medical attention 	✓	One form per animal
Single marine mammal that meets one of the following criteria <u>and</u> is confirmed (e.g., photos, video, eyewitness report by reliable source) <u>but</u> either no response effort is undertaken by the network <u>or</u> a response effort is undertaken but the animal is not located or has already returned to the water (either under its own power or via public intervention) <ul style="list-style-type: none"> • Dead and on a beach • Dead and floating • Alive, onshore, and unable to return to the water • Alive, onshore, and able to return to the water but in need of medical attention 	✓	
Mass Strandings and Near-Mass Strandings (nearshore milling)		
Animals handled, either by the stranding network as part of a response or members of the public (i.e., pushed back out)	✓	One form per animal; additional data captured in Group Event
Animals not touched (note, if confirmed via photos or videos, could receive a Level A per the criteria above)	X	Data captured in Group Event
Nearshore free-swimming animals herded under NMFS authorization	X	Data captured in Group Event
Nearshore free-swimming animals with no response under NMFS authorization	X	Data captured in Group Event
Entangled Large Whale		
Anchored	X	Data captured in Regional/National Entanglement DB
Free-swimming, no response deemed necessary	X	Data captured in Regional/National Entanglement DB
Free-swimming, response deemed necessary (whether or not response is conducted)	X	Data captured in Regional/National Entanglement DB

Entangled Small Cetacean		
Anchored	✓	
Free-swimming; no response deemed necessary	X	
Free-swimming; response deemed necessary (whether or not response is conducted)	✓	
Entangled Pinniped		
Anchored	✓	
Free-swimming; no response deemed necessary	X	
Free-swimming; confirmed entanglement; response deemed necessary but not conducted	X	
Free-swimming; response conducted	✓	Note: if animal has been previously observed, first confirmed date may be used for “Initial Observation”
Vessel Strike		
Impinged (animal stuck on bow)	✓	
Captain’s Report received by NMFS or Network with no stranded animal	X	Data captured in separate Regional/ National database
Out of Habitat <i>Includes animals outside of their typical geographic range, such as ice seals and belugas in the Lower 48 and animals up rivers or inland</i>		
Intervention deemed necessary	✓	
No intervention deemed necessary (documentation only, wait and see)	X	
Other Situations		
Free-swimming, sick/injured, no response deemed necessary or logistically possible	X	
Free-swimming, sick/injured, response deemed necessary	✓	
Dead animals observed within a rookery, no response conducted	X	
Dead animals observed within a rookery, response conducted	✓	Note: responding within a rookery requires NMFS pre-authorization
Animals incidentally taken during a research survey	✓	
“False alarm” - call from the public that did not result in a response by the network because the animal was not determined to be stranded (fitting within one of the criteria listed above)	X	

Seals in molt	X	
Hazed (oil spill or other hazardous situation)	X	Data captured in Group Event
Relocation of healthy animal out of hazardous situation	✓	
Fetus found inside female, (during necropsy) or partially expelled	X	No separate Level A form, but indicate on female's form
Aborted fetus (found on beach alone or external to a female)	✓	
Pinniped pup aborted or born in rehabilitation that does not survive for at least 48 hours	X	No Level A form, No "Pup/Calf born in Rehab" Disposition form
Pinniped pup born in rehabilitation that survives more than 48 hours	X	No Level A form, Yes "Pup/Calf born in Rehab" Disposition form
Cetacean calf born in rehab	X	No Level A form, Yes "Pup/Calf born in Rehab" Disposition form
Live oiled animal, no response deemed necessary or logistically possible	X	Data captured in Group Event
Live oiled animal, response conducted (hazed, herded, etc.)	✓	Additional data captured in Group Event

V. DEFINITIONS OF TERMS FOR LEVEL A - VERSION 2017

ADMINISTRATIVE INFORMATION

Field #: Assign each stranding event a unique identifier. Format is open to each agency's requirements; however, please remain consistent within your agency.

NMFS Regional #: Leave blank. NMFS will assign a regional number consistent with the National Marine Mammal Stranding Database.

National Database #: Leave blank. NMFS will assign a national database number consistent with the National Marine Mammal Stranding Database.

Common Name: The common name of the stranded animal. If identity is not determined to species, describe the level to which the remains can be identified. (Example: unknown, pinniped/cetacean, otariid/phocid, or odontocete/mysticete, delphinid/phocoenid, etc.)

Genus/Species: This is the Latin name for the animal in standard binomial nomenclature. If either genus or species is not identifiable, fill in the appropriate blank with "UNKNOWN."

Examiner: Name of the examiner who is submitting the report. This should be the individual who is responsible for preparing the entire level A stranding report, not necessarily the note taker or a public citizen who first reported the animal

Affiliation: Affiliation of the examiner who is submitting the report. This could be the same organization as listed below under “Stranding Agreement or Authority”, a Designee organization (designee of a Stranding Agreement holder), the agency of a federal, state, or local government official authorized under MMPA Section 109(h), or other entity.

Address: Mailing address of the examiners Stranding Agreement organization or government agency office.

Phone: Daytime (Work) phone number where the examiner may be reached for further comment. NOTE: Please include only business addresses and phone numbers, to prevent the release of personal information to the public.

Stranding Agreement or Authority: Stranding Agreement holder or agency through which the examiner has been authorized to take marine mammals or marine mammal parts. If the examiner is the member of a “Designee Organization” record the name of the Stranding Agreement holder under whom the examiners organization is designated. If the examiner is operating under 109(h) authority, include the name of the government organization.

CONFIDENCE CODE: Check the box for how confident you are in the information provided on the form.

Unconfirmed – Low: Report is a phone message, verbal or written report received from an unknown individual. The report typically lacks significant information such as initial date, species ID with supportive description, specific location, reporting party information and condition (may not even include determination of “live” or “dead”). The information has not been confirmed by follow-up interview or corroborated by subsequent reports.

Confirmed – Minimum: Report is a phone message, verbal or written report received from an individual without marine mammal background or stranding investigation training. The report has been confirmed by follow-up interview, with the original reporting party, to confirm the event took place, including: initial date of discovery; a description of the animal (leading to possible identification of genera or species); detailed location data sufficient for response to the scene if needed; descriptive details regarding level of decomposition, physical injuries and approximate size; and information on disposition if available.

Confirmed – Medium: Report has been confirmed by a visual exam (external) conducted by a respondent familiar with marine mammals common to the area. Level A data may be incomplete or contain estimates of length, weight, etc., but key information

such as initial date, location, condition, species id, or physical description and notes on injuries observed are included.

Confirmed – High: Report has been confirmed by a trained individual who conducted a detailed examination. Level A data are complete and contain accurate measurements and justifications for any conclusions regarding causes of stranding. If human interaction is implicated there is sufficient evidence of the interaction to warrant a definite conclusion (i.e., dependent upon the interaction this may necessitate internal exam). Results of necropsy exam, photos, etc. may accompany the report. Records of any samples collected are included with the report.

INITIAL OBSERVATION

Same Information for Level A Examination – Check this box if the date, location and condition information will be the same as the Level A Examination information. If you check this box, you only have to fill out the date, location, and condition in the initial observation box and not the Level A examination information.

Date: Enter the date the stranded animal was first observed by any witness. This is the earliest known date of observation of the stranded animal.

First Observed - Check the appropriate box that indicates how the animal was initially observed:

- **Beach/ Land/Sea Ice**
- **Floating (in the water)**
- **Swimming**

State, County, and City: The standard state, county, and city names for the stranding location. For floating carcasses (U.S. waters between 3 and 200 miles offshore), fill State with “EEZ” and closest state. This should include boroughs, parishes, provinces, islands, commonwealths, and territories.

Body of Water: The major ocean basin closest to the site where the animal was observed stranded (e.g., Atlantic Ocean, Gulf of Mexico, Pacific Ocean, Gulf of Alaska) and describe the specific location in “Locality Details”.

Locality Details: Using known landmarks (access point, mile markers, street addresses etc.), describe the precise locality where the animal was found. GPS coordinates are preferred. For animals swimming or floating, include the associated ocean, sea, gulf, bay, inlet, estuary, or river.

GPS Coordinates: Documentation in decimal degrees is **required**. NOTE: Negative longitude represents the Western Hemisphere, positive longitude represents the Eastern Hemisphere, negative latitude represents the Southern Hemisphere, and positive latitude represents the Northern Hemisphere. Most GPS units can be set to display latitude and longitude in the decimal degree format and there are many lat/long conversion websites

on the internet.

Actual or Estimated: Indicate if the latitude/longitude coordinates are exact (taken at the site of the stranding including from a GPS unit, cell phone, or georeferenced picture) or an estimate (calculated after the fact based on a map, website, previous strandings, known lat/longs for landmarks, etc.).

How Determined: Indicate how the latitude/longitude coordinates were obtained. Check the box that represents method of data collection:

- **Global Positioning System (GPS) (includes from a GPS unit, cell phone, or georeferenced picture)**
- **Map**
- **Software program/Internet website**
- **Other – and briefly describe what other method was used to determine the location.**

Condition at Initial Observation - Check the appropriate box that indicates the physical state of the animal or carcass on the date of the initial observation:

- **Alive (Code 1):** Check this box if the animal was alive at the initial observation.
- **Fresh Dead (Code 2):** Check this box if the carcass was in good condition (fresh/edible). Normal appearance, may have some scavenger damage; fresh smell; minimal drying and wrinkling of skin, eyes and mucous membranes; eyes clear; carcass not bloated, tongue and penis not protruded; blubber firm and white; muscles firm, dark red, well-defined; blood cells intact, able to settle in a sample tube; serum unhemolyzed; viscera intact and well-defined, gut contains little or no gas; brain firm with no discoloration, surface features distinct, easily removed intact.
- **Moderate Decomposition (Code 3):** Check this box if the carcass was in fair condition (decomposed, but organs basically intact). Carcass intact or scavenged, bloating evident (tongue and penis protruded) and skin cracked and sloughing; characteristic mild odor; mucous membranes dry, eyes sunken or missing; blubber blood-tinged and oily; muscles soft and poorly defined; blood hemolyzed, uniformly dark red; viscera soft, friable, mottled, but still intact; gut dilated by gas; brain soft, surface features distinct, dark reddish cast, fragile but can usually be moved intact.
- **Advanced Decomposition (Code 4):** Check this box if the carcass was in poor condition (advanced decomposition). Carcass may be intact, but collapsed; skin sloughing; epidermis of cetaceans may be entirely missing; often severe scavenger damage; strong odor; blubber soft, often with pockets of gas and pooled oil; muscles nearly liquefied and easily torn, falling easily off bones; blood thin and black; viscera often identifiable but friable, easily torn, and difficult to dissect; gut gas-filled; brain soft, dark red, containing gas pockets, pudding-like consistency.
- **Mummified/Skeletal (Code 5):** Check this box if mummified or skeletal remains. Skin may be draped over skeletal remains; any remaining tissues are desiccated.

- **Condition Unknown:** Check this box if the stranded animal was dead at the time of initial observation but information on the condition of the carcass is unavailable.

LEVEL A EXAMINATION –

Examined? - Check “YES” if you were able to examine the animal. Check “NO” if you were unable to examine the animal due to circumstances beyond your control, such as the animal was inaccessible (at the bottom of a cliff, on an island, floating, etc.), the animal washed out with the tide before you responded, the manpower/time constraints made a response impossible, etc.

Date – Enter the date the animal was responded to and examined by your organization to collect Level A data (location, condition, signs of human interaction, species, sex, age class, length, weight, and any other visual observations). Complete morphometrics and necropsy could be taken at a later date.

State, County, and City: The standard state, county, and city names for the stranding location. For floating carcasses (U.S. waters between 3 and 200 miles offshore), fill State with “EEZ” and closest state. This should include boroughs, parishes, provinces, islands, commonwealths, and territories.

Body of Water: The major ocean basin closest to the site where the animal was observed stranded (e.g., Atlantic Ocean, Gulf of Mexico, Pacific Ocean, Gulf of Alaska) and describe the specific location in “Locality Details”.

Locality Details: Using known landmarks (access point, mile markers, street addresses etc.), describe the precise locality where the animal was found. GPS coordinates are preferred. For animals swimming or floating, this should include the referencing the associated ocean, sea, gulf, bay, inlet, estuary, or river.

GPS Coordinates: Documentation in decimal degrees is **required**. NOTE: Negative longitude represents the Western Hemisphere, positive longitude represents the Eastern Hemisphere, negative latitude represents the Southern Hemisphere, and positive latitude represents the Northern Hemisphere. Most GPS units can be set to display latitude and longitude in the decimal degree format and there are many lat/long conversion websites on the internet.

Actual or Estimated: Indicate if the latitude/longitude coordinates are exact (from a GPS unit, cell phone, or georeferenced picture) or an estimate (based on a map, website, previous strandings, known lat/longs for landmarks, etc.).

How Determined: Indicate how the latitude/longitude coordinates were obtained. Check the box that represents method of data collection:

- **Global Positioning System (GPS) (includes from a GPS unit, cell phone, or**

- georeferenced picture)
- **Map**
- **Software program/Internet website**
- **Other – and briefly describe what other method was used to determine the location.**

Condition at Examination - Check the appropriate box that indicates the physical state of the animal or carcass on the date of the Level A examination:

- **Alive (Code 1):** Check this box if the animal was alive at the initial observation.
- **Fresh Dead (Code 2):** Check this box if the carcass was in good condition (fresh/edible). Normal appearance, may have some scavenger damage; fresh smell; minimal drying and wrinkling of skin, eyes and mucous membranes; eyes clear; carcass not bloated, tongue and penis not protruded; blubber firm and white; muscles firm, dark red, well-defined; blood cells intact, able to settle in a sample tube; serum unhemolyzed; viscera intact and well-defined, gut contains little or no gas; brain firm with no discoloration, surface features distinct, easily removed intact.
- **Moderate Decomposition (Code 3):** Check this box if the carcass was in fair condition (decomposed, but organs basically intact). Carcass intact or scavenged, bloating evident (tongue and penis protruded) and skin cracked and sloughing; haracteristic mild odor; mucous membranes dry, eyes sunken or missing; blubber blood-tinged and oily; muscles soft and poorly defined; blood hemolyzed, uniformly dark red; viscera soft, friable, mottled, but still intact; gut dilated by gas; brain soft, surface features distinct, dark reddish cast, fragile but can usually be moved intact.
- **Advanced Decomposition (Code 4):** Check this box if the carcass was in poor condition (advanced decomposition). Carcass may be intact, but collapsed; skin sloughing; epidermis of cetaceans may be entirely missing; often severe scavenger damage; strong odor; blubber soft, often with pockets of gas and pooled oil; muscles nearly liquefied and easily torn, falling easily off bones; blood thin and black; viscera often identifiable but friable, easily torn, and difficult to dissect; gut gas-filled; brain soft, dark red, containing gas pockets, pudding-like consistency.
- **Mummified/Skeletal (Code 5):** Check this box if mummified or skeletal remains. Skin may be draped over skeletal remains; any remaining tissues are desiccated.
- **Condition Unknown:** Check this box if the stranded animal was dead at the time of initial observation but information on the condition of the carcass is unavailable.

DEMOGRAPHIC INFORMATION

SEX (Check One): Check the box indicating the animal’s sex, or check “Unknown” if unable to determine.

AGE CLASS (Check One): Check the box indicating the animal’s age class. If

possible, use information based on reproductive organs, teeth or accepted length/age data.

- **Adult:** Animal is judged or found upon necropsy to be sexually mature.
- **Subadult:** Animal is judged to be greater than one year old, but not yet mature.
- **Yearling:** Animal is judged to be approximately one year old, using length or time of year.
- **Pup/Calf:** Animal is smaller than yearling size, or in a population where it would be younger than one year old.
- **Unknown:** Unable to determine the age.

Whole Animal: Check the box if the carcass is sufficiently intact for the Level A morphometric data (straight length, weight) to be collected (i.e. for straight length, head and fluke notch still present on cetaceans, head and tail for pinnipeds; for weight, most of the body is present)

Partial Animal: Check the box if the carcass is **not** sufficiently intact for the Level A morphometric data (straight length, weight) to be collected. If you measure the remains of the carcass, the metric (weight or length) must be entered as “estimated”. Also record what part is missing in the ADDITIONAL REMARKS section on the back of the form. If neither length nor weight is measured, enter **zero “0”** in the respective blanks.

Straight Length - Record the straight length (not contoured) of the animal on the date of initial examination.

- **cm** = centimeters (preferred)
- **in** = inches
 - **actual** = Check if this was an actual measurement (physical measurement)
 - **estimated** = Check if this was an estimated measurement (visual measurement). For example, if the carcass is not intact (e.g. flukes degraded or severed, head missing, etc.) and record what part is missing in the ADDITIONAL REMARKS section on the back of this form.
- **Weight** - Record the weight of the animal on the date of initial examination.
 - **kg** = kilograms (preferred)
 - **lb** = pounds
 - **actual** = Check if this was an actual measurement (physical measurement)
 - **estimated** = Check if this was an estimated measurement (visual measurement) or if the carcass was not intact. Record what part is missing in the ADDITIONAL REMARKS section on the back of this form.

SAMPLES COLLECTED

Histology: Check the box if histopathological samples were taken.

Other Diagnostics: Check this box if diagnostic samples, other than histological samples, were taken.

Life History: Check the box if life history samples were taken.

Other: Check this box if other types of samples were taken and use the provided space to elaborate on the other type(s) of samples taken.

PARTS TRACKING (Check all that apply):

Check the following boxes to indicate if **non-diagnostic** specimens were collected for scientific, educational, or other purposes (i.e., skin for genetics, blubber for contaminants, bones for collection, etc.). The disposition (both transitory and final) of these specimens should be recorded on the back of the form under “ADDITIONAL REMARKS.” Please check with your NMFS Regional Stranding Coordinator regarding marine mammal parts authorizations prior to retention and transfer.

- **Scientific collection** - check this box if specimens from the live animal or carcass, including skeletal parts, were retained for scientific research.
- **Educational collection** - check this box if specimens from the live animal or carcass, including skeletal parts, were retained for educational purposes.
- **Other** - check this box if the fate of specimens from the live animal or carcass, including skeletal parts, was other than that above and briefly indicate the disposition.

PHOTOS/VIDEO Taken - Check “Yes” or “No” to indicate whether visual media was taken of this stranding event.

- **Photo/Video Disposition** - If photos or video were taken of the event, use this line to indicate where these photos/videos are housed.

OCCURRENCE DETAILS - The occurrence details help define the reason for the response and details associated with the stranding event.

Restrand - Check this box if the animal has previously stranded and was either responded to by your organization or another. The animal may have tags from a rehabilitation facility, or may have recognizable and distinctive features. If this box is checked, you should indicate the previous field numbers assigned to this animal (by your facility or others), if known, on the back of the form in the space marked “Additional Identifiers.” This does not apply to an animal that was previously reported stranded, but no response was mounted.

GE # - Leave blank. NMFS will assign a regional designation to represent the “Group Event Number”.

Group Event - A group event is a stranding event which involves two or more animals, either simultaneously or over a period of time.

If Yes - identify the type of group event. These designations are not exclusive, more than one option may be selected:

Cow/Calf Pair – this would be two animals stranding where one is the mother and the other is the offspring (a mom/pup pair would also qualify).

Mass Stranding - this is 2 or more cetaceans that simultaneously strand, other than cow-calf pairs.

- **Number of Animals** - Indicate the number of cetaceans involved in the mass stranding, and whether this count is an “Actual” or “Estimate” count.

NOTE: Animals may be involved in other types of group events that will be determined after the Level A data sheet is filled out and submitted. These animals will be assigned a “**Group Event Number (GE#)**” and the group event fields will be incorporated into a separate database in the National Database by the Regional Stranding Coordinator or by the Onsite Coordinator if the case of Unusual Mortality Event. Examples of these types of events include:

- “*hazmat or oil spill*” - any animal affected by a spill of oil or another hazardous material;
- “*pre-event investigation*” - animals sampled after a group event is suspected, but before it has been officially designated as an Unusual Mortality Event by the Working Group on Marine Mammal Unusual Mortality Events (WGMMUME);
- “*unusual mortality event*” - any animal part of a die-off that has been officially designated as a UME by the WGMMUME; and
- “*repeat event*” - animals stranding during a die-off that has been designated as a repeat event by the WGMMUME.

If you wish, you may update your Level A datasheet for your records to reflect the Group Event number that will be listed in the National Database after the Regional Stranding Coordinator has verified the entry.

Was the Human Interaction Form completed? – Use the checkbox to indicate if the Human Interaction form was completed for this animal. The Human Interaction form is required for all Code 1-3 cetaceans, endangered/threatened species, and large whales.

Findings of Human Interaction (HI) - This field does not represent cause of stranding or cause of death. These data should not be used out of context or without verification.

Check “Yes” if there are any signs or evidence of HI, whether or not you believe they were the cause of death. If you check “Yes,” use the back of this form in ADDITIONAL REMARKS to further explain the nature of the injury (or evidence) and how it was assessed and determined to be human related. If possible, document injuries or marks with photographs or sketches/drawings. Describe the injury or mark, the type of fishing gear recovered the location of any wounds (gunshot, fishing gaff, knife incision, line or net entanglement, etc.). Note any external markings or color patterns and if the injury or mark could be determined as antemortem or postmortem (i.e., if animal seen with injury when alive or by histological confirmation). Also, describe any relevant circumstances regarding the interaction (e.g., whether the interaction was witnessed). Please indicate if you used the Protocol for Examining Marine Mammals for Signs of Human Interaction form. An electronic version of the HI form is a future module anticipated to be added to the Level A National database. Until that module is complete, for electronic data entry please scan the form and attach the scan to the electronic Level A Data record under the Attach/View Photos & Docs tab. For forms that are submitted via paper, mail a copy of

the HI form with the paper record.

Check “No” if the animal was examined and there was no indication of human interaction. Check

“Check Could not Be Determined (CBD)” if there is insufficient evidence to indicate an interaction, the animal was not thoroughly examined, the animal was too decomposed for a thorough examination, there may have been signs of something that may have been a human interaction but you can’t tell for sure, or the observer does not feel confident determining this type of injury (do not guess).

If you checked “Yes” or “CBD”, check the box that most accurately details the type of human interaction:

Boat Collision - Check “Yes” if there are any signs of boat or ship collision such as propeller wounds, skeg wounds, or blunt trauma from a boat hull. Check “No” if you can completely rule out the human interaction findings as caused by a boat collision. Check “CBD” if you cannot rule out the possibility that a boat collision caused the type of trauma observed.

Shot - Check “Yes” if there are any signs of gunshots. Check “No” if you can completely rule out the human interaction findings as caused by a gunshot. Check “CBD” if you cannot rule out the possibility that a gunshot caused the type of trauma observed.

Fishery Interaction - Check “Yes” if there are any signs of fishery interaction such as wounds related to fishing gear, or fishing gear attached to the animal. Check “No” if you can completely rule out the human interaction findings as caused by a fishery. Check “CBD” if you cannot rule out the possibility that a fishery interaction caused the type of trauma observed.

Other Human Interaction - If you checked “Yes” and there were signs of human interactions other than those listed, please describe in this blank. This could include signs of as ingested plastic, debris entanglement, wounds from other weapons besides firearms (arrows, harpoons, etc.), non-boat vessel related injuries (car or train collision, etc.), mutilation, etc. Use the back of this form under “ADDITIONAL REMARKS” to continue your description, if necessary.

If YES, what is the likelihood that the human interaction contributed to the stranding event? – If you selected “YES” for Findings of Human Interaction, check the box of how likely you think the human interaction caused the animal to strand. Your selection **MUST** match the selection on the Human Interaction form, if you were required to fill out that form. **NOTE:** The Human Interaction form is required for all Code 1-3 cetaceans, endangered/threatened species, and large whales.

Gear Collected - Check “Yes” if you collected fishery gear from the animal (hook, line,

net, etc.). Check “No” if you did not collect any gear, or if there was no gear to collect.

Gear Disposition - If you checked “Yes”, use this line to indicate what was done with that gear (i.e. sent to NMFS Enforcement or Regional Stranding Coordinator), or where the gear is housed.

Other Findings Upon Level A - Check “Yes” if there are any signs or evidence of other (non-human related interaction) findings related to the stranding, whether or not you believe they were the cause of death; check “No” if there was no indication of other factors; check “CBD” if there is insufficient evidence to indicate. Non-human related injuries or disease may include signs of infectious or parasitic disease and signs of trauma from beaching, conspecific interactions/aggression, interspecific interactions, scavengers and predators, etc. See above definition of external and internal exam for more description. Also, document if the animal was pregnant and in other findings – include comments.

If Yes, choose one or more – check the box that most accurately details the other factors:

- **Illness**
- **Injury**
- **Pregnant**
- **Other** (indicate what was found)

How Determined (Check one or more) - Describe how the signs of human interaction and/or other findings upon Level A examination were determined:

- **External Exam** – The entire external surface of animal is visually assessed for signs of HI. If the entire surface could not be examined, please state why and which parts were examined (e.g., large whale could not be turned over, only dorsal surface examined)
- **Internal Exam** - The response included an examination of some or all of the body cavity. However, the condition of the animal or other factors precluded the collection and analysis of samples from internal organs. Please indicate in the **ADDITIONAL REMARKS** section the systems examined and not examined as well as examination findings.
- **Necropsy** – a necropsy was done, detailed information was documented, and internal tissues were collected for analysis. Please refer to the definitions and check whether the necropsy was limited or complete in the section below entitled “NECROPSIED”
- **Other** – other obvious signs of HI including presence of gear, and eye witness account of a human interaction.

LIVE ANIMAL DISPOSITION - Indicate what action(s) was/were taken to handle a live animal (NOTE: check all that apply at the time of completing the Level A examination):

- **Left at Site:** Check if the animal was reported, and was confirmed stranded by a reliable source and acknowledged by the Regional Coordinator, but no response was made; or the animal was observed by the response team, but no other actions were taken.
- **Immediate Release at Site:** Check if the animal was reported and treated or evaluated, but was not removed from the site.
- **Relocated:** Check if the animal was evaluated or treated, was removed from the site of stranding, and was transported and released at another site without being admitted to an authorized rehabilitation facility.
- **Disentangled:** Check if the animal had entangling gear removed (either partially or fully), and was released/swam away. This is for small cetaceans and pinnipeds; entangled large whales should not be reported on the Level A form unless they are dead.
- **Euthanized:** Check if the animal was found alive but was euthanized by an authorized entity at the stranding site or in transport (including at a temporary location during the transport). If an animal is brought to a rehabilitation facility and euthanized there, that should be marked as “transferred to rehabilitation” and the euthanasia captured on the Rehabilitation Disposition form.
- **Died at Site:** Check if the animal was found alive and died before transport to an authorized rehabilitation facility or relocation.
- **Transferred to Rehabilitation:** Check if the animal was transported to an authorized rehabilitation facility.
 - **Date** - Fill in the date of the transfer
 - **Facility** - Fill in the name of the authorized rehabilitation facility to which the animal was transferred.
- **Died during Transport:** Check if the animal was found alive and died during transport to a rehabilitation facility or relocation site.
- **Other:** Check if the disposition of the live animal differs from the options listed above and document here.

CONDITION/DETERMINATION - Indicate the condition of the animal at the time of the response. This question should help provide your reasoning for the disposition that was selected. (NOTE: Check all that apply).

- **Sick:** Check if the animal appears sick, emaciated, or is behaving oddly, with no external signs of injury.
- **Injured:** Check if the animal shows evidence of physical injury.
- **Out of Habitat:** Check if the animal was found in area not typical for its species. This could include atypical location and time of year for its known life history. Generally an out of habitat case involves a free swimming animal that is reported in an area outside it's normal habitat, tends to remain there for a period of time, and may need intervention to return to its normal habitat (e.g. a bottlenose dolphin in a freshwater river that doesn't leave on its own accord, an ice seal in Florida, or a humpback whale in an embayment). This does not include a typical live stranding of an offshore species close to the beach.
- **Deemed Releasable:** Check if the animal shows no outward signs of illness or

injury.

- **Abandoned/Orphaned**: Check if the animal is a cetacean calf found stranded on the beach without an adult female, or a pup/calf that has been monitored and determined to be abandoned. The length of time that the animal should be observed without intervention may be up to 48 hours and varies by region; check with your Regional Stranding Coordinator for your regional policy.
- **Inaccessible**: Check if the animal is in an inaccessible location and therefore was not closely examined (condition could not be determined). Examples of inaccessible locations include: at the base of a cliff, areas with dangerous surf conditions, mudflats, islands, ice, etc.
- **Location Hazardous**
 - **To Animal** - Check if the animal is in a location that is deemed hazardous to its health and welfare (i.e. up a freshwater river, pinnipeds found inland, etc.)
 - **To Public** - Check if the animal is in a location that is deemed hazardous to the public (i.e. a crowded public beach, a marina, etc.)
- **Unknown/CBD**: Check if the animal could not be examined or if the condition could not be determined.
- **No Rehabilitation Options**: Check if a lack of space at a rehabilitation center contributed your reasoning for the disposition that was selected.
- **Other**: Describe any other situation not addressed above.

DEAD ANIMAL INFORMATION

- **Frozen for later examination** - Check this box if all or most of the carcass and/or skeleton was at any point frozen for later examination.

CARCASS STATUS (Check all that apply) - Check the following boxes to indicate how the carcass was disposed of:

- **Left at site** - Check this box if the carcass, including skeleton, was left where it was found to decompose.
- **Buried** - Check this box if most of the carcass, including skeleton, was buried at or close to the location where it was found or someplace else.
- **Rendered** - Check this box if the carcass, including skeleton, was rendered.
- **Towed** - Check this box if the carcass, including skeleton, was towed to sea. Fill in the latitude and longitude of the position where the carcass was left.
- **Sunk** - Check this box if the carcass, including skeleton, was sunk. Fill in the latitude and longitude of the position where the carcass was sunk.
- **Composted** – Check this box if the carcass, including the skeleton, was composted or sent to a compost facility.
- **Landfill** - Check this box if the carcass, including skeleton, was sent to a landfill or other waste facility.
- **Incinerated** – Check this box if the carcass, including the skeleton, was sent to an incinerator.

- **Unknown/Other** - Check this box if the fate of the carcass is unknown, if the carcass was lost, or the fate of the carcass is other than what is listed. Document the details here.

NECROPSIED - Indicate “YES” if a necropsy was completed to obtain Level B or C data. Check “NO” if a necropsy that obtained Level B or C data was not completed on the carcass, or “N/A” if it’s not applicable.

- **Limited Necropsy** - A limited necropsy includes an exam of the carcass in which some of the organs or systems are examined, collected, and analyzed according to established protocols, but either the condition of the animal or other factors limits a complete necropsy. Please indicate in the **ADDITIONAL REMARKS** section the systems examined and not examination as well as examination findings.
- **Complete necropsy** - A complete necropsy consists of a detailed exam where the majority of organs are examined, collected (i.e., if feasible, this could include tissues for histopathology) and analyzed according to established protocols. This includes documenting any internal lesions, bruising, or broken/fractured bones, and examining the entire GI tract for lesions, foreign material, gear, and other natural contents (e.g. food), and the lungs/bronchi. A necropsy report is generated and disseminated to the pathologist on record.
- **Carcass Fresh** - Check if the necropsy was conducted on a fresh carcass (not frozen before examination).
- **Carcass Frozen/Thawed** - Check if the necropsy was conducted on a carcass that was frozen and thawed.

NECROSPIED BY - List the name and contact information of the primary person/facility who conducted the necropsy.

Date – List the date when the necropsy was done.

SPECIMEN DISPOSITION (Check all that apply) – Check the following boxes to indicate if non-diagnostic specimens were collected for scientific, educational, or other purposes (i.e., skin for genetics, blubber for contaminants, bones for collection, etc.). The disposition (both transitory and final) of these specimens should be recorded on the back of the form under “ADDITIONAL REMARKS.” Please check with your NMFS Regional Stranding Coordinator regarding marine mammal parts authorizations prior to retention and transfer.

- **Scientific collection** - check this box if specimens from the live animal or carcass, including skeletal parts, were retained for scientific research.
- **Educational collection** - check this box if specimens from the live animal or carcass, including skeletal parts, were retained for educational purposes.
- **Other** - check this box if the fate of specimens from the live animal or carcass, including skeletal parts, was different than that above and briefly indicate the disposition.
- **Comments** - List comments regarding disposition of the specimen (i.e., identifying which tissues were collected and retained, differentiating where

tissues were sent, etc.).

BACK OF FORM

TAG DATA

Present at Time of Stranding (Pre-existing) - Mark “YES” if tags or identification markings were pre-existing (present on the animal at the time of stranding).

Applied During Stranding Response - Mark “YES” if tags or identification markings were applied by the stranding response organization (i.e. prior to release at stranding or relocation site, to prevent a carcass from being double-counted, etc.).

Applied During Rehabilitation/Release - Mark “YES” if tags or identification markings were applied by the rehabilitation organization while the animal was in rehabilitation or immediately prior to the animal’s release.

NOTE: If no tags were present or applied, the responder should check “NO” for all boxes and skip the rest of the section.

Document details about the type, color, and placement of identification tags, brands, or markings:

ID# - Write the number(s) of the identifying tag(s), brand(s), or other applied marking(s), if applicable.

Color - Using basic colors, indicate the identifying color of tags where applicable.

Type - List the type of tag, brand, or other applied marking. (Ex. radio, PIT, plastic, roto, spaghetti, satellite, freeze brand, tape, bleach mark, paint, etc.)

Placement - Circle (ONE) the location of each applied/present marking:

D = dorsal body

DF = dorsal fin

L = left lateral body

R = right lateral body

LF = left front flipper/appendage

LR = left rear flipper/appendage

RF = right front flipper/appendage

RR = right rear flipper/appendage

Applied = Check “Applied” for each of the tags, brands, or other markings that were applied after the animal stranded, as part of the stranding or rescue response. If the animal was rehabilitated and released with tags or markings, you may update this part of the Level A form after they are applied.

Present = Check “Present” for each of the tags, brands, or other markings that were already present when the animal stranded.

Removed = Check “Removed” for each of the tags, brands, or other markings that were present on the animal when it initially stranded, but was subsequently removed during the stranding/rescue response or rehabilitation.

ADDITIONAL IDENTIFIERS: Include any additional information related to the Field ID number or identification of the stranding event. Examples include: previous Field ID numbers if this animal previously stranded; ID numbers assigned by other organizations (including authorized rehabilitation facilities to which the animal is transferred), former identification numbers from scientific research projects, etc.

ADDITIONAL REMARKS: Include comments, and list other data sheets that may have been completed such as human interaction, morphometrics, necropsy, rehabilitation disposition, etc. Include further details or comments on any of the Level A data fields from the front of the sheet.

VI. DEFINITIONS OF TERMS FOR MARINE MAMMAL REHABILITATION DISPOSITION REPORT - VERSION 2017

ADMINISTRATIVE INFORMATION

Field #: This should be the same original field number used on the Level A form. If additional identifiers were given during rehab, they should be listed on the back under “ADDITIONAL REMARKS” section of the form. Format is open to each agency’s requirements; however, please remain consistent within your agency.

NMFS Regional #: Leave blank. The National Marine Mammal Stranding Database will populate this field with the same regional number assigned to the Level A form.

National Database #: Leave blank. The National Marine Mammal Stranding Database will populate this field with the same regional number assigned to the Level A form.

Common Name: The common name of the stranded animal. If identity is not or cannot be determined to species (e.g., for a hybrid animal), describe the taxonomic level to which the animal can be identified.

Genus/Species: This is the Latin name for the animal in standard binomial nomenclature. If either genus or species is not identifiable, fill in the appropriate blank with “UNKNOWN.”

Rehabilitation Facility: Name of the rehabilitation facility where the animal has been admitted for treatment and rehabilitation. A separate Marine Mammal Rehabilitation Disposition sheet will be filled out by each facility involved with the case including the primary or any secondary facilities.

Affiliation: Affiliation of the rehabilitation facility who is submitting the report. This could be through a Stranding Agreement or as a Designee organization (designee of a Stranding Agreement holder), or an agency of a federal, state, or local government

authorized under MMPA Section 109(h).

Address: Mailing address of the Rehabilitation Facility.

Phone: Daytime (Work) phone number where a primary contact for the Rehabilitation Facility may be reached for further comment. NOTE: Please include only business addresses and phone numbers, to prevent the release of personal information to the public.

STRANDING/BIRTH HISTORY

Restrand - Check this box if the animal has previously stranded, either with your organization or another. The animal may have tags from a rehabilitation facility, or may have recognizable and distinctive features. If this box is checked, you **MUST** indicate the previous numbers assigned to this animal (by your facility or others) on the back of the form in the space marked “Additional Identifiers.”

Number of Times Previously Admitted to Rehabilitation: This should be filled out if you checked the box for “Restrand”. Indicate the number of times the animal has previously been admitted to and released from a rehabilitation center. Additionally, you **MUST** indicate the previous numbers assigned to this animal (by your facility or others) on the back of the form in the space marked “Additional Identifiers.” If the animal has been transferred from a different rehabilitation facility to yours during the course of rehabilitation, that would not count as a “restrand” and this should not be checked.

Date: Enter the date upon which the animal stranded. Use date entered under “Initial Observation” on the Level A form.

Location: The standard state, county, and city names for the stranding location (use the data entered under “Initial Observation” on the Level A form). This should include boroughs, parishes, provinces, islands, commonwealths, and territories.

Sex (Check One): Check the box indicating the sex of the animal.

Was the animal born in rehab? - Check “YES” if this was animal born while the female (i.e., dam, mother) was in rehabilitation, check “NO” if it was not.

Female’s ID #: If yes above, then enter the female’s (i.e.; dam, mother) field identification number from her Level A form.

ADMISSION INTO REHABILITATION

Date: Enter the date when the animal was admitted into **your** rehabilitation facility. This date could pertain to when a secondary rehabilitation facility received an animal from the original or primary facility.

Received From: Record where the animal was obtained from, this could include directly from the stranding site, triage site or another rehabilitation facility.

Straight Length: Record the straight length (not contoured) of the animal on or around the date of admission into rehabilitation. Please check if this was an actual or estimated measurement.

- **cm** = centimeters (preferred)
- **in** = inches
 - **actual** = Check if this was an actual measurement (physical measurement)
 - **estimated** = Check if this was an estimated measurement (visual measurement).

Weight: Record the weight of the animal on or around the date of admission into rehabilitation. Please check if this was an actual or estimated measurement.

- **kg** = kilograms (preferred)
- **lb** = pounds
 - **actual** = Check if this was an actual measurement (physical measurement)
 - **estimated** = Check if this was an estimated measurement (visual measurement).

MEDICAL RECORD

Pre-Release Health Screen Date: 2009 *Best Practices Marine Mammal Stranding Response, Rehabilitation, and Release – Standards for Release* require that a pre-release health screen be completed on all marine mammals prior to release back into the wild. Indicate the date this screen was completed.

Last Day of Antibiotics: Record the date of the last dose of antibiotics administered to the animal in rehabilitation.

SAMPLES COLLECTED

Histology: Check the box if histopathological samples were taken.

Other Diagnostics: Check this box if diagnostic samples, other than histological samples, were taken.

Life History: Check the box if life history samples were taken.

Other: Check this box if other types of samples were taken and use the provided space to elaborate on the other type(s) of samples taken.

PARTS TRACKING

Samples Collected (Check all that apply): Check the following boxes to indicate if **non-diagnostic** specimens were collected for scientific, educational, or other purposes (i.e., skin for genetics, blubber for contaminants, bones for collection, etc.). The disposition (both transitory and final) of these specimens should be recorded on the back of the form under “ADDITIONAL REMARKS.” Please check with your NMFS Regional Stranding Coordinator regarding marine mammal parts authorizations prior to retention and

transfer.

- **Scientific collection** - check this box if specimens from the live animal or carcass, including skeletal parts, were retained for scientific research.
- **Educational collection** - check this box if specimens from the live animal or carcass, including skeletal parts, were retained for educational purposes.
- **Other** - check this box if the fate of specimens from the live animal or carcass, including skeletal parts, was other than that above and briefly indicate the disposition.

Diagnostic Samples (Optional): List the specific samples or specimens that were taken, the diagnostic test or reason for sampling, and the disposition or location of the sample, on the back of the form under “ADDITIONAL REMARKS” or on an attached form or page (state “Form attached” in Remarks).

MORPHOLOGICAL DATA AT DISPOSITION

Animal Morphological Data at Time of Disposition: Record these data below on or near the date of “Final Disposition”.

Straight Length: Record the straight length (not contoured) of the animal on or around the date of final disposition. See choices below in the “Final Disposition” section. Please check if this was an actual or estimated measurement.

- **cm** = centimeters (preferred)
- **in** = inches
 - **actual** = Check if this was an actual measurement (physical measurement)
 - **estimated** = Check if this was an estimated measurement (visual measurement).

Weight: Record the weight of the animal on or around the date of final disposition. See choices below in the “Final Disposition” section. Please check if this was an actual or estimated measurement.

- **kg** = kilograms (preferred)
- **lb** = pounds
 - **actual** = Check if this was an actual measurement (physical measurement)
 - **estimated** = Check if this was an estimated measurement (visual measurement).

AGE CLASS (check one): Check the box indicating the animal’s age class at the time of “Final Disposition”. If possible, use information based on reproductive organs, teeth or accepted length/age data:

- **Adult:** Animal is judged or found upon necropsy to be sexually mature.
- **Subadult:** Animal is judged to be greater than one year old, but not yet mature.
- **Yearling:** Animal is judged to be approximately one year old, using length or time of year.

- **Pup/Calf:** Animal is smaller than yearling size, or in a population where it would be younger than one year old.
- **Unknown:** Unable to determine its age.

FINAL DISPOSITION

Check the box which best represents the final disposition determination based on the 2009 *Best Practices Marine Mammal Stranding Response, Rehabilitation, and Release – Standards for Release*.

- **Releasable** – check this box if the animal was deemed releasable by NMFS (either releasable or conditionally releasable).
- **Non-releasable** – check this box if the animal was deemed non releasable by NMFS.
- **Not Applicable** – check this box if the animal died or was euthanized in rehabilitation or was transferred to another rehab facility before a final disposition determination was made.

Transferred to Another Rehabilitation Facility: Check this box if the animal was transferred to another rehabilitation facility, while still in rehabilitation status.

- **Date** - Enter the date that the animal was transferred to another rehabilitation facility (year, month, and day).
- **Facility** - Enter the name of the rehabilitation facility that received the transferred animal.
- **Address** - Enter the address of the rehabilitation facility that received the transferred animal.
- **Comments** – Enter additional comments regarding the transfer of the animal. If necessary, use the back of this form in “ADDITIONAL REMARKS” section.

Temporarily Transferred to Research Facility

- **Date** - Enter the date that the animal was temporarily transferred to an authorized Research Facility (year, month, and day).
- **Facility** - Enter the name of the Research Facility that received the transferred animal.
- **Comments** – Enter additional comments regarding the transfer of the animal. If necessary, use the back of this form in “ADDITIONAL REMARKS” section.
- **NMFS Permit #** - Enter in the Research Facility’s NMFS Permit # that authorizes the facility to conduct research on marine mammals.

Permanently Transferred for Research/Enhancement

- **Date** - Enter the date that the animal was permanently transferred to an authorized Research Facility (year, month, and day).
- **Facility** - Enter the name of the Research Facility that received the transferred animal.
- **Comments** – Enter additional comments regarding the transfer of the animal. If necessary, use the back of this form in “ADDITIONAL REMARKS” section.
- **NMFS Permit #** - Enter in the Research Facility’s NMFS Permit # that authorizes

them to conduct research on marine mammals.

- **NOAA ID #** - Leave blank. NMFS will assign an official identification number for animals in permanent captivity in the Marine Mammal Inventory.

Permanently Transferred for Public Display

- **Date** - Enter the date that the animal was permanently transferred to an authorized Public Display Facility (year, month, and day).
- **Facility** - Enter the name of the public display facility that received the transferred animal.
- **Comments** – Enter and additional comments regarding the transfer of the animal. If necessary, use the back of this form in “ADDITIONAL REMARKS” section.
- **NOAA ID #** - Leave blank. NMFS will assign an official identification number for animals in permanent captivity in the Marine Mammal Inventory.

Died

- **Euthanized** – check this box if the animal was euthanized while at the rehabilitation facility or during transport.
- **Date** – Enter the date of death (year, month, and day)
- **Location** – Enter the location of death (rehabilitation facility, temporary research facility, transport, etc.)
- **Cause of Death** – If known, enter in the cause of death.
- **Comments** – Enter additional comments regarding the cause of death of the animal. If necessary, use the back of this form in “ADDITIONAL REMARKS” section. If applicable, fill out the section entitled “Parts Tracking”.

NECROPSIED - Indicate “YES” if a necropsy was completed to obtain Level B or C data. Check “NO” if a necropsy that obtained Level B or C data was not completed on the carcass, or “N/A” if the animal was not dead.

- **Limited Necropsy** - A limited necropsy includes an exam of the carcass in which some of the organs or systems are examined, collected, and analyzed according to established protocols, but either the condition of the animal or other factors limits a complete necropsy. Please indicate in the **ADDITIONAL REMARKS** section the systems examined and not examination as well as examination findings.
- **Complete necropsy** - A complete necropsy consists of a detailed exam where the majority of organs are examined, collected (i.e., if feasible, this could include tissues for histopathology) and analyzed according to established protocols. This includes documenting any internal lesions, bruising, or broken/fractured bones, and examining the entire GI tract for lesions, foreign material, gear, and other natural contents (e.g. food), and the lungs/bronchi. A necropsy report is generated and disseminated to the pathologist on record.
- **Carcass Fresh** - Check if the necropsy was conducted on a fresh carcass (not frozen before examination).
- **Carcass Frozen/Thawed** - Check if the necropsy was conducted on a carcass that was frozen and thawed.

NECROSPIED BY - List the name and contact information of the primary

person/facility who conducted the necropsy.

Date – List the date when the necropsy was done.

NECROSPIED BY: List the name and contact information of the primary person/facility who conducted the necropsy.

Date – List the date when the necropsy was done.

Released

Date: Enter the date (Year, month, and day) when the animal was released.

State, County, and City: Enter the state, county (if applicable), and city (if applicable) for the location of release. For offshore releases (U.S. waters between 3 and 200 miles offshore), fill State with “EEZ” and closest state. This should include boroughs, parishes, provinces, islands, commonwealths, and territories.

Locality Details: Using known landmarks (access point, mile markers, street addresses etc.), describe the precise locality where the animal was released. GPS coordinates are preferred. For animals released offshore, this should include the associated ocean, sea, or gulf.

GPS Coordinates of Release: Documentation in decimal degrees is **required**. NOTE: Negative longitude represents the Western Hemisphere, positive longitude represents the Eastern Hemisphere, negative latitude represents the Southern Hemisphere, and positive latitude represents the Northern Hemisphere. Most GPS units can be set to display latitude and longitude in the decimal degree format and there are many lat/long conversion websites on the internet.

Released: Check the box if the animal was released “**singly**” or concurrently “**with other rehabilitated animals.**”

TAG DATA

Present at Time of Stranding (Pre-existing) - Mark “**YES**” if tags or identification markings were pre-existing (present on the animal at the time of stranding).

Applied During Stranding Response - Mark “**YES**” if tags or identification markings were applied by the stranding response organization (i.e. prior to release at stranding or relocation site, to prevent a carcass from being double-counted, etc.).

Applied During Rehabilitation/Release - Mark “**YES**” if tags or identification markings were applied by the rehabilitation organization while the animal was in rehabilitation or immediately prior to the animal’s release.

NOTE: If no tags were present or applied, the responder should check “**NO**” for all

boxes and skip the rest of the section.

Document details about the type, color, and placement of identification tags, brands, or markings:

ID# - Write the number(s) of the identifying tag(s), brand(s), or other applied marking(s), if applicable.

Color - Using basic colors, indicate the identifying color of tags where applicable.

Type - List the type of tag, brand, or other applied marking. (Ex. radio, PIT, plastic, roto, spaghetti, satellite, freeze brand, tape, bleach mark, paint, etc.)

Placement - Circle (ONE) the location of each applied/present marking:

D = dorsal body

DF = dorsal fin

L = left lateral body

R = right lateral body

LF = left front flipper/appendage

LR = left rear flipper/appendage

RF = right front flipper/appendage

RR = right rear flipper/appendage

Applied = Check “Applied” for each of the tags, brands, or other markings that were applied after the animal stranded, as part of the stranding or rescue response. If the animal was rehabilitated and released with tags or markings, you may update this part of the Level A form after they are applied.

Present = Check “Present” for each of the tags, brands, or other markings that were already present when the animal stranded.

Removed = Check “Removed” for each of the tags, brands, or other markings that were present on the animal when it initially stranded, but was subsequently removed during the stranding/rescue response or rehabilitation.

Post Release Monitoring - Please indicate if an active post release monitoring effort was undertaken (i.e., remote telemetry using VHF and/or satellite).

Data Disposition: If post release monitoring occurred, enter where these data are housed.

BACK OF FORM

ADDITIONAL IDENTIFIERS: Include any additional information related to the Field ID number or identification of the stranding event. Examples include: previous Field ID numbers if this animal previously stranded; ID numbers assigned by other organizations (including authorized rehabilitation facilities to which the animal is transferred), former identification numbers from scientific research projects, etc.

ADDITIONAL REMARKS: Include comments, and list other data sheets that may have been completed such as morphometrics, necropsy, rehabilitation disposition, specimen tracking, etc. Include further details or comments on any of the data fields from the front of the sheet.

VII. PROTOCOL AND DEFINITIONS OF TERMS FOR EXAMINING MARINE MAMMALS FOR SIGNS OF HUMAN INTERACTION - VERSION 2017



Introduction

This form is required for all species listed as Endangered or Threatened, all large whales, and all cetaceans that strand as a Code 1-3. Evaluating marine mammals for signs of human interaction requires consistent, objective examination by trained personnel. This document is meant to accompany formal training by experienced stranding network participants. This protocol is divided into an objective data collection section and a more subjective initial human interaction diagnosis. The primary goal of this protocol is to determine whether evidence of human interaction is present on the animal. The secondary, and more difficult, goal is to determine whether human activities contributed to the stranding event. A positive score for Findings of Human Interaction results from an objective evaluation of an animal or carcass. This evaluation does not attempt to determine whether the signs of human interaction occurred before, during, or after a stranding event and does not attempt to qualify the severity of the interaction.

The subjective Initial Human Interaction Evaluation takes into account the circumstances of the stranding event and the animal's physical condition. A high score indicates that human activities most likely caused the stranding. A low score indicates that although signs of human interaction are present, the likelihood that the interaction caused the stranding is very low. For example, old, healed propeller scars on a known whale are unlikely to have caused a stranding during a domoic acid event and a dead dolphin calf covered by debris on a beach following a hurricane is unlikely to have died due to entanglement.

Determining the cause of death is not an objective of this protocol. Without further evaluation, such as histopathology, and review by veterinarians, pathologists and/or other experts, the exact reason for stranding and cause of death cannot be definitively determined.

Human interaction (HI) data illustrate where problems between marine mammals and humans occur. When collected carefully and consistently, these data can be used to describe the types of interaction taking place (*e.g.* monofilament net, multifilament net, small or large vessel interaction, ingestion of debris, *etc.*), thus providing a sound scientific basis for policy and management decisions. The nature of strandings makes it inadvisable to use human interaction data to estimate mortality or changes in the mortality rate due to human interaction.

In addition, there are categories of human interaction that are difficult, if not impossible, to evaluate such as strandings that result from persistent harassment, those that result in detrimental behaviors such as surfacing too quickly from a dive after exposure to sub-lethal sound, as well as long-term effects of man-made products that may result in lowered immunity, disease, or reduced reproduction. There are new activities such as renewable energy and aquaculture operations that are just beginning to be exploited in the US. We cannot point to a mark or a diagnostic test that can tell us whether a stranded whale has been exposed to active sonar or to sound generated by a wind farm. We cannot guarantee that a seal pup was never exposed to humans or their activities. Finally, we must acknowledge that we do not understand the effects of multiple human interaction stressors on marine mammals.

We must acknowledge that, in some way, human activities have affected the lives of every marine mammal, but for our purposes using this form, we are trying to document those human activities that are

consistently observable and can be documented by stranding responders.

Definitions

In order to effectively evaluate marine mammals for signs of human interaction, you must understand what you are looking for. Below are terms and explanations of data sheet sections:

For most of the sections, you must choose among the following answers:

- YES you have examined the area (*i.e.* left front appendage, snout) and you found signs of human interaction
- NO you have examined the area (*i.e.* left front appendage, snout) and you found NO signs of human interaction
- CBD (Could not Be Determined) which means either: (1) you have examined the area and could not determine whether the marks you saw were signs of human interaction, (2) you could not properly examine the area because it was degraded (scavenged, skin/pelt missing, mangled, *etc.*), or (3) you could not examine the area because it was missing (removed, decomposed)
- NE you did not examine the area (an explanation as to why is often helpful – *e.g.* it was too dark; the animal was too large to roll over, *etc.*)
- NA this question is not applicable to this animal (*e.g.* it is a seal and doesn't have a dorsal fin, or it is a dolphin and doesn't have rear appendages)

Strategy for filling out the human interaction data sheet

Each line on the data sheet is numbered in the left hand margin. These numbers serve two purposes: (1) each number corresponds to a section within these instructions with details about how to complete that line; (2) the line numbers should be entered in the comments section on the second page of the data sheet to indicate to which item the comment refers.

Page 1:

EXAM INFORMATION: Fill in or circle the most appropriate answer for each of the fields.

- 1 Field #: unique identifying number originally assigned to the animal by response personnel. Note: the field number NEVER changes. If other filing numbers are added or accession numbers from other institutions are added, they should be noted as “additional identifiers”.
Species: note the genus and species or common name of the animal.
- 2 Examiner: the person evaluating the animal.
Recorder: the person recording the information on the data sheet.
- 3 Date of exam: the date that you are conducting the human interaction evaluation.
condition code (at exam): the condition code of the animal at the time of the human interaction evaluation. Use Smithsonian Institution condition codes (Geraci and Lounsbury 2005).
- 4 Preservation: circle one of following - ALIVE, FRESH (not previously frozen), FROZEN (completely or partially frozen while exam was conducted), or FROZEN/THAWED (previously frozen, but completely thawed before exam).
Body condition: circle one of following - EMACIATED (clearly thin, concave epaxial muscle, obvious neck, ribs, scapulae, hip bones, and/or vertebral processes), NOT EMACIATED (robust or slightly thin, but not fitting the description of emaciated above) or CBD could not be determined (bloated, decomposed, not examined, *etc.*).
- 5 Documentation: circle all forms of photo/video documentation that apply.
Image disposition: indicate which camera, disk, tape, *etc.* that images were taken or stored on and the acronym of the organization that is maintaining them.
- 6 Integument: (skin, fur, hide) circle one of following - NORMAL (as if it were healthy and alive), ABNORMAL (conditions not associated with decomposition such as: alopecia, skin lesions, sloughing, abrasions, *etc.*) or DECOMPOSED/SCAVENGED (post-mortem changes such as

peeling, sunburn, or scavenger damage).

% Skin missing: Circle the most appropriate number. Note that this does not apply to alopecia (fur loss) but to SKIN loss.

7 Explanation of terms: definitions of common terms used throughout the data sheet.

WHOLE BODY EXAM: Before beginning a detailed exam, take a look at the whole animal. If possible, look at all angles and surfaces. Following your whole animal exam, check the most appropriate choice for each category. If you check YES or CBD, describe what you see in the *Comments* section on the next page, noting the appropriate line number. Indicate whether you collected an image of an area with a Y (Yes) or N (No) in the *Image taken* section. If you are unable to examine any areas, note the details in the *Comments* section.

- 8 Appendages removed (with instrument): Check YES if the head or any appendages (limbs, dorsal fin, fluke, *etc.*) appear to have been removed from the animal with an instrument (*e.g.* if there are obvious straight line cuts or straight nicks to the bone). In the lower 48 states of the US, this would be consistent with mutilation. In other areas, such as AK, this may be evidence of the legal harvest of a marine mammal. It is essential to work with local communities and agencies to interpret your findings in these cases. Check NO if all appendages are intact. Check CBD if you are unsure why an appendage is missing or if you cannot examine all appendages. If it appears an appendage was completely removed by scavenging or predation (*e.g.* shark bite removed entire dorsal fin) you should check CBD.
- 9 Pelt removed (with instrument): Check YES if the pelt appears to have been removed with an instrument (knife, scraper). Check NO if the pelt is intact (even if the animal's skin is intact but the hair/fur is missing). Check CBD if you are unsure (due to decomposition, *etc.*) of whether the animal's pelt was removed. Again, removal of the pelt in most regions of the US would be considered mutilation; however, in areas where harvesting is permitted, care must be taken in interpreting and documenting the interaction. If legal harvest is suspected, contact your Regional Coordinator for guidance on documentation and reporting. Check NA if the animal has no pelt (cetacean or manatee).
- 10 Body sliced (with instrument): Check YES if the carcass appears to be sliced with one or more cuts (from a knife or other blade), consistent with either legal harvest or mutilation (as above, dependent on the region). Multiple parallel cuts are often indicative of propeller wounds and should be noted under the *HI Lesions* category. Check NO if the body is intact or open body cavity is obviously due to natural causes (*e.g.* scavenging, predation). Check CBD if the body cavity has been penetrated and you are unsure of the cause.
- 11 Gear/debris present on animal: Check YES if the animal is entangled in gear (net, line, pot, buoy, line with hook, *etc.*) or debris (anything else). Check NO if there is no gear/debris on the animal. Check CBD if you are unsure for any reason (*e.g.* gear/debris is found on, but not wrapped around the animal, or gear/debris was reported on the animal but apparently removed before you responded). Note *gear/debris present on animal* = YES if tags (roto, satellite, *etc.*) are present on the animal.
- 12 Gear/debris retained: Check YES if the gear was retained by a stranding network or NOAA enforcement official. Note the name and contact information if the gear was retained by anyone other than your organization. Check NO if the gear was not retained. Check NA if there was no gear/debris present on the animal.
- 13 External pathology: If the animal has any lesions that appear to be disease-related such as pox lesions, tattoo lesions, abscesses, or other unexplained lumps, bumps, or sores, check YES. Check NO if the animal has no disease-related lesions. Check CBD if you observe lesions and are unsure of their origin or if the integument is too degraded to assess.
- 14 Natural markings: If the animal has any natural markings (*e.g.* tooth rakes, unusual pigmentation,

any non-HI scars) check YES. If the natural marks hamper your examination, please note in the COMMENTS section. If there are no natural markings, check NO. If you cannot tell if there are any marks or are unsure of the origin of marks/scars check CBD.

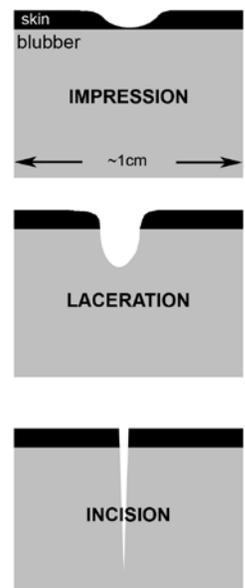
- 15 **HI lesions:** Note lesions that may be associated with human interaction (fresh or healed entanglement or propeller scars, gaff marks, gunshot, healed HI scars, brands, etc.). Check YES if any human interaction lesions are observed. Check NO if no other lesions are observed. Check CBD if you observe lesions and are unsure of their origin or if the integument is too degraded to assess. A detailed exam of these lesions will occur in the next section.
- 16 **Predation/scavenger damage:** If there is evidence of predation or scavenger damage, circle the number(s) that correspond to the anatomical areas where evidence is seen. If the area affected is not numbered, circle #29, and note the area in the table below (e.g. genital slit, umbilicus, tongue) and note details of the damage in *Comments*.

17-29 DETAILED EXAM OF ANATOMICAL AREAS– Use this table to record findings of all suspected or possible evidence of human interaction. This means that any mark that the observer believes is consistent with some type of HI should be noted here. In addition, any marks for which the source Could not Be Determined, but that do not appear natural, should also be recorded in this table. **DO NOT RECORD INFORMATION ON NATURAL MARKINGS OR OTHER LESIONS IN THIS SPACE.** Examine

the animal carefully starting at the head and working caudally down the right, then left, side, finishing with the tail or flukes. For this section, indicate whether you observe any **SIGNS OF HUMAN INTERACTION** in each *anatomical area* by checking the YES, NO, or CBD column. If you were not able to examine an area, check NE, or if it does not apply to your animal, check NA. Be consistent; examine anatomical areas in the same order each time you do an exam.

TYPE OF LESION- If you checked YES or CBD in any area, proceed to the *Type of Lesion* section and check all columns that apply.

- An **IMPRESSION** is a compression wound that occurs when an object leaves an indentation but does not lacerate or abrade the skin/pelt. Impressions left by net or line usually wrap around the leading and/or trailing edges of a fin, flipper, or fluke. Impressions on the leading edge of an appendage may line up with a similar mark on the trailing edge.
- A **LACERATION** occurs when the skin/pelt is penetrated from tight constriction or prolonged compression. The skin tears resulting in a lesion. Net and line usually leave linear lacerations. These lacerations may be evenly spaced along an appendage, or bunched near the proximal end of appendages (indicating net) and may be accompanied by impressions. A laceration is different from an incision which is made by a sharp instrument such as a knife. In cross section, a laceration or impression has rounded or jagged edges indicating surface tissue damage.
- An **INCISION** has clean edges and results in little surface tissue damage (see image at right).
- A **PENETRATING WOUND** occurs when a foreign object punctures or deeply penetrates the body, and is generally characterized by a small external wound and a wound tract that extends deep into the tissue and often into the body cavity. Sources of penetrating wounds include gaff, knife stab, spear, arrow, gunshot (especially bullet), etc.
- A **HEALED HI SCAR** is similar to a natural scar in pigmentation, but exhibits similar characteristics to the other types of lesions described here (e.g. linear scars on leading edges of



appendages consistent with entanglement, parallel scars consistent with prop strike, etc.). **Only check this column if the lesion is completely healed with no open tissue.** Healed scars may be pigmented and may feel different than surrounding tissue, but there should be no exposed flesh, discharge, or soft swelling if the wound is healed. Treat healing lesions the same as fresh lesions. Evidence of HI, even if healed and not likely associated with the stranding event, should still be scored positive (YES) for HI. It can be difficult to determine the origin of healed scars. If you are unsure of the origin, check CBD instead of YES in the first set of columns.

- An *ABRASION* occurs when gear or debris rubs an area and scrapes the skin/pelt without forming an obvious laceration or distinct impression. This often occurs with heavy line or twine entanglement or when loose or trailing ends of gear/debris rub (abrade) parts of the body.
- Choose *OTHER / CBD* for any other types of lesions and describe in the comments section.

ORIGIN OF LESION - Once you determine the type of lesion, move to the *Origin of Lesion* section and check all that apply.

LINE is made up of many individual strands (multifilament) and is large in diameter. It is used for moorings, towing, forms the float and lead line of nets, and attaches buoys and anchors.
TWINE is a small diameter line and can be multi- or mono- filament. Twine is constructed of various materials and is combined in different ways:

MONOFILAMENT twine – a single strand of nylon twine that leaves a single, straight, narrow impression or laceration (Figure 1, A).

MULTIFILAMENT – line or twine made up of multiple strands of material that are twisted or braided together and can leave a distinctive impression as a series of parallel, angled lines or ovals (Figure 1, B and C). If heavier twisted or braided line rubs on a body part or becomes tightly wrapped, it can cause an abrasion.

NET – nets can be made of either monofilament or multifilament twine and have various characteristics: twine diameter, square mesh size (knot to knot), and stretch mesh size (diagonal between opposite knots of a mesh with one knot between; Figure 2). Net impressions are often characterized by either a criss-cross pattern or a bunching of impressions with or without knot marks evident where lines intersect.

There are two parts to this section. First, we ask you to indicate what created the lesion, and if the lesion was related to gear, such as net, twine, or line. Second, we ask if you can determine whether the gear was monofilament or multifilament. Based on the descriptions above, indicate the origin of the lesion:

- *Twine/Line* - select TWINE/LINE if the impression, laceration, or abrasion is consistent with the descriptions above, but is not indicative of interaction with a net.
- *Net* - select NET if the marks are consistent

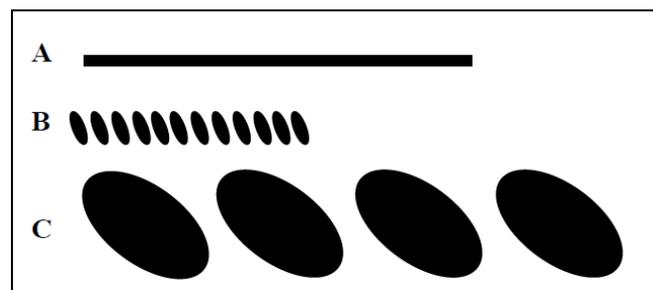


Figure 1. Impressions left by (A) monofilament, (B) twisted twine and (C) twisted line. Impressions are most visible on cetaceans.

with the descriptions above. Nets made of monofilament may leave multiple impressions or lacerations, but each lesion is a straight furrow.

- *Other/CBD* - select this column if the marks appear consistent with entanglement or interaction with some type of gear, but you cannot determine which type.

If you checked *Twine/Line*, *Net*, or *Other/CBD*, indicate whether lesions were caused by *monofilament* or *multifilament* gear. Select *CBD* if you observe linear marks, but you are unsure of the origin.

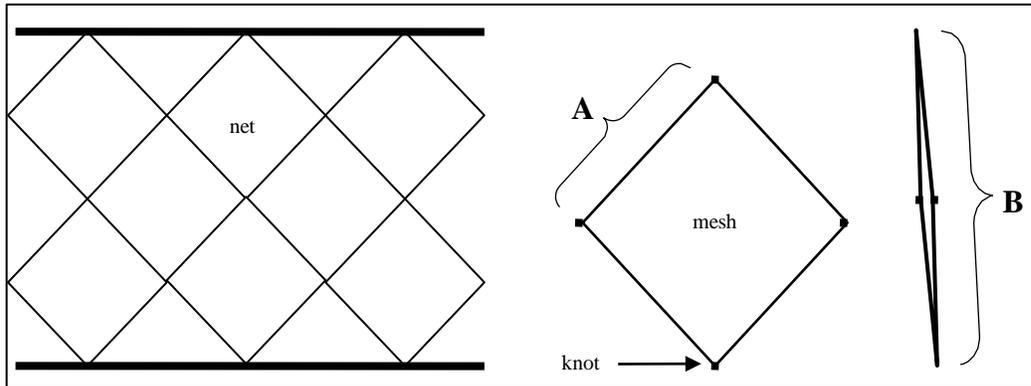


Figure 2. Typical net design. Nets are measured by the depth and length of the meshes hung between the top and bottom lines (float line and lead line on gill nets) and the horizontal length of the meshes. The mesh size can be measured from knot to knot (A) which is called the square or bar mesh size or (B) at its maximum diagonal width which is called a stretch mesh size. Twine size is the diameter of the twine the makes up the mesh.

If the lesion you noted was not made by gear (line, net/twine), check the appropriate box to indicate the source:

- *Propellers* usually leave deep, roughly parallel lacerations (Figure 3). Lesions can be straight (A), Z or S-shaped (B), curved (C), or open in the middle with thin trails (not illustrated). Large propellers may bisect an animal.

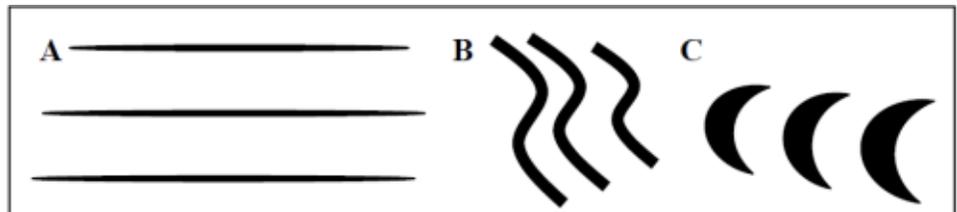


Figure 3. Types of propeller lesions left by different styles and sizes of propeller. The length, depth, and spacing between lesions can provide information as to the type of propeller and, thus, type of vessel.

- *Gunshot* wounds vary based on the weapon used (shotgun, rifle, hand gun) and the distance an animal is from the weapon. Gunshot wounds can be very difficult to identify through gross exam, but can be characterized by single (bullet) or multiple (pellet) puncture/penetrating wounds. Radiographs are often necessary to confirm the findings.
- *Other/CBD* - select this column for lesions with other origins including, gaff, arrow, and debris entanglement, etc. or if you are unsure of the origin of the lesion(s).

Every area that scores YES or CBD should have an IMAGE TAKEN that includes a label with identifying information (field number, date of stranding, species, examiner, subject of image, etc.) and a scale (small ruler or something of known size). If film or disk space is not limited, take pictures of all areas. Note Y (Yes) or N (No) in the IMAGE TAKEN column.

Every area that scores YES or CBD should have a comment associated with it. Number each COMMENT with the corresponding line number for that anatomical area.

If you find lesions in an area not listed in the Detailed Exam table, add it on line 29 and reference in the COMMENTS section.

Page 2:

FIELD # - Be sure to fill out the field number on both sides of all pages associated with this animal.

INTERNAL EXAM - An evaluation of a dead animal is not complete without a thorough necropsy (internal examination). Some forms of interaction are only evident through internal exam (e.g. ingestion of debris or gear) and a final interpretation may change if an animal with external evidence of HI is found to be suffering from disease, pregnancy complications, injuries, etc. Some observations support a diagnosis of HI (e.g. for fishery interactions - full stomach, froth in lungs) and others provide evidence for HI although nothing was noted externally (e.g. stomach full of man-made debris). Be sure to note the DATE of the internal exam in the INTERNAL EXAM box.

- 30 Internal examination conducted – If you were able to examine the entire animal, check YES. If you did not examine the animal internally, check NO. Check PARTIAL if you only examined part of the animal (e.g. abdominal cavity only), then describe in the *Comments* section what was examined.
- 31 Bruising/blunt trauma – Indicate if you see any focal area of bruising (discrete area, not diffuse along an entire body region). Note whether the area is associated with an external lesion. If it is not associated with a penetrating lesion or wound, it should be considered blunt trauma. If you check YES or CBD, note the size of the area and the tissue depth (e.g. sub-dermal to blubber, into muscle, through muscle and into mesenteries and organs) in the *Comments* section (do not confuse diffuse post-mortem blood pooling with bruising).
- 32 Skeleton examined – Check YES if the entire skeleton was examined. Check NO if no bones were examined. Check PARTIAL if only some of the skeletal elements were examined. If you check PARTIAL, note in *Comments* section what was examined (e.g. examined skull, head, left ribs, and flipper, but not right side or vertebral column).
- 33 Broken bones present - Note whether you observed any broken bones.
Associated tissue reaction - Examine the tissue around the break(s) and circle whether any tissue reaction has occurred (hemorrhage, fibrous tissue, swelling at bone ends, etc.). If you are unsure, check CBD.
- 34 Mouth/GI tract examined - Check YES if the entire GI tract was examined. Check NO if none of the GI tract was examined. Check PARTIAL if only some elements of the GI tract were examined and note which areas were examined in the *Comments* section (e.g. stomach, but not intestines). Note in the *Detailed Info* column the predominant condition of the contents. Circle *debris/gear* if non-prey items (plastic, line, hooks, etc.) are found. Use the comments section to describe the region of the GI tract (e.g. esophagus, stomach chamber, intestine, or colon) and its contents (e.g. fish, squid, crabs, mussels, milk, plastic bag, unknown). Stranded animals with full stomachs are often suspect cases. Ingestion of gear or debris is considered a human interaction.
- 35 Lungs/bronchi examined - Check YES if both lungs were thoroughly examined. Check NO if the lungs were not examined. Check PARTIAL if you performed a partial examination and record in *Comments* section.
- 36 Lungs/bronchi contents - Circle all that apply in the *Detailed Info* column and describe the contents of each lung, including content volume, in the *Comments* section.
- 37 Bullet/projectile found – Check YES if you discovered any type of projectile (e.g. bullets, pellets, arrow heads, etc.) during the internal exam. Check NO if no projectiles were found. Check CBD if you are unsure of an object you have found. Indicate how the item was discovered in the *Detailed Info* section (CT scan, X-Ray, dissection) and indicate whether the object was collected. Note: it is

important to follow Chain of Custody procedures when collecting this evidence. Provide details in the *Comments* section.

- 38 ***Other lesions noted*** - Note whether any other pathologies were observed, describe in *Comments* section.
- 39 **COMMENTS** – The details of what you observe are required in the section. Provide comments for each item for which you checked YES or CBD. When describing lesions, include measurements (*e.g.* length, width and depth, distance between lesions), location (*e.g.* measurement from nearest landmark – 20cm caudal of the right flipper), color, shape, and texture. Note the characteristics of the edges (*e.g.* jagged, straight, rounded) and the direction of linear lesions (*e.g.* wraps from leading edge of dorsal fin to trailing edge on left side). Number each set of comments using the corresponding line number for that row on the data sheet. Use extra pages if needed and be sure to note the animal’s field number in the upper right margin. If this information is provided in the necropsy report or other data sheet, reference that material here.
- 40 **FINDINGS OF HUMAN INTERACTION** – Review your exam notes and check YES if you observed any signs of human interaction on the animal. Check NO if you thoroughly examined the animal and did not find any signs of human interaction. Check CBD if: (1) you did not examine the animal thoroughly, (2) decomposition or scavenger damage hampered the exam, or (3) you are unsure whether marks on the animal were caused by human interaction. This is an objective analysis. It does not take into account the animal’s physical condition, the timing of the human interaction with respect to the stranding, or the circumstances surrounding the stranding. After determining the objective Findings of HI, select the EXAM TYPE you conducted. If you ONLY conducted an external exam, check EXTERNAL. If you conducted only an internal exam, check INTERNAL (although we are not sure when this would ever be the case, it is currently on the NOAA Level A form). If you conducted both external and internal exams, check BOTH. Note, even an external exam that is scored CBD due to decomposition or other factors is still considered an exam. In some cases, there may be a finding of CBD during the external exam, but YES during an internal exam (*e.g.* if the carcass lacked skin or pelt due to decomposition but the animal had ingested plastic).

TRANSFER THE ABOVE INFORMATION TO THE FINDINGS OF HUMAN INTERACTION SECTION ON THE LEVEL A DATA SHEET.

- 41 **Type of HI** - If you circle YES in line 40, indicate to the type(s) of human interaction that you observed.

Entanglement - occurs when there are lesions (such as linear impressions, lacerations, or circumferential lesions), or material on the animal consistent with entanglement.

- Choose gear as the type of entanglement if the lesions and/or gear removed strongly suggest fishing gear. Note that you cannot make assumptions about whether gear was actively fished, discarded, or ‘ghost gear.’ All should be checked as gear. Likewise, line alone, while used in fishing operations, is also used for many other applications and cannot be assumed to be fishing gear unless it has specific markings or attachments indicating it was used in a fishery. Examples of the latter include buoys, lead core line, and pots. Line of unknown origin should be marked as CBD, line obviously used for anchoring, mooring, or towing should be considered debris.
- Choose debris if the entangling material is not related to fishing gear. This includes material such as plastic bags or sheets, textiles such as clothing, rubber or latex, and metal. Line of unknown origin should be marked as CBD, and line obviously used for anchoring, mooring, or towing is considered debris.
- Choose CBD if you are unsure of the origin of the entangling material.

Hooking – occurs when a fishing hook (or lure) is imbedded on the body or in the mouth of an animal. If the hook or lure is in the throat or GI tract, it should be considered *ingested gear*.

- Choose *recreational* if the hook or lure is of a size or design that indicates it is strictly recreational gear (local tackle shops are often helpful for this).
- Choose *commercial* if the hook or gear is of a size or type, or is configured in such a way (such as a longline gangion) that indicates it is strictly commercial gear.
- Choose *CBD* if you cannot determine the origin of the gear or if it is used in both commercial and recreational fisheries.

Ingestion – occurs when an animal ingests a foreign object. Ingestion occurs if the object travels past the mouth and into the throat. If the object is a hook or lure, and it is in the mouth, the HI is *hooking*. If the object is line, twine or debris and it is tangled in mouth it is *entanglement*. Gear or debris must be ingested to fit this category.

- Choose *gear* if fishing gear such as a hook, lure, fishing twine, or net was ingested.
- Choose *debris* if plastic, metal, or other man-made debris was ingested.
- Choose *CBD* if you cannot determine the origin of the ingesta, but it is clearly man-made.

Gunshot - occurs when an animal is shot with a gun (handgun, shotgun, or rifle). Presence of one or more ballistic projectiles is the best way to diagnose a gunshot interaction. Wounds from other projectiles should be categorized under *CBD/Other*.

Vessel trauma - occurs when an animal is impacted by a vessel, usually through impact with the hull or propulsion system. The trauma can be ‘sharp’ trauma, such as that from a propeller, or ‘blunt’ trauma such as that from the bow of a ship, or a combination of the two.

- Choose *sharp* trauma if the external injury appears to be one or more roughly linear wounds with internal tissue damage associated with the chop or slice wounds.
- Choose *blunt* trauma if wounds, particularly broken bones and soft tissue damage, are more internal than external and are consistent with impact from a large object such as a vessel.
- Choose *both* if the wounds appear to be a combination of sharp and blunt trauma.

Mutilation – occurs when an animal or carcass is intentionally cut or sliced. Mutilation generally involves the use of some type of knife or blade and can result in several common types of wounds and amputations including body sliced, stabbed, or gutted or appendages removed.

Harassment – occurs when human activity changes the behavior of an animal. In this context, harassment occurs if the animal is harassed while it is in the process of stranding, is already stranded, or if the harassment results in a stranding. It is important to note that harassment is common especially with hauled out pinnipeds and that not all harassment is associated with a stranding (*e.g.* feeding free-swimming animals is a form of HI, but not a stranding).

CBD/Other – occurs EITHER when non-natural lesions are on the animal, but it is unclear what type of human activity caused them OR when the type of HI is known, but is not specifically listed above such as vehicular trauma, a projectile other than gunshot (arrow or dart), oil or chemical spill, stabbing or clubbing, *etc.* Describe *Other HI* in the space provided.

42 STRANDING EVENT HISTORY/CIRCUMSTANCES – provide any information about the stranding event or circumstances surrounding the event that would be helpful in supporting the HI diagnosis (*i.e.* fishing, drilling, or other activities, oil spill, unusual mortality events, previous sightings of animal, unusual behavior prior to stranding, *etc.*). Note any objective details provided by the initial reporter, these may be answers to questions you have asked (*i.e.* Was there any blood in the water next to the animal? What did it look or smell like when you first observed it? How was the animal positioned (belly up, on its side) when you first observed it?).

If there is no physical evidence but harassment is suspected, objectively describe events in this section including names and contact numbers for witnesses and any authorities that were contacted.

43 INITIAL HUMAN INTERACTION EVALUATION – This section should be completed if you circled YES under *Findings of Human Interaction* (line #40). It should be completed after filling out the entire data sheet. This section is **subjective** and takes into account the animal’s physical condition, gross necropsy findings, the timing of the human interaction with respect to the stranding, and the circumstances surrounding the stranding. **Most importantly, it takes into account the evaluator’s level of experience. If you have not conducted many evaluations or are not familiar with the region, you may be unable to make an accurate evaluation and should conservatively circle CBD.** This section does not take into account results of level B and C analyses or review by veterinary pathologist which is why it is considered an **INITIAL** evaluation.

For this section, you are estimating how likely you think it is that the documented human interaction contributed to the stranding event. This opinion is expressed as a confidence interval on a scale of 0-3, as described below. Circle the most appropriate number. The higher the number, the more likely it is that the interaction contributed to the stranding. If you do not feel that you can provide an evaluation, circle 0 – Uncertain (CBD). [Note: We do not say that the human activity *caused* the stranding because the human interaction could have indirectly contributed to the event without being the direct cause of the stranding.]

1. Uncertain (CBD) - You cannot provide an evaluation of the likelihood that human interaction contributed to the stranding (*e.g.* a Code 4 carcass is found with propeller marks; it is too decomposed to determine whether the interaction was pre- or post-mortem).
2. Improbable - It is unlikely that the observed human interaction contributed to the stranding or there are other gross findings that suggest an alternative cause for the stranding (*e.g.* there are healed entanglement scars on the flukes of a known humpback whale that died with a full-term fetus; it is unlikely that the past entanglement contributed to the stranding).
3. Suspect – It is possible that human interaction contributed to the stranding, but the findings of HI are weak and/or there are other findings that may have caused the stranding (*e.g.* there is a small amount of plastic found in an animal’s stomach, but you are unsure of its effect and the animal is very thin with a high parasite level. Did the plastic ingestion cause the animal’s decline or was a declining animal eating anything it could get?).
4. Probable - It is very likely that human interaction contributed to the stranding (*e.g.* a robust animal with a full stomach, froth in the lungs, and marks that are consistent with entanglement and underwater entrapment).

44 JUSTIFICATION – Provide a brief justification of your answer for the *Initial Human Interaction Evaluation* score. Include information from all sources available to you.