

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)**

MARINE MAMMAL HUMAN INTERACTION REPORT **(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 Marine Mammal Human Interaction Report for marine mammal stranding events in the United States. These instructions provide guidance to standardize the data provided by members of the National Marine Mammal Stranding Network (Network) to the National Marine Fisheries Service (NMFS).

II. BACKGROUND

Under the Marine Mammal Protection Act (MMPA), the Secretary of Commerce (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. Under Title IV (16 U.S.C. 1421) of the MMPA, the 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.

The MMPA authorizes and mandates the collection of this information under three provisions. NMFS has the responsibility to carry out the following MMPA mandates:

- Section 402(b) (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) (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 impeded.
 - Section 401 (b) (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 many non-governmental organizations authorized by NMFS (via Stranding Agreements under §112(c) of the MMPA). This Section allows the Secretary to enter into agreements in order to fulfill the general purposes of the MMPA and specifically Title IV. For the Network, these agreements authorize the collection of scientific data and specimens recording of information on stranding events, and investigation of marine mammal unusual mortality events (UMEs). The majority of Stranding Agreement holder Network members are affiliated with academic institutions, non-profits, or aquaria. State, federal, and local government employees with agencies that have an environmental or conservation mission are also Network partners in many parts of the country. Government employees may operate under §109(h) for the protection or welfare of the marine mammal, or the protection of the public health and welfare, and some government entities have also signed a Stranding Agreement with NMFS. All 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 (Level A form; 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 and other trends that may have conservation implications. Recording data on gross mortalities may serve as an indicator that a particular population is impacted, threatened or at increased risk. When provided in a timely manner, this information 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 (Rehab Disposition form; see Definitions of Terms for the Marine Mammal Rehabilitation Disposition Report starting on page 19)** provides NMFS with information on the ultimate disposition of animals admitted into rehabilitation, the success of medical treatment, and the number of

animals released back into the wild following veterinary care. This information also assists NMFS in tracking marine mammals that are transferred into permanent care. This form is only completed for live stranded marine mammals that 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-releasable and transferred from rehabilitation facilities to public display or research facilities that hold an APHIS license under 7 U.S.C. 2131.

The **Marine Mammal Human Interaction Report (Human Interaction form)** provides NMFS with consistent and detailed information on signs of human interaction in stranded marine mammals. The primary goal of this form 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. This protocol is divided into an objective data collection section and a more subjective initial human interaction diagnosis. Stranding data, when documented consistently, are a reliable source of information regarding the occurrence of different types of human interaction. This information will assist 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 with marine mammals that result in stranding.

The form will be required of Network members nationwide in all five NMFS Regions for all code 1, 2, and 3 cases, when electronic submission of the form is available (currently estimated January 1, 2018). However, we encourage use of the form for all cases. The form should be completed (all fields filled out) to the best of the examiner's abilities. NMFS will provide the Network at least 60 days' notice prior to requiring the form. In the interim, NMFS recommends that all Network members complete the form voluntarily to familiarize themselves with the form and information.

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 agrees to provide credit to the Network and NMFS in any publications. Whether or not a necropsy is conducted is considered Level A data, but the results of the necropsy and any further information are not.

Level B data: Supplemental 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 with a few exceptions and distribution of such information is under the discretion of the respondent. The exceptions include at the discretion of NMFS during Federal investigations, such as marine mammal unusual mortality events, law enforcement investigations, oil spills, etc., as outlined in the Stranding Agreement. This Examiner's Guide provides instructions for completing the Level A data form, the Rehab Disposition form, and the Human Interaction 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 assigned to the animal.

IV. LEVEL A MATRIX

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

✓YES

XNO

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	X	Data captured in

photos or videos, could receive a Level A per the criteria above)		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, or animal eluded capture	X	
Free-swimming; response conducted, and animal in-hand	✓	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
<p>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></p>		
Intervention deemed necessary	✓	
No intervention deemed necessary (documentation only, “wait and see”)	X	
<p>Other Situations</p>		
Free-swimming, sick/injured, no response deemed necessary or logistically possible	X	
Free-swimming, sick/injured, response deemed necessary (whether or not response is conducted)	✓	
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 (any researchers, NMFS or external)	✓	
“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	
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
Hazed (due to hazardous situation other than oil spill)	X	Data captured in Group Event

V. CITATION

Data downloaded from the National Database should be cited in the APA style as: National Marine Fisheries Service, U.S. Department of Commerce (Year). *Marine Mammal Health and Stranding Response Database* [Data File].

VI. DEFINITIONS OF TERMS FOR MARINE MAMMAL STRANDING REPORT - LEVEL A DATA - VERSION 2017

FRONT OF FORM

ADMINISTRATIVE INFORMATION (top of form)

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 animal can be identified. (Example: unknown, pinniped/cetacean, otariid/phocid, or odontocete/mysticete, delphinid/phocoenid, etc.) Hybrids may also be identified here.

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 person who examined the animal. This should be the Network member who is responsible for preparing the entire Level A stranding report, not the public citizen who first reported the animal. In cases where the person who examined the animal is different than the person who is submitting the Level A form, the person who

examined the animal should be recorded in this field.

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 examiner’s 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 is 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 examiner’s 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.

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/Ice** (includes rocks, jetties, docks or manmade structures; sandbars and mudflats for large animals that may still have water surrounding them but too shallow to allow swimming; all forms of sea ice; etc.)
- **Floating** (in the water)
- **Swimming** (animal is moving through the water under its own power)

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. “County” includes boroughs, parishes, provinces, islands, commonwealths, and territories. City is not restricted to officially incorporated areas or within city limits, but can include the closest city.

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).

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. For strandings within the United States, longitude coordinates should be entered with a negative sign, and latitude coordinates should be positive.

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 other handheld unit that was at the stranding location, or a georeferenced picture)
- **Map** (includes nautical charts or topographic maps)
- **Internet/Software** (obtained from an electronic program such as but not limited to Google Earth, ArcGIS, a mapping website, etc.)
- **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 non-hemolyzed; 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 or if it is unknown if the animal was alive or dead at the time of the initial observation.

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. NOTE: if “Same Information for Level A Examination was checked under Initial Observation this information does not need to be completed again.

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. NOTE: if “Same Information for Level A Examination was checked under Initial Observation this information does not need to be completed.

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). Describe the specific location in “Locality Details”. NOTE: if “Same Information for Level A Examination was checked under Initial Observation this information does not need to be completed again.

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. NOTE: if “Same Information for Level A Examination was checked under Initial Observation this information does not need to be completed again.

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. For strandings within the United States, longitude coordinates should be

entered with a negative sign, and latitude coordinates should be positive. NOTE: if “Same Information for Level A Examination was checked under Initial Observation this information does not need to be completed again.

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.). NOTE: if “Same Information for Level A Examination was checked under Initial Observation this information does not need to be completed again.

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 other handheld unit that was at the stranding location, or a georeferenced picture)
- **Map** (includes nautical charts or topographic maps)
- **Internet/Software** (obtained from an electronic program such as but not limited to Google Earth, ArcGIS, a mapping website, etc.)
- **Other** – and briefly describe what other method was used to determine the location.

NOTE: if “Same Information for Level A Examination was checked under Initial Observation this information does not need to be completed again.

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 non-hemolyzed; 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.

LIVE ANIMAL INFORMATION

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):

1. **Left at Site:** Check if the animal was confirmed stranded (per the Level A Matrix above) by a reliable source, but no response was made; or if the animal was observed by the response team, but no other actions were taken.
2. **Immediate Release at Site:** Check if the animal was captured, treated or evaluated, but was not removed from the stranding site.
3. **Relocated:** Check if the animal was captured, evaluated or treated, was removed from the site of stranding, and was transported to and released from another site back into its habitat, without being admitted to an authorized rehabilitation facility.
4. **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 (per the Level A Matrix above).
 - a. **Partially** – Check if some entangling gear remained with the animal.
 - b. **Completely** – Check if (to the best of your knowledge/assessment) all entangling gear was removed from the animal.
5. **Died at Site:** Check if the animal was found alive and died at the stranding site, including before transport to an authorized rehabilitation facility or relocation.
6. **Died during Transport:** Check if the animal was found alive and died during the transport to a rehabilitation facility or relocation site.
7. **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.
8. **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.
9. **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).

1. **Sick:** Check if the animal appears sick, emaciated, or is behaving oddly, with no external signs of injury.
2. **Injured:** Check if the animal shows evidence of physical injury.
3. **Out of Habitat:** Check if the animal was found in an 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 its 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 near or on the beach.
4. **Deemed Releasable:** Check if the animal shows no outward signs of illness or injury and the expert assessment is that it can be released back into its habitat (either at the stranding site or relocated and released at a different site).
5. **Abandoned/Orphaned:** Check if the animal is a pup/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.
6. **Inaccessible:** Check if the animal is in an inaccessible location and therefore was not closely examined (condition may not be able to determined). Examples of inaccessible locations include: at the base of a cliff, areas with dangerous surf conditions, mudflats, islands, ice, etc.
7. **Location Hazardous**
 - a. **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.)
 8. **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.)
9. **Unknown/CBD:** Check if the animal could not be examined or if the condition could not be determined.
10. **No Rehabilitation Options:** Check if a lack of space at a rehabilitation center contributed to your reasoning for the disposition that was selected.
11. **Other:** Describe any other situation not addressed above.

DEAD ANIMAL INFORMATION

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

1. **Frozen for Later Examination/Necropsy Pending** - Check this box if all or most of the carcass and/or skeleton was at any point frozen for later examination. This option is only temporary; once a necropsy has been performed, the examiner should edit the submission in the online Level A database or submit an updated form indicating the final disposition of the post-necropsy remains.
2. **Left at site** - Check this box if the carcass was left at the stranding site. It may decompose, wash back out to sea, etc.
3. **Buried** - Check this box if most of the carcass was buried, either at or close to the stranding location or someplace else.
4. **Rendered** - Check this box if the carcass was rendered.
5. **Landfill** - Check this box if the carcass was taken or sent to a landfill or other waste disposal facility.
6. **Incinerated** - Check this box if the carcass, including the skeleton, was taken or sent to an incinerator.
7. **Composted** - Check this box if the carcass, including the skeleton, was composted or taken or sent to a compost facility.
8. **Towed** - Check this box if the carcass was towed to sea. Fill in the latitude and longitude, in decimal degrees, of the position where the carcass was released from the tow.
9. **Sunk** - Check this box if the carcass was sunk. Fill in the latitude and longitude, in decimal degrees, of the position where the carcass was sunk.
10. **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 one of the listed options. 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.

- **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 (including time or personnel constraints) limit a complete necropsy from being performed. Please indicate in the **ADDITIONAL REMARKS** section the systems examined and not examined, 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 carcass that had not previously been frozen. NOTE: this is not the same as Condition Code, so the

animal does not have to be Code 2 or “Fresh Dead” in order to check this box.

- **Carcass Frozen/Thawed** - Check if the necropsy was conducted on a carcass that had previously been frozen and thawed.

NECROSPIED BY - List the name and contact information of the primary person/facility who conducted the necropsy. If desired, list any additional participants in the necropsy.

Date – List the date when the necropsy was performed.

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.

MORPHOLOGICAL INFORMATION

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

ESTIMATED AGE CLASS (Check One): Check the box indicating the estimated age class of the animal. If possible, use information based on reproductive organs, teeth, or accepted length/age data to estimate the age class of the animal, as age class may not always be determinable without necropsy and examination of reproductive organs.

- **Adult:** Animal is judged to be an adult; or found upon necropsy to be sexually mature.
- **Subadult:** Animal is judged to be greater than two years old, but not yet mature.
- **Yearling:** Animal is judged to be approximately between one and two years old. The animal’s standard length or the time of year (e.g. for pinniped pup cohorts) may be used to estimate the approximate age of the animal.
- **Pup/Calf:** Animal is smaller than yearling size, or estimated to be younger than one year old.
- **Unknown:** Unable to determine the age class.

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 partial remains of the carcass, the measured metric (weight or length) value can be entered in the numeric fields, and you must select “**Estimated**”. If neither length nor weight is measured, enter **zero “0”** in the respective blanks and select “Not Measured/Not Weighed”. In all cases of partial animals, record what part is missing in the **ADDITIONAL REMARKS** section on the back of the form.

Straight Length: Record the straight length (not curved or 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) or if this was a measurement of a Partial Animal as noted above.
 - **Not Measured** = Check if the animal was not measured.

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 this was a measurement of a Partial Animal as noted above.
 - **Not Weighed** = Check if the animal was not weighed.

SAMPLES COLLECTED

1. **Histology:** Check the box if histopathological samples were taken (generally formalin-fixed).
2. **Other Diagnostics:** Check this box if diagnostic samples, other than histopathological samples, were taken. Examples of other diagnostics include samples for viral, parasitic, bacterial, contaminant, or biotoxin analysis.
3. **Life History:** Check the box if life history samples were taken. Examples of life history samples include teeth or whiskers for aging, skin for genetic analysis, stomach contents or feces for dietary analysis, etc.
4. **Skeletal:** check this box if skeletal remains were salvaged and retained for future diagnostics or for educational collections. Please remember to include the reason why skeletal remains were collected in the subsequent **PARTS TRACKING** section.
5. **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, whether transitory (i.e. within the network facility) or final (i.e. transfer to an outside entity) 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.

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, or the response was not successful (animal was not captured and treated or brought into rehabilitation).

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

GROUP EVENT - A group event is a stranding event that 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 reasonably believed to be the offspring (a mom/pup pair would also qualify). Note that confirmation of relatedness is not required.
- **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.
- **UME** – this is any animal that is part of a mortality or morbidity event that has been officially designated as an Unusual Mortality Event (UME) by the Working Group on Marine Mammal Unusual Mortality Events (WGMMUME)

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 Group Event module within the National Database by the Regional Stranding Coordinator or by the Onsite Coordinator if the case of an 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 UME by the WGMMUME;
- *“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, to the extent that you were able to examine it. The Human Interaction Form may be filled out even if you were not able to complete an internal exam. The Human Interaction form will be required for all Code 1-3 stranded animals once the database entry is available.

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. We encourage you to document injuries or marks with photographs or sketches/drawings. Describe the injury or mark, the type of gear recovered (if any), 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 that will be added to the Level A National database, anticipated in early 2018. Until that module is complete, the form may still be completed on paper but is not required.

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

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", check the box that most accurately details the type of human interaction. You can also fill this section out if you checked "**CBD**" but can rule out some of the following types of HI:

Vessel Interaction - 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 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 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 a fishery interaction. 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 ingested plastic, debris entanglement, wounds from other weapons besides firearms (arrows, harpoons, etc.), non-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 will be required for all Code 1-3 stranded animals once electronic submission is available, anticipated early 2018. If you did not fill out a Human Interaction form, you should leave this section blank.

Gear Collected/HI Items - Check "Yes" if you collected fishery gear, marine debris, projectiles, or other items from the animal that indicates the human interaction documented above. Check "No" if you did not collect any gear or other items, or if there was no gear or other items to collect. Please indicate the type of gear or HI item collected in the "**ADDITIONAL REMARKS**" section.

Gear Disposition - If you checked "Yes", use this line to indicate what was done with that gear (i.e. sent to NMFS Enforcement, sent to Regional Stranding Coordinator, sent to

gear analysis program), or where the gear is housed.

Other Findings Upon Level A - Check “Yes” if there are any signs or evidence of other (non-human interaction related) 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 below definition of external and internal exam for more description. Also document if the animal was pregnant and include more detail in **ADDITIONAL REMARKS**.

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 or other findings. 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; or other information was used to assess injury, illness, or pregnancy.

BACK OF FORM

TAG DATA

Present at Time of Stranding (Pre-existing) - Mark “YES” if tags or identification markings (including brands) 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.

Absent but Suspect Prior Tag – Mark “YES” if the animal has marks to indicate that it was previously tagged (e.g., hole in flipper or dorsal fin), but the tags are no longer present. Indicate the type of marks/tags suspected to have been previously applied to the animal in the **ADDITIONAL REMARKS** 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. (e.g. radio, PIT, plastic, roto, spaghetti, satellite, freeze brand, tape, bleach mark, paint, shave mark, etc.).

Placement – Circle ONE for 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 or were applied during the stranding or rescue response or rehabilitation, but were subsequently removed during the

stranding/rescue response or rehabilitation, especially prior to release. (NOTE: you would also check whether the removed tag or mark was applied or present)

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), identification numbers from scientific research projects, accession numbers for animals included into museum collections, etc.

ADDITIONAL REMARKS: Include narrative comments regarding the stranding event. List other data sheets that may have been completed such as human interaction form, morphometrics, necropsy, etc. Include further details or comments on any of the Level A data fields from the front of the sheet.

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

FRONT OF FORM

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 IDENTIFIER** 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 national database 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. If the animal is transferred between

rehabilitation facilities, a separate Marine Mammal Rehabilitation Disposition sheet will be filled out by each facility involved, including the first and 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.”

Date: Enter the date upon which the animal stranded. Use date entered under “Level A Examination” on the Level A form. Note: if the animal was born in rehabilitation, use the date of birth.

Location: The standard state, county, and city names for the stranding location (use the data entered under “Level A Examination” 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. Note: if the animal was born in rehabilitation, use the date of birth.

Received From: Record who or where the animal was obtained. This could include directly from the wild, a rescue and transport organization, a 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).

Number of Times Previously Admitted to Rehabilitation: This should be filled out if you checked the box for “Restrand”. Indicate the total 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.” NOTE: If the animal has been transferred from a different rehabilitation facility to yours during the course of rehabilitation, that should not be recorded here as multiple admissions into rehabilitation. Instead, multiple rehabilitation disposition forms will be filled out for the animal’s course of rehabilitation.

Example: Seal ID No. 2016-12-002: Stranded and was brought into Facility A on December 2, 2016. The animal has a flipper tag; in discussions with the Regional Stranding Coordinator and other facilities you determine that the animal stranded on February 10, 2016 and was rehabilitated and released by Facility B on March 25, 2016. It subsequently re-stranded on April 10, 2016, and was rehabilitated and released by Facility C on June 1, 2016. For this seal, you would check the “Restrand” box and fill in the number 2, as it has previously been admitted twice.

Example: Seal ID No. 2016-04-02: Stranded and was brought into Facility A on April 10, 2016. Due to specific needs of the animal, it was transferred to Facility B on April 13, 2016. It was released from Facility B on May 25, 2016. Restrand would not be checked, and Number of times previously admitted to Rehabilitation would be 0. Both Facility A and Facility B would fill out a rehabilitation disposition form for the animal; Facility A

would list the disposition as “Transferred to Another Rehabilitation Facility” and Facility B would check the ultimate disposition of Released.

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, if applicable. Leave blank if antibiotics were not administered.

SAMPLES COLLECTED

1. **Histology:** Check the box if histopathological samples were taken (generally formalin-fixed).
2. **Other Diagnostics:** Check this box if diagnostic samples, other than histopathological samples, were taken. Examples of other diagnostics include samples for viral, parasitic, bacterial, contaminant, or biotoxin analysis.
3. **Life History:** Check the box if life history samples were taken. Examples of life history samples include teeth or whiskers for aging, skin for genetic analysis, stomach contents or feces for dietary analysis, etc.
4. **Skeletal:** check this box if skeletal remains were salvaged and retained for future diagnostics or for educational collections. Please remember to include the reason why skeletal remains were collected in the subsequent **PARTS TRACKING** section.
5. **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, whether transitory (i.e. within the network facility) or final (i.e. transfer to an outside entity) 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.

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. 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).

Estimated Age Class at Time of Disposition (Check One): Check the box indicating the estimated age class of the animal. If possible, use information based on teeth, behavior, appearance, or accepted length/age data for live animals to estimate the age class of the animal. Age class may not always be determinable without necropsy and examination of reproductive organs.

- **Adult:** Animal is judged or found upon necropsy to be sexually mature.
- **Subadult:** Animal is judged to be greater than two years old, but not yet mature.
- **Yearling:** Animal is judged to be approximately between one and two years old. Length or time of year may be used to estimate the approximate age of the animal.
- **Pup/Calf:** Animal is smaller than yearling size, or estimated to be younger than one year old. Length or time of year may be used to estimate the approximate age of the animal.
- **Unknown:** Unable to determine the age class.

FINAL DISPOSITION

Check the box that 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 the Attending Veterinarian or NMFS (either releasable or conditionally releasable).
- **Non-releasable** – Check this box if the animal was deemed non releasable by the Attending Veterinarian, and concurred with 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 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 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 any 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 during rehabilitation, including while at the rehabilitation facility or during transport (after having been admitted to the facility).
- **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 examined 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.

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 (in 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 (including brands) 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.

Absent but Suspect Prior Tag – Mark “**YES**” if the animal has marks to indicate that it was previously tagged (e.g., hole in flipper or dorsal fin), but the tags are no longer present. Indicate the type of marks/tags suspected to have been previously applied to the animal in the **ADDITIONAL REMARKS** 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. (e.g. radio, PIT, plastic, roto, spaghetti, satellite, freeze brand, tape, bleach mark, paint, shave mark, etc.).

Placement – Circle ONE for 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 or were applied during the stranding or rescue response or rehabilitation, but were subsequently removed during the stranding/rescue response or rehabilitation, especially prior to release. (NOTE: you would also check whether the removed tag or mark was applied or present)

Post Release Monitoring - Please indicate if an active post release monitoring effort was undertaken (i.e., remote telemetry using VHF and/or satellite). (NOTE: tag information on tag type and ID number, etc., should be entered above as well)

Data Disposition: If post release monitoring occurred, enter where the resulting data (lat/long tracking information) 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. (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

VIII. DEFINITIONS OF TERMS MARINE MAMMALS HUMAN INTERACTION REPORT - VERSION 2017

This Human Interaction Protocol and form were originally developed by the International Fund for Animal Welfare (IFAW) Marine Mammal Rescue and Response Program and Virginia Aquarium (2012) with funding from the John H. Prescott Grant Program and input from many members of the National Stranding Network. They developed much of the following protocol. We thank them for their assistance.

A Note on Chain of Custody: Many findings of human interaction represent illegal take of the animal, and may result in an investigation by the NMFS Office of Law Enforcement. Any evidence should be collected under Chain of Custody. If you don't have a Chain of Custody form or protocol, please ask your Regional Stranding Coordinator for one.

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.

Strategy for filling out the human interaction data sheet

Each line on the data sheet is numbered in the left hand margin. These numbers should be entered in the comments section on the second page of the data sheet to indicate to which item the comment refers.

FRONT OF FORM

EXAM INFORMATION

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

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 **COMMENTS** section of the form. Format is open to each agency's requirements; however, please remain consistent within your agency.

Species: The common name or scientific name (Genus/species in standard binomial nomenclature) 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.

Examiner: Name of the person who examined the animal. This should be the Network member who is responsible for preparing the entire Human Interaction form, not the public citizen who first reported the animal and not necessarily the person who conducted the Level A examination.

Recorder: the person recording the information on the data sheet.

Date of exam: Enter the date the human interaction examination was conducted.

Condition code (at exam): the condition code of the animal at the time of the human interaction

evaluation.

- **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 non-hemolyzed; 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.
- **CBD:** Could Not Be Determined

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.).

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.

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.

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

- YES: you have examined the area (*i.e.* left front appendage, snout) and found signs of this pathology, natural marking, or human interaction
- NO: you have examined the area (*i.e.* left front appendage, snout) and found NO signs of this pathology, natural marking, or 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, pathology, or natural markings (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)

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.

External pathology: If the animal has any lesions that appear to be disease-related such as pox lesions, tattoo lesions, abscesses, fungal patches, 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.

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.

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). 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.

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. Check NA if the animal has no pelt (cetacean or manatee).

Body sliced (with instrument): Check YES if the carcass appears to be sliced with one or more cuts (from a knife or other blade). 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.

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.

Gear/debris retained: Check YES if the gear was retained by a stranding network or NOAA enforcement official or left on the animal (e.g., rototag on previously stranded live animal). 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.

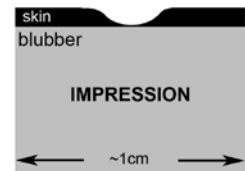
HI lesions: Note lesions that may be associated with human interaction (fresh or healed entanglement or propeller scars, gaff marks, gunshot, healed HI scars, brands, etc.). Check YES if any human interaction lesions are observed. Check NO if no other lesions are observed. Check CBD if you observe lesions 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.

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 (e.g. genital slit, umbilicus, tongue) and details of the damage in *Comments*.

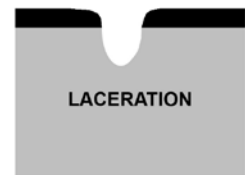
DETAILED EXAM OF ANATOMICAL AREAS: Use this table to record findings of all suspected or possible evidence of human interaction. This means that any mark that the observer believes is consistent with some type of HI should be noted here. In addition, any marks for which the source Could not Be Determined, 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. 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. Treat healing lesions the same as fresh lesions.

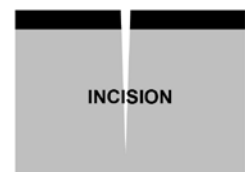
- An *IMPRESSION* is a compression wound that occurs when an object leaves an indentation but does not lacerate or abrade the skin/pelt. Impressions left by net or line usually wrap around the leading and/or trailing edges of a fin, flipper, or fluke. Impressions on the leading edge of an appendage may 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.



- 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.*). 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. 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 human interaction lesions and describe in the comments section. Remember, natural lesions or markings should not be included on this table.

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. In the first part, Gear- Line you should indicate if the lesion was related to gear-line, such as net, twine, or line. We also ask if you can determine whether gear-line 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 with the descriptions above. Nets made of monofilament may leave multiple impressions or lacerations, but each lesion is a straight furrow.
- *MO/MU/CBD** - If you checked *Twine/Line* or *Net*, indicate whether lesions were caused by *monofilament* or *multifilament* gear, by entering either MO for monofilament or MU for multifilament. Enter *CBD* if you observe linear marks, but you are unsure of the origin.

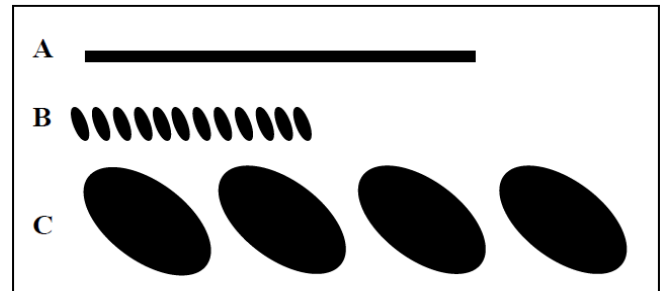
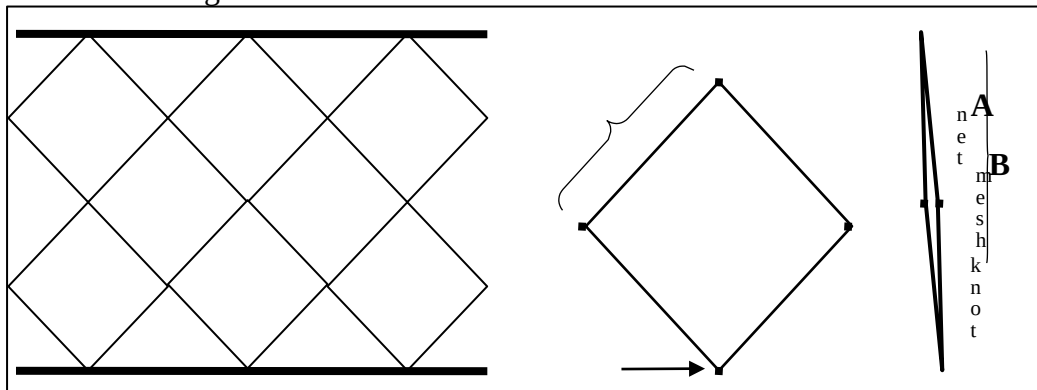


Figure 1. Impressions left by (A) monofilament, (B) twisted twine and (C) twisted line. Impressions are most visible on cetaceans.



In the second part of the gear section, Gear/Debris, you should indicate if there are signs of human interaction related to other types of Gear/Debris, such as fishing hooks, packing bands, or other/CBD.

- *Hook* – select this column if there are marks, or gear present, that suggests that the animal was caught by, or swallowed, a fishing hook.
- *Packing Band* – select this column if there are marks, or debris present, around the neck or body that suggest that the animal was entangled in a packing band.
- *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 the lesion you noted was not made by gear/debris, 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.
- *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).

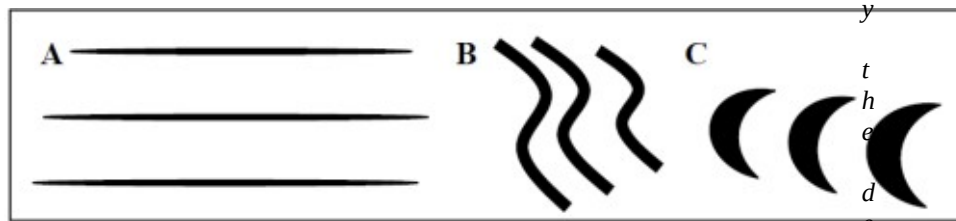


Figure 3. Types of propeller lesions left by different styles and sizes of propeller. The length, depth, and spacing between lesions can provide information as to the type of propeller and, thus, type of vessel.

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.

BACK OF FORM

FIELD # - Copy the Field Number from the front of the page.

INTERNAL EXAM: The Marine Mammal Human Interaction Report should be completed to the extent of the examination that was performed. An Internal examination or necropsy is not required to be conducted, as there can be logistical considerations that prevent it. It is important to note that 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).

DATE – Write the date the internal examination was conducted.

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.

For the following lines, indicate whether you collected an image of an area with a Y (Yes) or N (No) in the *Image taken* section.

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).

Skeleton examined – Check YES if the entire skeleton was examined. Check NO if no bones were examined. Check PARTIAL if some but not all 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).

Broken bones present - Check YES if you observed broken bones. Check NO if all bones examined were intact (not broken). Check CBD if you could not determine if bones were broken and record in *Comments* section.

- Associated tissue reaction – If broken bones were found, 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.

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 some elements, but not all, 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). Ingestion of gear or debris is considered a human interaction.

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.

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.

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. Provide details in the *Comments* section.

Other lesions noted - Note whether any other pathologies were observed, describe in *Comments* section.

COMMENTS: The details of what you observe should be filled into 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.

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 (e.g., it does not matter if it was pre-mortem, ante-mortem, post-mortem), 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. 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 OCCURRENCE DETAILS SECTION ON THE LEVEL A DATA SHEET, WITH THE QUESTION: FINDINGS OF HUMAN INTERACTION

TYPE OF HI: If you circled 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 this is irrespective of whether gear was actively fished, discarded, or 'ghost gear.' All should be checked as gear. Line alone cannot be assumed to be fishing gear unless it has specific markings or attachments indicating it was used in a fishery, such as buoys, lead core line, or 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 obviously used for anchoring, mooring, or towing is considered debris.
- Choose CBD if you are unsure of the origin of the entangling material. Line of unknown origin should be marked as CBD.

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, i.e., the object travels past the mouth and into the throat (or further down the GI tract). 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 non-fishing gear 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.

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.

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 (e.g., arrows, crossbows) should be categorized under CBD/Other.

Mutilation – occurs when an animal or carcass is intentionally harmed, especially when 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. Spray paint of a carcass would also be considered a mutilation.

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.

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 any authorities that were contacted.

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, and after your external and internal examinations (to the extent they were performed). 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 also takes into account the evaluator's level of experience. **If you have not conducted many evaluations or are not familiar with the region or the species, 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 pathologists, 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. [Note: This is not an assessment of whether 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.]

0. **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). If you do not feel that you can provide an evaluation, circle 0: Uncertain (CBD).
1. **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).
2. **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?).

3. **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).

TRANSFER THE ABOVE INFORMATION TO THE OCCURRENCE DETAILS SECTION ON THE LEVEL A DATA SHEET, WHERE THE QUESTION IS ASKED: IF YES, WHAT WAS THE LIKELIHOOD THAT THE HUMAN INTERACTION CONTRIBUTED TO THE STRANDING EVENT?

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