NMFS MARINE MAMMAL HEALTH AND STRANDING RESPONSE PROGRAM

Cook Inlet & Kodiak Marine Mammal Disaster Response Guidelines Appendices

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

November 2019

Appendix 1

2017 NMFS AKR Marine Mammal Emergency Response Standards

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
P.O. Box 21668
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National Marine Fisheries Service (NMFS) Alaska Region
Statewide Marine Mammal Spill Preparedness and Response Structure; Expectations for Responsible Parties

Prepared June 2017

The Oil Pollution Act of 1990 (OPA-90) expanded the federal government's ability to prevent and respond to oil spills. OPA-90 established new requirements for contingency planning by government and industry by expanding the National Contingency Plan to a three-tiered system: 1) the federal government, through the National and Regional Response Team(s) were empowered to direct all public and private response efforts for certain types of spill events through their corresponding Response Plans; 2) Area Committees (composed of federal, state, and local government officials) were required to develop detailed, location-specific Area Contingency Plans; and 3) owners or operators of vessels and certain facilities that pose a serious threat to the environment must prepare their own Facility Response Plans.

In an effort to assist with emergency response preparedness for marine mammals under NMFS jurisdiction in Alaska, the NMFS Alaska Region Protected Resources Division (AKR PRD) has developed the following general guidelines and standards for response capacity by responsible parties.

- **Preparedness and Response Standards and Thresholds (Initial Immediate Response)**
    - Samples: Prepare to sample 50 live or dead pinnipeds (i.e., bearded seal, harbor seal, ribbon seal, ringed seal, spotted seal, northern fur seal, and/or Steller sea lion) the first week. Prepare to sample 5 live or dead cetaceans (i.e., whales and porpoise) the first week. After the first week, the Responsible Party (RP) has the responsibility to fund the storage of carcasses, fund transport to approved facilities for analysis, and fund additional sampling or any live or dead pinnipeds or cetaceans. Sampling shall be performed by an individual or entity approved under NMFS Marine Mammal Health and Stranding Permit #18786.
    - Necropsy: Prepare to necropsy 50 dead pinnipeds and/or cetaceans. Necropsies shall be performed and samples stored by an individual or entity approved under NMFS Marine Mammal Health and Stranding Permit #18786. If mortalities exceed 50 animals, the RP has the responsibility to fund the storage of carcasses and fund transport to approved facilities for analysis.
    - Sample storage: Maintain level of readiness to store 1,000 marine mammal samples, which likely includes multiple samples from individual animals, and therefore, does not represent 1,000 animals. Samples shall be stored by an individual or entity approved under NMFS Marine Mammal Health and Stranding Permit #18786.

- Cleaning/rehabilitation threshold: The following thresholds apply for live moribund animals whose condition can withstand transport.
    - *Pinnipeds:* The RP should maintain a level of readiness for 25 live pinnipeds to be cleaned and rehabilitated.
        - ✓ This applies to bearded, ringed, ribbon, spotted, harbor, and northern fur seals and Steller sea lions. However, capturing and cleaning oiled adult Steller sea lions is generally not feasible given their size and the difficulties in their collection and transport, as well as danger to response personnel.
        - ✓ It may not be feasible to capture oiled northern fur seals. Human safety must be a primary consideration as it may be dangerous to response personnel to capture oiled fur seal pups because of territorial bulls, and oiled adult fur seals would be extremely dangerous to handle, even if partially debilitated. Also, separating a pup from its mother temporarily may lead to abandonment.
        - ✓ Approved cleaning protocols and practices by species can be found in the Wildlife Protection Guidelines in the Alaska Unified Response Plan and NMFS National Marine Mammal Oil Spill Guidelines.
        - ✓ All cleaned pinnipeds must be tagged prior to release to monitor survivorship. Per a request from the Ice Seal Committee, we recommend that ice seals which are transported outside their region of capture not be released back to the wild after rehabilitation. This request does not apply to ice seals captured and cleaned on-site.

    - *Cetaceans:* The RP should maintain a level of readiness for two live small cetaceans (e.g., young beluga whale, young killer whale, or porpoise) to be cleaned and rehabilitated.

- **Readiness Time Horizon**
    - Maintain readiness for additional sampling, necropsies, sample storage, and cleaning/rehabilitation for up to one year post-spill.
    - After the official closure of a spill response, RPs should remain prepared to support NMFS and wildlife response organizations to respond to oil-affected marine mammals under NMFS jurisdiction.
- **Authority**
    - Response authority for oiled marine mammals under NMFS jurisdiction is always retained by NMFS, and interventions can be authorized only by NMFS on a case by case basis. During a spill, authority to respond to oiled marine mammals may be granted under the NMFS Marine Mammal Health and Stranding Response Permit #18786 issued to Dr. Teri Rowles and her authorized NMFS Co-Investigators. Pre-authorization is not a component of this response structure.

- In the future, NMFS plans to add a spill response component to language in Regional Stranding Agreements, which would allow agreement holders to respond to non-ESA listed MMPA species in the event of an oil spill. Response to ESA-listed marine mammals would still require authorization under NMFS permit #18786 as specified above.

- **Spill Response Network Model**
  - Preparedness and response shall be led through a NMFS approved contractor (e.g., Alaska SeaLife Center [ASLC]) under U.S. Coast Guard's Oil Spill Removal Organization (OSRO) program, after obtaining authorization through NMFS permit #18786. NMFS will provide guidance regarding: 1) marine mammal response standards, 2) training requirements, and 3) regulatory pathways for response authorizations (e.g., authorizing marine mammal responses pursuant to NMFS permit #18786). NMFS will maintain contact information on trained stranding network members and Incident Command System staff. NMFS-approved wildlife responders will facilitate preparedness for the stranding network as a primary field response participant, along with trained stranding network members. OSROs will need to work with NMFS-approved wildlife response organizations to ensure preparedness levels are sufficient for a rapid response to oiled marine mammal under NMFS jurisdiction. Currently, NMFS does not have the in-house capacity to lead field efforts, so will act in a guidance and oversight capacity through the Wildlife Protection Branch.

- **Adding Stranding Agreement Holders**
  - NMFS will continue to approach qualified entities and individuals throughout Alaska to encourage participation and engagement in the Alaska Marine Mammal Stranding Network. A focused effort is underway to further develop response capacity in the Kodiak and Cook Inlet regions. Training will need to be provided to new stranding network members at annual stranding network meeting or by other mechanisms.

Appendix 2

Appendix CI Kodiak Disaster Response Marine Mammal Resources

No.	Holder/Member	Organization/Name	Contact Name	Email	Main Phone No.	Location
National Marine Fisheries Service Statewide 24-hour Stranding Hotline: (877) 925-7773 or (877) 9-AKR-PRD						
National Marine Fisheries Service Protected Resources Office: (907) 586-7235 (Juneau); (907) 271-5006 (Anchorage)						
1	Stranding Agreement Holder	Alaska SeaLife Center	Carrie Goertz	wildliferesponse@alaskasealife.org	(888) 774-7325	Seward, AK
2	Stranding Agreement Holder	Alaska Veterinary Pathology Services	Kathy Burek	avps.khb@gmail.com	(907) 242-2566	Eagle River, AK
3	Stranding Agreement Holder	Alaska Whale Foundation	Fred Sharpe	fsharpe@sfu.ca	(360) 808-0579	Petersburg, AK
4	Stranding Agreement Holder	Aleut Community of St. Paul	Pamela Lestenkof	pmlestenkof@tgspi.com	n/a	St. Paul Island, AK
5	Stranding Agreement Holder	North Slope Borough Department of Wildlife Management	Raphaela Stimmelmayr	raphaela.stimmelmayr@north-slope.org	(907) 852-0350	Utqiagvik, AK
6	Stranding Agreement Holder	University of Alaska Fairbanks Alaska Sea Grant Marine Advisory Program	Gary Freitag	gary.freitag@alaska.edu	(907) 228-4551	Ketchikan, AK
7	Stranding Agreement Holder	University of Alaska Fairbanks Alaska Sea Grant Marine Advisory Program	Gay Sheffield	ggsheffield@alaska.edu	(907) 443-2397	Nome, AK
8	Stranding Agreement Holder	University of Alaska Sitka	Jan Straley	jan.straley@uas.alaska.edu	(907) 747-7779	Sitka, AK
9	Stranding Agreement Holder	National Park Service, Glacier Bay National Park	Chris Gabriele	Chris_Gabriele@nps.gov	(907) 697-2664	Gustavus, AK
10	Stranding Agreement Holder	Sun'aq Tribe of Kodiak	Tom Lance or Kelly Krueger	talance@sunaq.org kkrueger@sunaq.org	(907) 486-4449	Kodiak, AK
11	Stranding Agreement Holder	Rachel Berngartt	Rachel Berngartt, DVM	rachelinjuneauak@gmail.com	(907) 463-5022	Juneau, AK
12	Stranding Agreement Holder	UAF Museum of the North	Link Olson	link.olson@uaf.edu	(907) 474-6946	Fairbanks, AK
13	Stranding Agreement Holder	Petersburg Marine Mammal Center	Barry Bracken	bbsea@gci.net	(907) 772-3736	Petersburg, AK
14	Stranding Agreement Holder	Chichagof Conservation Council	Gordon Chew	gordon_chew@msn.com	(907) 736-9200	Tenakee Springs, AK
15	Stranding Agreement Holder	AK Consortium of Zooarchaelogists	Rhea Hood	rhea_hood@nps.gov	(907) 644-3460	Anchorage, AK
16	Stranding Agreement Holder	Sitka Sound Science Center	Lisa Busch	lbusch@sitkascience.org	(907) 747-8878	Sitka, AK
17	Stranding Agreement Holder	UAS Juneau	Heidi Pearson	hcpearson@uas.alaska.edu	(907) 796-6271	Juneau, AK

Table 2: Primary Marine Mammal Response Facilities

Resource	Location	Contact Name	Contact Info	Notes
Alaska SeaLife Center	Seward, AK	N/A	Stranding Hotline: (888) 774-7325	Capture and rehabilitation of pinnipeds, tagging, processing, de-oiling, and necropsy. **Oiled Wildlife Response Team (24 staff on-site, contacts for additional ~240 supplemental support) in place with HAZWOPER 24-hr, IS 700 and ICS 100 certifications. Certified HAZWOPER instructor on-site. Alaska marine mammal stranding network member. Rehabilitation permit holder.**
Alaska Zoo	Anchorage, AK	Pat Lampi, Director	(907) 341-6427 plampi@alaskazoo.org	Overflow facility for pinnipeds. Capacity TBD
Kodiak Fisheries Research Center	Kodiak, AK	Mike Litzow, Director	(907) 481-1711 Mike.litzow@noaa.gov	NMFS managed facility with marine mammal staging capacity. Capacity unknown.
Cook Inlet Spill Prevention and Response, Inc. (CISPRI) Sea Otter Rehabilitation Unit	Seldovia, AK	Todd Paxton	(907) 776-5129 tpaxton@cispri.org	Have mobile pens to house/clean 40 sea otters. May be able to use these for pinniped response.

Figure 1. Alaska SeaLife Center Laboratory and ODL Layout & Space Usage

Figure 2. Alaska SeaLife Center South Beach Research Facility

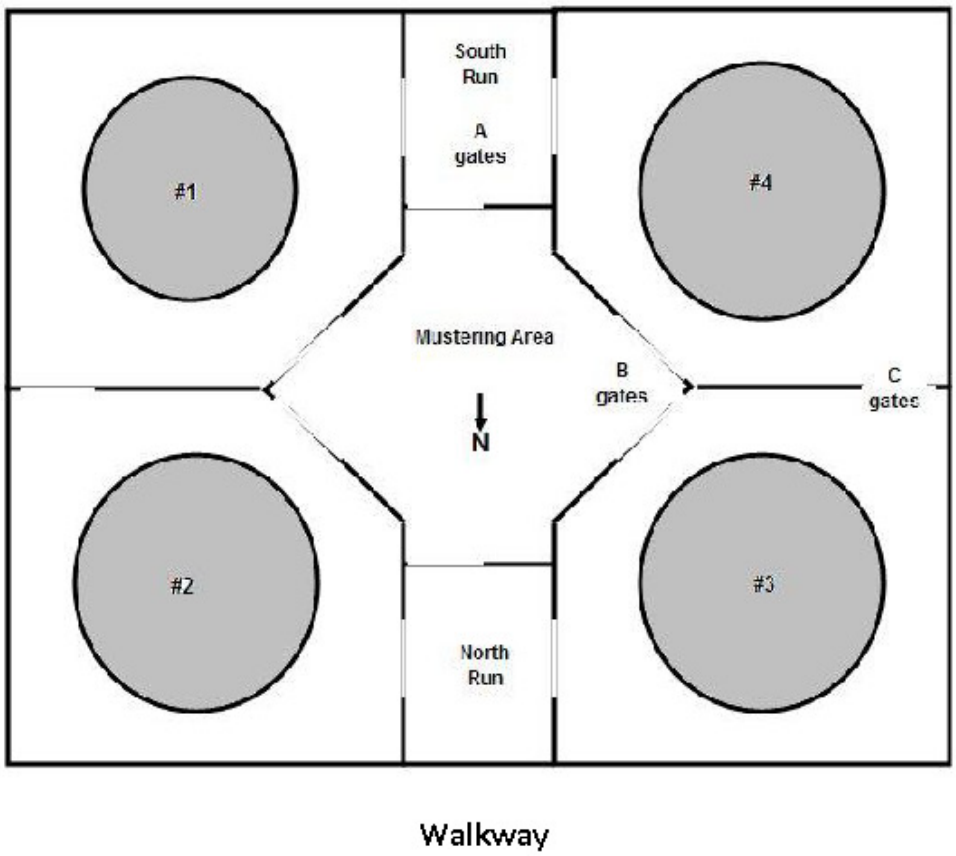


Figure 3. Alaska SeaLife Center Stranding Area

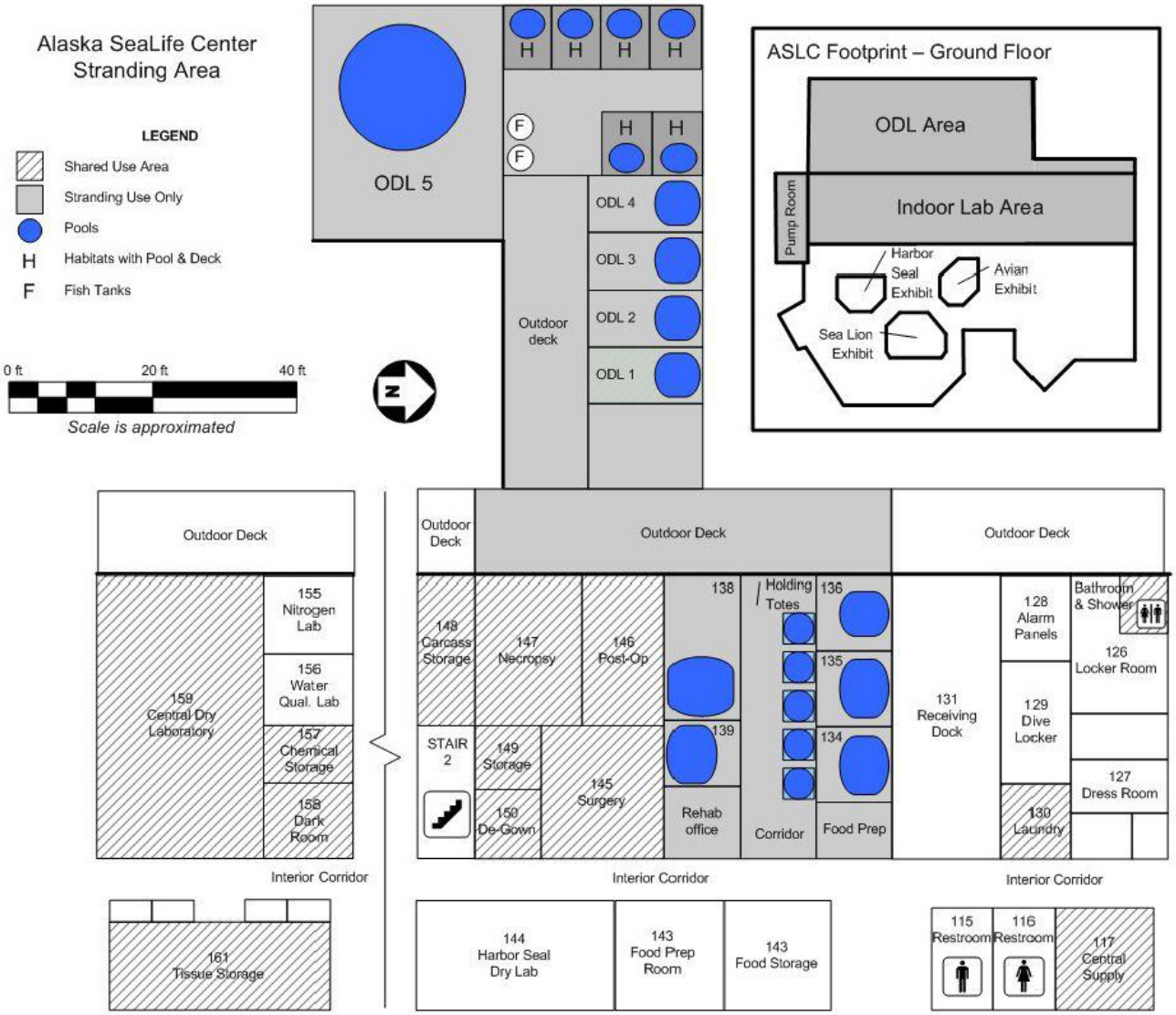


Table 3: Potential Facilities for Response Activities

Region	Organization	Facility	Location	Response Activity	Detail	Contact Information
Cook Inlet	USFWS	Islands & Oceans Visitor Center	Homer, Alaska	Necropsy, Command Center, rehabilitation, equipment storage	39,000 ft^2 building. Hosts an auditorium meeting room (accommodate 150 people), multiple conference rooms, (could be an incident command station). They have about 20 work-stations. A quasi-wet lab, they do necropsies on small animals, sea otters, porpoises, harbor seals. Have 4 chest freezers.	Marc Webber (USFWS) Deputy Refuge Manager Alaska Maritime Wildlife Refuge (907) 226-4605 marc_webber@fws.gov
Cook Inlet	USFWS	USFWS Warehouse	Homer, Alaska	Necropsy, rehabilitation, equipment storage	Warehouse is a large space, could have necropsies, and storage. Has a building and a lot for yards, running water, electricity. They have a large supply of small capacity mobile generators.	
Cook Inlet	USFWS	USFWS Bunkhouse	Homer, Alaska	Personnel logistics	Capacity to house 14 people	
Cook Inlet	USFWS	USFWS Vessels/Vehicles	Homer, Alaska	Reconnaissance, Recovery, Logistics	25 ft Boston Whaler, Tecla Research vessels, four pickup trucks, suburban, multiple ATVs	

Table 3 continued: Potential Facilities for Response Activities

Region	Organization	Facility	Location	Response Activity	Detail	Contact Information
Cook Inlet	University of Alaska Anchorage (UAA)	UAA Kenai Peninsula College	Homer, Alaska	Equipment storage, potential space to sample/necropsy animals, command operations	College has three buildings with lecture/classroom capabilities: The Learning Resource Center, computer labs, and Day View Hall 101 has lab space, moveable tables, meant to be splash proof, wet lab. They have a kitchen area, food grade refrigerator, and freezer. Library access for literature research through the University. Large televisions on the wall have videoconference capability. Small shed with fuel and running water. Truck with a plow, and a small fork-lift. The bigger of the two sheds you could store seals in if you needed to. The main building, Pioneer Hall, has teleconference capacity. 120-person capacity in two classes. Science lab has propane, vacuum, chemical hood, etc. Lots of chemical storage, locked cabinets. Art studio suitable for articulation due to large table.	Dr. Deb Tobin Professor UAA dtobin@uaa.alaska.edu (907) 235-1607
Cook Inlet	Kachemak Bay National Estuarine Research Reserve	Kachemak Bay National Estuarine Research Reserve	Homer, Alaska	Equipment storage, potential space to sample/necropsy animals, personnel logistics	They have a small warehouse, electricity, water, two conference rooms and a small bunkhouse that can hold 12 people.	Steven Baird Research Coordinator (907) 235-1594 sjbaird@alaska.edu
Cook Inlet	Kar-a-van Transfer	Several	Homer, Alaska	Transportation	Refrigerated Trucks-Kar-a-van Transfer-Homer	2852 Kachemak Dr, Homer, AK 99603 Phone: (907) 235-7031
Cook Inlet	NOAA OLE	Islands & Oceans Visitor Center	Homer, Alaska	Limited small equipment storage, reconnaissance, recovery	Small office space and a 27ft boat	Homer Field Office Phone: (907) 235-2337

Table 3 continued: Potential Facilities for Response Activities

Region	Organization	Facility	Location	Response Activity	Detail	Contact Information
Cook Inlet	Cook Inlet Spill Prevention and Response, Inc. (CISPRI)	Headquarters	Nikiski Alaska	Command center, equipment storage, staging for reconnaissance, recovery	Has electricity, running hot water, vessels, conexes	Todd Paxton General Manager Phone: (907) 776-5129 Email: tpaxton@cispri.org
Cook Inlet	CISPRI	Sea Otter Rehabilitation Unit	Seldovia, Alaska	Rehabilitation	Have mobile pens to house/clean 40 sea otters. May be able to use these for pinniped response.	Todd Paxton General Manager Phone: (907) 776-5129 Email: tpaxton@cispri.org
Cook Inlet	NOAA	Kasitsna Bay Laboratory	Kachemak Bay Alaska	Rehabilitation, necropsy, reconnaissance, equipment storage, personnel logistics	Bunkhouse for 32 people, dormitory for 16 people. Lab building with flowing salt water, dry lab building, diving support, shop, maintenance building, conference rooms, dock, kitchens, laundry, Wi-Fi, and 24 ft boat.	Kris Holderied Director Phone: (907) 235-4004 Email: kris.holderied@noaa.gov
Cook Inlet	Kenaitze Tribe	Several	Kenai, Alaska	Sample storage, equipment storage, staging	Freezer space, and buildings for potential operations	Brenda Trefon Environmental Director Phone: (907) 335-7200 Email: btrefon@kenaitze.org
Cook Inlet	Port Graham Native Village	Several	Port Graham, Alaska	Rehabilitation, equipment storage, recovery, personnel logistics	Contact Traditional Council on which facilities to use. Safety building has space for collecting samples, concrete floor etc. The Traditional Council has a loader, dump truck, grader and tractor in the community. And, the hatchery has a front-end loader. The Corporation has a backhoe, bobcat and dump truck, too. Local Housing- the "Green House" it has 14 beds, overseen by the council. The Corporation has 8 bedrooms above the General Store, and Fort Knox, which has 16 beds.	Naomi McMullne Environmental Coordinator Email: Naomi@portgraham.org

Table 3 continued: Potential Facilities for Response Activities

Region	Organization	Facility	Location	Response Activity	Detail	Contact Information
Cook Inlet	Seldovia Village Tribe	Several	Seldovia, Alaska	Rehabilitation, equipment storage, recovery	Have a heated warehouse. They have a Honda shed that could be used. The newly opened Seldovia cannery could be a good place. Kar-a-van transfer has refrigerated trucks, they're in Seldovia and in Homer. The tribe has heavy equipment, the Seldovia Native Association, Hopkins construction and City of Seldovia.	Michael Opheim Environmental Lead Phone: (907) 435-3247 Email: mopheim@svt.org
Cook Inlet	Seldovia Oil Spill Response Team	Several	Seldovia, Alaska	Equipment storage, staging	Have conexes, spill response equipment, and trained staff for general response efforts.	Seldovia Oil Spill Response Team Phone: (907) 234-7400
Cook Inlet	Native Village of Nanwalek	Several	Nanwalek, Alaska	Storage of samples	They have a conex for equipment storage. They have a chest freezer, probably -20 in the tribal building. They have heavy equipment, a grader, a bulldozer, owned by the tribe. Everybody has 4 wheelers, the tribe owns a truck and a van, they don't have a boat.	Priscilla Evans 2nd Chief/Environmental Coordinator Email: priscillajevans@yahoo.com
Cook Inlet	Chickaloon Native Village	Several	Chickaloon, Alaska	Equipment Storage, staging, reconnaissance	They have two warehouses, one has running water. Land for storage. They have big equipment, dump trucks, they have a 25 ft. Boston Whaler.	Chickaloon Native Village Phone: (907) 745-0749
Cook Inlet	Port of Alaska	Port of Alaska	Anchorage, Alaska	Equipment storage, potential space to sample/necropsy animals, staging area, reconnaissance	Port has docks, buildings, running water, heat	Steve Ribufo Phone: (907) 353-6023 (24-hour access phone)
Cook Inlet	Alaska Veterinary Pathology Services	Necropsy room	Eagle River, Alaska	Potential space to sample/necropsy animals	A few freezers, necropsy room, sampling equipment	Dr. Kathy Burek-Huntington Alaska Veterinary Pathology Services Phone: (907) 242-2566 E-mail: avps.kbh@gmail.com

Table 3 continued: Potential Facilities for Response Activities

Region	Organization	Facility	Location	Response Activity	Detail	Contact Information
Cook Inlet	Alaska Department of Fish and Game Marine Mammal Program	Several	Anchorage, Alaska	Storage, staging, laboratory, necropsy	The Division of Wildlife Conservation Region II in Anchorage had a necropsy lab. This does not belong to the Marine Mammal Program but could be made available., Two boats, Warehouse space- approx. 1,000 square feet, 5 ultracold -80C freezers (they are mostly full but could spare a shelf in each if needed); 1 outdoor walk-in -20C freezer (~ 2 shelves open), Staff – 4 staff with extensive marine mammal experience, 1 truck shared with other programs, (1) 7' x 12' flatbed trailer with (small hoist can be added if necessary)	Lori Polasek Marine Mammal Program Coordinator ADFG Phone: (907) 465-6167 Email: lori.polasek@alaska.gov
Cook Inlet	Chadux	Several	Anchorage & throughout Alaska	Staging, logistics, reconnaissance, recovery	Chadux's list of equipment is available online. They have sea otter pens that may adaptable to pinniped response. Vessels for potential recovery or reconnaissance.	Chris Burns Preparedness Manager- Chadux 24 Hour Phone: (907) 348-2365
Cook Inlet	Tyonek Native Corporation	Several	Anchorage & Tyonek, Alaska	Equipment storage, staging, recovery	Conexes, large equipment, pier at Tyonek that can be accessed at high or low tide, containment liner	Connie Downing Chief Administrative Officer Phone: (907) 272-0707 Email: cdowning@tyonek.com
Cook Inlet	Tyonek Native Village	Several	Tyonek, Alaska	Equipment storage, staging, recovery, reconnaissance, personnel logistics	Storage buildings, heavy equipment, space for landing barge, boats, dormitory style housing	Art Standifur President- Tyonek Native Village Phone: (907) 583-2111
Cook Inlet	Eklutna Native Village	Several	Eklutna, Alaska	Equipment storage, staging, reconnaissance, recovery	Freezers, warehouse, truck, water tank	Marc Lamoreaux Land and Environment Director Phone: (907) 688-8522 Email: nve.ledirector@eklutna.nsn.gov
Cook Inlet	Hilcorp	Several	Anchorage, west side of CI	Staging for recovery, reconnaissance, field sampling, personnel logistics, staging	Infrastructure on the west side of Cook Inlet, buildings, air strip, water, electricity, barge landing, vehicles, housing	Beth Sharp Wildlife Biologist Hilcorp Phone: (907) 777-8436 Email: esharp@hilcorp.com

Table 3 continued: Potential Facilities for Response Activities

Region	Organization	Facility	Location	Response Activity	Detail	Contact Information
Cook Inlet	Furie Alaska	Several	Nikiski, Alaska	Staging for recovery, reconnaissance, field sampling, personnel logistics	Small plant in Nikiski, buildings, helicopter landing, water, electricity, vehicles	Scott Pinsonnault Interim Chief of Operations Furie Phone: (907) 277-3726
Cook Inlet	CIRI	Land	Throughout Cook Inlet	Staging for recovery, reconnaissance, field sampling	Majority land owner in region, owner of Fire Island	Jason Brune Sr. Director Land and Resources, CIRI Phone: (907) 263-5104 Email: jbrune@ciri.com
Cook Inlet	Glacier Oil	Several	Anchorage, west side of Cook Inlet	Staging for recovery, reconnaissance, field sampling, personnel logistics, staging	Infrastructure on the west side of Cook Inlet, buildings, air strip, water, electricity, barge landing, vehicles, housing for 78	Brian Webb HSE Manager Phone: (907) 433-3826 Email: bwebb@glacieroil.com
Cook Inlet	BlueCrest Energy	Several	Anchor Point, Alaska	Staging for recovery, reconnaissance, field sampling	Small plant in Anchor Point, buildings, helicopter landing, water, electricity, vehicles, housing for 120	Larry Burgess Alaska Manager of BlueCrest Phone: (907)-754-9552 Email: Larry.burgess@bluecresatenergy.com
Cook Inlet	ADEC	Local Response Conex	Anchorage, Alaska	Recovery, field sampling	Conex with general spill response equipment	24 Hour Phone number (907) 478-9300
Cook Inlet	ADEC	Local Response Conex	Homer, Alaska	Recovery, field sampling	Conex with general spill response equipment	
Cook Inlet	ADEC	Local Response Conex	Kenai, Alaska	Recovery, field sampling	Conex with general spill response equipment	
Cook Inlet	ADEC	Local Response Conex	Seldovia, Alaska	Recovery, field sampling	Conex with general spill response equipment	
Cook Inlet	ADEC	Local Response Conex	Seward, Alaska	Recovery, field sampling	Conex with general spill response equipment	
Cook Inlet	ADEC	Local Response Conex	Wasilla, Alaska	Recovery, field sampling	Conex with general spill response equipment	

Table 3 continued: Potential Facilities for Response Activities

Region	Organization	Facility	Location	Response Activity	Detail	Contact Information
Kenai Peninsula	Alaska SeaLife Center	Room 159*	Seward, AK	Diagnostics	Diagnostic Lab	(888) 774-7325
Kenai Peninsula	Alaska SeaLife Center	Room 150*	Seward, AK	Animal Care – surgery and treatment	Veterinary Clinic and Pharmacy	
Kenai Peninsula	Alaska SeaLife Center	Room 147*	Seward, AK	Necropsy	Necropsy Lab	
Kenai Peninsula	Alaska SeaLife Center	Room 148*	Seward, AK	Sample Storage	Sample Storage	
Kenai Peninsula	Alaska SeaLife Center	Room 143*	Seward, AK	Food Preparation and Storage	Keep 6 weeks supply on-site. Approx. 1 years supply stored off-site at Icicle (Seward Fisheries, Inc.) Can pick-up more on relatively short notice.	
Kenai Peninsula	Alaska SeaLife Center	Rooms 134-139*	Seward, AK	Rehabilitation	Interior quarantine area - 5 indoor pool rooms.	
Kenai Peninsula	Alaska SeaLife Center	ODL 1-5*	Seward, AK	Rehabilitation	Exterior quarantine area – 5 outdoor pool rooms.	
Kenai Peninsula	Alaska SeaLife Center	ODL 6-8*	Seward, AK	Rehabilitation	3 outdoor pools with larger capacity	
Kenai Peninsula	Alaska SeaLife Center	South Beach*	Seward, AK	Rehabilitation	4 outdoor pools. Additional quarantine area, separate from the rest of the facility with additional indoor lab space for staff support and food preparation.	

*See Figure 1, Figure 2 and Figure 3

Table 3 continued: Potential Facilities for Response Activities

Region	Organization	Facility	Location	Response Activity	Detail	Contact Information
Kodiak	NOAA OLE	Gibson Cove Facility	Kodiak, Alaska	Staging for recovery, reconnaissance, field sampling, personnel logistics, staging	Some staging activities. Detail: Facility has restricted access due to Criminal Justice Security requirements. Contact OLE for potential uses during emergency response.	Kodiak Field Office Phone: (907) 486-3298
Kodiak	Alaska Department of Fish and Game	ADFG Building	Kodiak, Alaska	Staging for recovery, reconnaissance, field sampling, personnel logistics, staging	Five state aircraft available. Several research boats, a hanger, a warehouse, an office building with multiple conference rooms, bunkhouse for 12 people, wet lab, two necropsy suites, walk-in freezers.	For Kodiak Logistics contact: Nick Sagalkin Regional Supervisor Phone: (907) 486-1801 Email: nick.sagalkin@alaska.gov For Remote sites on Kodiak Island Logistics contact: Jeanette Alas Habitat Biologist Phone: (907) 267-2805 Email: Jeanette.alas@alaska.gov
Kodiak	USFWS	USFWS Kodiak	Kodiak, Alaska	Staging for recovery, reconnaissance, field sampling, personnel logistics, staging	Two float planes, beaver, and a super-cub (2-seater). Fleet: 48ft research boat, and an 18ft aluminum skiff with that vessel. He has a crew of 4 on that boat. Could have 2 aluminum skiffs on there, and a small inflatable. They have 2 pilots and one boat captain. Have a bunkhouse that can sleep 12.	Michael Brady Kodiak National Wildlife Refuge Manager Phone: (907) 487-0226 Email: Michael_brady@fws.gov
Kodiak	Seafood Canneries/Processing Plants	Several	Throughout Kodiak, Alaska	Sample Storage, staging	Freezers, boats, their fleet managers can communicate with their fishing fleet to gather information from waterways surrounding Kodiak and further	Check communities
Kodiak	ADEC	Local Response Conex	Kodiak, Alaska	Recovery, field sampling	Conex with general spill response equipment	ADEC 24 Hour Phone number (907) 478-9300
Kodiak	Coast Guard	Air & vessel support	Kodiak, Alaska	Recovery, reconnaissance, field sampling	Coast Guard Air operations has access to vessels/helicopters/planes	Commanding Officer Air Ops Phone: (907) 487-5836

Table 3 continued: Potential Facilities for Response Activities

Region	Organization	Facility	Location	Response Activity	Detail	Contact Information
Kodiak	Coast Guard	Coast Guard Base	Kodiak, Alaska	Staging for recovery, reconnaissance, field sampling, personnel logistics	The Chief Base Officer is the landlord for the base- they're in charge of buildings, power, water, medical, logistics, anything to do with the grounds. They have federal facilities, a hotel, bunkers, spill response equipment, conexes all around.	Dan Rogers Chief Base Officer Phone: (907) 487-5256
Kodiak	Coast Guard	Marine Safety Detachment	Kodiak, Alaska	Logistics support	They'd be the CG group managing a spill response in Kodiak. They can open up the National Trust Fund, they'd be managing the contractors, etc.	Lt. Richard Cherkauer 24 Hour Spill Phone: (907) 654- 4069 Email: Richard.g.cherkauer@uscg.mil
Kodiak	Sun'aq Tribe	Several	Kodiak, Alaska	Staging for recovery, reconnaissance, field sampling	Have a fish processing plant called "Wild Source", has freezers, warehouse space and 2.5-ton crane on pier.	Tom Lance Natural Resource Director talance@sunaq.org and/or Kelly Krueger Tribal Biologist kkrueger@sunaq.org Phone: (907 486-4449
Kodiak	Kodiak Wildlife Troopers	Air & vessel support	Kodiak, Alaska	Recovery, reconnaissance, field sampling	They have two major vessel assets: the Stimson 165ft vessel, and the Chimae, an 80 ft. catamaran. They also have small vessels, and skiffs, to support the larger vessels. 28ft Safe Boat, "the Ethics", they have smaller vessels here. The south peninsula of Alaska is accessed with the Chimea, probably only if we're already underway. In Dutch Harbor, they have a skiff, and the Stimson, this has a big walk-in freezer on this boat. For aircraft, they have a 185 aircraft, a super-cub, and a helicopter.	Lt. Jonathon Streifel Phone: (907) 486-4761 Jonathon.streifel@alaska.gov

Table 3 continued: Potential Facilities for Response Activities

Region	Organization	Facility	Location	Response Activity	Detail	Contact Information
Kodiak	Native Village of Larsen Bay City of Larsen Bay	Several	Larsen Bay, Alaska	Staging for recovery, reconnaissance, field sampling, personnel logistics	Contact the city for heavy equipment, Icicle Cannery has forklift. Sometimes the lodges have cleaning sheds, extra rooms. There are 7 lodges in Larsen Bay. They have a KANA (Kodiak Area Native Association) clinic, and school, and a harbor master. The cannery has HAZWOPER trained employees, and some people in town have it as well.	Susan Malutin Tribe President larsenbaytribe@gmail.com David Harmes Mayor Mayor.larsen.bay@gmail.com
Kodiak	Native Village of Port Lions	Several	Port Lions, Alaska	Staging for recovery, reconnaissance, field sampling, personnel logistics	There are four conexes in town that house oil spill response equipment, 2 in harbor, 2 near ferry dock, NMFS could potentially store equipment there. They have about 7 lodges, a school, and city hall. Contact the Tribe and City for help with logistics during an event.	Michael Holden Environmental Specialist Phone: (907) 454-2234 Email: environmental@portlionstribe.org
Kodiak	Native Village of Ouzinkie, Ouzinkie Village Corporation	Several	Ouzinkie, Alaska	Staging for recovery, reconnaissance, field sampling, personnel logistics	The city has oil spill response containers, as well as the corporation. And there's a vessel here that partakes in the Kodiak vessels of opportunity training every year. They do use the school for emergency shelter, and they have a tsunami shelter. The corporation is putting up a warehouse soon, down by the ocean, they have a freezer building but wouldn't be able to use this for cleaning. Not really freezer space. They have heavy equipment, city and tribe in the city, contact tribe president and city mayor.	Native Village of Ouzinkie Peter Shanagin, Jr. Tribal Administrator Email: nvo.clerk@gmail.com Phone: (907) 680-2259 Ouzinkie Native Corporation Phone: (907) 680-2208

Table 3 continued: Potential Facilities for Response Activities

Region	Organization	Facility	Location	Response Activity	Detail	Contact Information
Kodiak	Alutiiq Tribe of Old Harbor Old Harbor Native Corporation	Several	Old Harbor, Alaska	Staging for recovery, reconnaissance, field sampling	Some heavy equipment, buildings with heat/water	Jim Cedeno Emergency Response for the Tribe Phone: (907) 286-2215 Email: jcedeno@alutiiqtribe.org Melissa Berns Old Harbor Native Corporation Phone: (907) 286-2286

Table 4 - Groups that Have Cook Inlet/Kodiak Marine Mammal Species Handling and Behavior Experience

Resource	Location	Contact Name	Contact Info	Capacity
Alaska SeaLife Center	Seward, AK	Dr. Carrie Goertz	(907) 224-6326 carrieg@alaskasealife.org	Capture and rehabilitation of pinnipeds
		Husbandry Director Lisa Hartman	(907) 224-6373 lisah@alaskasealife.org	
Alaska Zoo	Anchorage, AK	Pat Lampi, Director	(907) 341-6427 plampi@alaskazoo.org	Pinnipeds, polar bears
North Slope Borough Department of Wildlife Management	Utqiagvik, AK	Dr. Raphaela Stimmelmayr	(907) 852-0350 raphaela.stimmelmayr@north-slope.org	Capture and tagging of pinnipeds, tagging cetaceans
		Director Taqulik Hepa	taqulik.hepa@north-slope.org	
		Deputy Director Nicole Kanayurak	nicole.kanayurak@north-slope.org	
Alaska Department of Fish and Game Marine Mammal Program	Alaska	Lori Polasek	(907) 465-6167 lori.polasek@alaska.gov	Capture and tagging of pinnipeds; tagging cetaceans
National Marine Mammal Laboratory/Alaska Fisheries Science Center	Seattle, WA	MML Director John Bengston	(206) 526-4045 John.Bengtson@noaa.gov	Staff with capture and tagging of pinnipeds; tagging cetaceans
		Deputy Director Robyn Angliss	(206) 526-4032 Robyn.Angliss@noaa.gov	
National Marine Fisheries Protected Resources Division	Juneau, AK	Regional Stranding Coordinator	(907) 586-7235	Staff with capture and tagging of pinnipeds; tagging cetaceans. PRD research permits list previously trained community members and other agency staff.
		Oil Spill Response and ESA Section 7, Sadie Wright	(907) 586-7630 sadie.wright@noaa.gov	
Aleut Marine Mammal Commission	Aleutian Islands	Josephine Shangin	(907) 381-6014 josephine.shangin@aleut-marine-mammal.com	Harbor seal and Steller Sea Lion behavior
Alaska Eskimo Whaling Commission	Utqiagvik, AK	Chairman John Hopson, Jr.	(907) 852-0350 johnpearl40@icloud.com	Bowhead/large whale behavior and tagging
The Alaska Sea Otter and Steller Sea Lion Commission	Old Harbor, AK	Executive Director Lianna Jack-Peterson	(907) 286-2377 tassc@seaotter-sealion.org	Sea Lion behavior and tagging
Native Village of Tyonek	Tyonek, AK	President Art Standifer	(907) 583-2111	Beluga behavior and tagging
Alaska Beluga Whale Committee	Nome, AK	Chairman Tom Gray Kathy Frost	(907) 304-2003 tom@akadventure.com kjfrost@hawaii.rr.com	Beluga whale behavior experts and some commissioners have tagging training
Alaska Ice Seal Committee	Utqiagvik, AK	Billy Adams	(907) 852-0350 Billy.Adams@north-slope.org	Ice seal behavior, some commissioners have training in capture/handling and tagging
Cook Inlet Beluga Whale Photo-ID Project	Anchorage, AK	Tamara McGuire	(907) 306 8842 tamaracookinletbeluga.com	Cook Inlet Beluga behavior, Cook Inlet vessel navigation around belugas
Department of Defense	Anchorage, AK	Christopher Garner	(907) 602-0860 Christopher.garner9@us.af.mil	Cook Inlet Beluga behavior, Cook Inlet vessel navigation around belugas

Table 5 - Veterinarians with Marine Mammal Experience

Organization	Location	Contact Name	Contact Information
Alaska Veterinary Pathology Services	Eagle River, AK	Dr. Kathy Burek Huntington	(907) 242-2566 avps.kgh@gmail.com
North Slope Borough Department of Wildlife Management	Utqiagvik, AK	Dr. Raphaela Stimmelmayr	(907) 750-5486 (907) 852-0350 raphaela.stimmelmayr@north-slope.org
Alaska SeaLife Center	Seward, AK	Dr. Carrie Goertz	(907) 224-6326 carrieg@alaskasealife.org
Alaska SeaLife Center	Seward, AK	Dr. Kathy Woodie	(907) 224-6374 Kathyw@alaskasealife.org
Highland Animal Clinic	Anchorage, AK	Dr. Pamela Tuomi	(907) 274-5623
Happy at Home Mobile Veterinary Care,	Eagle River, AK	Dr. Kathy Doty	(907) 360-4188
Bridge Veterinary Services	Juneau, AK	Dr. Rachel Berngartt	(907) 463-5022 rachelinjuneauak@gmail.com
Alaska Department of Fish and Game	Fairbanks, AK	Dr. Kimberlee Beckmen	(907) 459-7257 kimberlee.beckmen@alaska.gov
Pet Stop	Anchorage, AK	Dr. Riley Wilson	(907) 522-1006 (907) 240-8296 petstop@gci.net

Table 6 - Deployable Response Equipment

Response Equipment	Organization	Location	Response Activity	Detail
Mobile Treatment and Rehabilitation Enclosure (MTRE)	ASLC	Seward, AK	Rehabilitation	Capacity 7 small (< 6ft.) or 2 large (< 6ft.) pinnipeds for 4-12 weeks. Dependent on use of local amenities.
Mobile Response Units (MRUs) ↓	ASLC	Seward, AK	Rehabilitation	Modified Conex units for remote response. Built to operate with or without the use of local amenities.
2 Vet Clinic Units	ASLC	Seward, AK	Initial treatment and processing	Basic Vet Clinic
2 Food Preparation Units	ASLC	Seward, AK	Food preparation, husbandry support	Food preparation kitchen and food storage.
2 Staff Support Units	ASLC	Seward, AK	Staff Support	Bunks to sleep, office and kitchen space.
2 Utility Units	ASLC	Seward, AK	Storage	Store support Equipment.
Mobile Treatment and Rehabilitation Enclosure (MTRE)	ASLC	Seward, AK	Rehabilitation	Capacity 7 small (< 6ft.) or 2 large (< 6ft.) pinnipeds for 4-12 weeks. Dependent on use of local amenities.

Appendix 3

Regional Contact Information

Region	Location	Language
Cook Inlet	Chickaloon	Ahtna Athabascan
Cook Inlet	Eklutna, Tyonek	Dena'ina Athabascan
Cook Inlet	Knik, Kenaitze, Ninilchik	Dena'ina
Cook Inlet	Seldovia, Port Graham, Nanwalek	Alutiiq / Sugpiaq / Sugcestun

Organization Type	Name	Contact Information	Location
Stranding Agreement Holder	Alaska SeaLife Center	Carrie Geortz Phone: (907) 224-6326 Email: carrieg@alaskasealife.org	Regional
Co-Management Group	Indigenous People's Council for Marine Mammals	Phone: (907) 349-8006	Regional
Co-Management Group	The Alaska Sea Otter and Steller Sea Lion Commission	Lianna Jack Phone: (907) 286-2377 ljack@seaotter-sealion.org	Regional
Oil Spill Removal Organization	Alaska Clean Seas	Phone: (907) 743-8989	Regional
Oil Spill Removal Organization	Alyeska SERVS	kenneth.wilson@alyeska-pipeline.com	Regional
Oil Spill Removal Organization	Chadux	Chris Burns—Preparedness Manager- Chadux 24 Hour Phone: (907) 348-2365	Regional

Organization Type	Name	Contact Information	Location
Oil Spill Removal Organization	Cook Inlet Spill Prevention & Response, Inc,	Todd Paxton—General Manager, CISPRI Phone: (907) 776-5129 Email: tpaxton@cispri.org	Regional
Regional Native Corporation	Cook Inlet Region, Inc.	Jason Brune— Director Land and Resources Department Phone: (907) 263-5104 Email: JBrune@ciri.com	Regional
Tribal Organization	Chickaloon Native Village	Jessica Winnestaffer— Director of Environmental Stewardship Phone: (907) 745-0737 Email: Jessica@chickaloon.org Brian Winnestaffer— Transportation Director and Emergency Response Planning Phone: (907)-745-0854 Bethany Nichols— Tribal Response Coordinator Program Email: bethanyn@chickaloon.org	Chickaloon
Tribal Organization	Chickaloon Moose Creek Native Association	Phone: (907) 373-1145	Chickaloon
Tribal Organization	Chickaloon Village Traditional Council	President— Eydie Baller Phone: (907) 745-0749	Chickaloon
Tribal Organization	Eklutna Inc.	Steve Connelly—Corporate Lands Manager Phone: (907) 696-2828	Eklutna
Tribal Organization	Eklutna Native Village	Marc Lamoreaux— Land and Environmental Director Phone: (907) 688-8522 Email: nve.ledirector@eklutna-nsn.gov	Eklutna

Organization Type	Name	Contact Information	Location
Tribal Organization	Fishing/Hunting/Gathering Commission for Kenai Tribes	John Segura (907) 335-7200	Kenai
Tribal Organization	Kenaitze Tribe	Brenda Trefon- Tribe Environmental Director (907) 335-7200 btrefon@kenaitze.org	Kenai
Tribal Organization	Salamatoff Native Association	John Ross (907) 230-1457	Kenai
Tribal Organization	Knik Tribal Council	General Phone: (907) 373-7991 Theo Garcia—Environmental Coordinator (907) 373-7685	Knik
Tribal Organization	Knikatnu, Inc.	(907) 376-2845	Knik
Tribal Organization	Nanwalek IRA Council	Priscilla Evans- 2nd Chief/Environmental Coordinator priscillajevans@yahoo.com	Nanwalek
Tribal Organization	Ninilchik Native Association	Greg Encelewski- CEO (907) 567-3866 greg@nnai.net	Ninilchik
Tribal Organization	Ninilchik Tribe	Darrel Williams-Ninilchik Natural Resource Director Darrel@ninilchiktribe-nsn.gov	Ninilchik
Tribal Organization	Port Graham Corporation	(907) 272-7432 edm@portgrahamcorp.com	Port Graham
Tribal Organization	Port Graham Tribe	Ephim Anahonak- Environmental Lead (907) 284- 2227 ephimaenvironmental1@gmail.com	Port Graham
Tribal Organization	Seldovia Village Tribe	Michael Opheim- Environmental Lead (907) 435-3247 mopheim@svt.org	Seldovia

Organization Type	Name	Contact Information	Location
Tribal Organization	Seldovia Native Association	(800) 478-7898	Seldovia
Tribal Organization	Tebughna Foundation	(907) 272-0707	Tyonek
Tribal Organization	Tyonek Native Village	Art Standifur— President (907) 583-2111	Tyonek
Tribal Organization	Tyonek Native Corporation	Connie Downing CAO— Chief Administrative Officer (907) 272-0707 cdowning@tyonek.com	Tyonek
Tribal Organization	Tyonek Tribal Conservation District	Christy Cincotta (907) 646-3109	Tyonek
Research Organization	Kasitsna Bay Laboratory	Kris Holderied— Director (907) 235-4004 kris.holderied@noaa.gov	Homer
Research Organization	Kachemak Bay National Estuarine Research Reserve	Steve Baird- Research Coordinator (907) 235-1594 sjbaird@alaska.edu	Homer
Veterinarian	Alaska Veterinary Pathology Services	Dr. Kathy Burek-Huntington (907) 242-2566 avps.kbh@gmail.com	Eagle River
Local Emergency Response	Homer NOAA OLE	Homer Field Office (907) 235-2337	Homer
Local Emergency Response	Kenai Peninsula Borough Emergency Management Department	Dann Nelson-KPB Emergency Management (907) -262-2098 dnelson@kpb.us	Kenai

Organization Type	Name	Contact Information	Location
Local Emergency Response	NUKA Research	Brettwood Higman- Geologist hig@nukaresearch.com	Seldovia
Local Emergency Response	Seldovia Oil Spill Response Team	Mark Janes- President (907) 299-3224	Seldovia
Local Emergency Response	Seward NOAA OLE	Seward Field Office (907) 224-5348	Seward
Governmental Organization	Alaska Department of Fish and Game	Lori Polasek—Marine Mammal Program Coordinator ADFG (907) 465-6167 lori.polasek@alaska.gov	Juneau, Anchorage
Governmental Organization	Alaska Department of Fish and Game	Jason Herreman- Homer Assistant Area Biologist (907) 235-2448 jason.herreman@alaska.gov	Homer
Governmental Organization	Alaska Department of Fish and Game	Jeff Selinger-Soldotna Area Biologist (907) 262-9368 jeff.selinger@alaska.gov	Soldotna
Governmental Organization	USFWS	Bill Raften- Southern Refuge Manager Bill_raften@fws.gov	Kenai
Governmental Organization	USFWS Homer	Marc Webber- Deputy Refuge Manger (907) 226-4605 Marc_webber@fws.gov	Homer

Organization Type	Name	Contact Information	Location
Wildlife Organization	The Alaska Zoo	Shannon Jensen sjensen@alaskazoo.org	Anchorage
Local Organization	USFWS Alaska Maritime National Wildlife Refuge Islands and Oceans Visitor Center	Marc Webber- Deputy Refuge Manger (907) 226-4605 Marc_webber@fws.gov	Homer
Aircraft			
Aviation Services	Alaska West Air Inc	(907) 776-5147	Nikiski
Aviation Services	High Adventure Air Charter	(907) 262-5237	Soldotna
Aviation Services	Kenai Aviation	(907) 283-4124	Kenai
Aviation Services	NorthAir Inc.	(907) 776-8985	Kenai
Aviation Services	Homer Air	(800) 478-8591	Homer
Aviation Services	Bald Mountain Air Services	(907) 235-7969	Homer
Aviation Services	Pathfinder Aviation	(907) 226-2800	Homer
Food Safety			
Public Health Organization	State of Alaska, Alaska Section of Epidemiology	Environmental Public Health Program (907) 269-8000 eph@alaska.gov	Regional
Tribal Health Organization	Alaska Native Tribal Health Consortium	Jim Berner jberner@anthc.org	Regional

Media Outreach	Contact
Alaska Pubic Media/KSKA	Submit a community announcement: https://www.alaskapublic.org/about/contact
Anchorage Daily News	(907) 257-4200 advertising@adn.com
Peninsula Clarion	Phone: (907) 283-7551 advertising@peninsulaclarion.com
Homer Tribune	(907) 235-7767 Submit a community announcement: https://www.homernews.com/contact/
Informational flyers to communities	See Community Contact Information
UAF Alaska Sea Grant Marine Advisory Program	Davin Holen (907) 274-9697 dlholen@alaska.edu

Organization Type	Community Name	Tribal Contact	Corporation Contact
Community	Chickaloon	Chickaloon Village Traditional Council PO Box 1105 Chickaloon, AK 99674 (907) 745-0737 cvenvironmental@chickaloon.org	Chickaloon Moose Creek Native Assoc Inc. P.O. Box 875046 Wasilla, Alaska 99687 (907) 373-1145 mcna@mtaonline.net
Community	Eklutna	Native Village of Eklutna 26339 Eklutna Village Rd Chugiak, AK 99567 (907) 688-6020 nve@eklutna-nsn.gov	Eklutna, Inc. 16515 Centerfield Dr #201 Eagle River, AK 99577 (907) 696-2828 info@eklutnainc.com
Community	Kenai	Kenaitze Indian Tribe Brenda Trefon, Environmental Director P.O. Box 988 Kenai, AK 99611-0988 (907) 398-7933 BTrefon@kenaitze.org	Kenai Native Assoc. Inc. 2115 Fidalgo Avenue, Suite 101 Kenai, AK 99611 (907) 283-4851
Community	Knik	Knik Tribal Council 1744 Prospect Dr. Palmer, AK 99645 (907) 373-7991	Knikatnu, Inc. 165 Parks Hwy #202 Wasilla, AK 99654 (907) 376-2845

Organization Type	Community Name	Tribal Contact	Corporation Contact
Community	Nanwalek	Nanwalek IRA Council/Native Village of Nanwalek John Kvasnikoff, First Chief P.O. Box 8028 Nanwalek, AK 99603 (907) 281-2252 kvasnikoffjohn@yahoo.com	English Bay Corporation 1637 Stanton Ave. Anchorage, AK 99508 (907) 562-4703
Community	Ninilchik	Ninilchik Village Tribe/Traditional Council Darrel Williams-Ninilchik Natural Resource Director (907) 567-3815 Darrel@ninilchiktribe-nsn.gov	Ninilchik Native Association Richard Encelewski, President 701 West 41st. St., Suite 103 Anchorage, AK 99503-6604 (907) 562-8654 nnai@nnai.net
Community	Port Graham	Native Village of Port Graham Patrick Norma, First Chief P.O. Box 5510 Port Graham, AK, 99603-5510 (907) 284-2227 pnormanvc@hotmail.com	Port Graham Corporation Jon Shepherd, President & CEO 431 W 7th Ave #201 Anchorage, AK 99501 (907) 272-7432 edm@portgrahamcorp.com
Community	Salamatof	Salamatof Tribal Council/Salamatof Native Association, Inc. P.O. Box 2682 Kenai, AK 99611-2682 (907) 283-7864 info@salamatof.com	N/A

Organization Type	Community Name	Tribal Contact	Corporation Contact
Community	Seldovia	Seldovia Village Tribe Crystal Collier, President/CEO 206 Main Street Seldovia, AK, 99663 (907) 234-7898 ccollier@svt.org	Seldovia Native Association Tony Cange, Chief Executive Officer P.O. Box A Seldovia, Alaska 99663 (907) 234-7625 info@snai.com
Community	Tyonek	Native Village of Tyonek Arthur Standifer, President P.O. Box 82009 Tyonek, AK, 99682-0009 (907) 583-2111 janell-b@tyonek.net	Tyonek Native Corporation Leo Barlow, Chief Executive Officer 1689 C Street, Suite 219 Anchorage, AK 99501-5131 (907) 272-0707 lbarlow@tyonek.com

Region	Location	Language
Kodiak	All Communities	Alutiiq

Organization Type	Name	Contact Information	Location
Stranding Agreement Holder	Sun'aq Tribe of Kodiak	Tom Lance or Kelly Krueger (907) 486-4449 talance@sunaq.org or kkrueger@sunaq.org	Kodiak
Co-Management Group	Indigenous People's Council for Marine Mammals	(907) 349-8006	Anchorage
Co-Management Group	The Alaska Sea Otter and Steller Sea Lion Commission	Lianna Jack (907) 286-2377	Old Harbor
Oil Spill Response Organization	Alyeska SERVS	Ken Wilson kenneth.wilson@alyeska-pipeline.com	Kodiak
Oil Spill Response Organization	Chadux	Chris Burns—Preparedness Manager- Chadux 24 Hour Phone: (907) 348-2365	Kodiak
Regional Native Corporation	Koniag, Inc.	Peter Olsen, Lands and Natural Resources Department (907) 317-0083 lands@koniag.com or Alex Troxell, Shareholder Services & Lands Coordinator (907) 486-2530 atroxell@koniag.com	Kodiak

Organization Type	Name	Contact Information	Location
Regional Tribal Health Organization	Kodiak Area Native Association	Tyler Kornelis, Project Manager (907) 486-1393 Tyler.Kornelis@kodiakhealthcare.org Stephanie Mason, Regional Environmental Coordinator (907) 486-1315 Stephanie.mason@kodiakhealthcare.org	Kodiak
Tribal Organization	Alutiiq Tribe of Old Harbor	Alicia Inga, Tribal Administrator, ainga@alutiiqtribe.org Lepani Nadore, Environmental Coordinator (907) 286-2315 lnadore@alutiiqtribe.org	Old Harbor
Tribal Organization	Old Harbor	Melissa Berns, Old Harbor Native Corporation; Jim Cedeno Emergency Management, Alutiiq Tribe of Old Harbor (907) 286-2215	Old Harbor
Tribal Organization	Old Harbor Native Corporation	Melissa Berns- Board Member (907) 286-2286 or Jeff Peterson- Chairman (907) 278-6100	Old Harbor
Tribal Organization	Leisnoi, Inc.	Gordon Pullar, Jr., Tangirnaq Native Village Chair (907) 261-4064 gpullar@koniag.com	Kodiak
Tribal Organization	Sun'aq Tribe of Kodiak	Tom Lance, Natural Resources Director (907) 486-4449 talance@sunaq.org Kelly Krueger, Tribal Biologist kkrueger@sunaq.org	Kodiak

Organization Type	Name	Contact Information	Location
Tribal Organization	Kodiak Rural Leadership Forum	Robbie Townsend Vennel, Forum Facilitator/Coordinator (907) 299-6185 kodiakruralleadershipforum@gmail.com	Kodiak
Tribal Organization	Afognak Native Corporation	Howard Valley, Lands Director (907) 486-6014 howard@afognak.com	Kodiak
Tribal Organization	Kaguyak Tribal Council	Phyllis Amodo, President (907)836-2231 kaguyak.tribal.council@gmail.com	Akhiok
Tribal Organization	Native Village of Akhiok	Jeanetta Rastopsoff, President (907) 836-2313 jeanetta.rastopsoff@kodiakhealthcare.org	Akhiok
Tribal Organization	Karluk IRA Council	Alicia Andrew, President (907) 241-2218 KarlukIRACouncil@aol.com	Karluk
Tribal Organization	Native Village of Afognak	Melissa Borton, Tribal Administrator (907) 486-6357 mborton01@afognak.org	Afognak
Tribal Organization	Native Village of Larsen Bay	Susan Malutin, President 907-847-2207 larsenbaytribe@gmail.com Alex Panamaroff, IGAP Coordinator (907) 847-2207 larsenbayigap@gmail.com	Larsen Bay
Tribal Organization	Native Village of Ouzinkie	Fred Shanagin, IGAP Coordinator (907) 680-2245 ouz.epa@gmail.com	Ouzinkie

Organization Type	Name	Contact Information	Location
Tribal Organization	Native Village of Port Lions	Yvonne Mullan, Tribal Administrator (907) 454-2234 nativevillageofportlions@gmail.com	Port Lions
Tribal Organization	Tangirnaq Native Village (Woody Island)	Gordon Pullar, Jr., Tangirnaq Native Village Chair (907) 261-4064 gpullar@koniag.com	Woody Island
Local Organization	Kodiak Harbormaster	Harbormaster Derek Magnasson [cell (907) 942-0258] or deputy Monte Anderson [cell (907) 942-2803] (907) 486-8080	Kodiak
Local Organization	Kodiak Regional Aquaculture Association	Tina Fairbanks, Executive Director (907) 486-6555 kraa.fairbanks@gci.net	Kodiak
Local Emergency Response	Kodiak Wildlife Troopers	Lt. Jonathon Streifel, Deputy Commander (907) 486-4761 jonathan.streifel@alaska.gov	Kodiak
Local Emergency Response	USCG	Lt. Rich Cherkauer- Marine Safety Detachment. Kodiak Spill Response. (907) 486-5918, 24hour duty cell: (907) 654-4069	Kodiak
Local Emergency Response	USCG	Chief Base Officer- CG Base Facilities (907) 487-5256	Kodiak
Local Emergency Response	USCG	Commanding Officer-CG Air Operations (907) 487-5836	Kodiak
Local Emergency Response	USCG	Vessel support- Sector 17 Anchorage Lt. Commander Matt Hobbie (907) 428-4111 Matthew.M.Hobbie@uscg.mil	Kodiak
Governmental Organization	Lake and Peninsula Borough	Chuck McCallum- Natural Resources	Chignik
Governmental Organization	City of Akhiok	Mayor Dan McCoy (907) 836-2229 or (907) 486-8640	Akhiok

Organization Type	Name	Contact Information	Location
Governmental Organization	Kodiak City Manager	Michael Tvenge mtvenge@city.kodiak.ak.us	Kodiak
Transportation Organization	AK Marine Highway Kodiak	(907) 486-3800	Kodiak

Organization Type	Name	Contact Information	Location
Seafood Processors			
Seafood Processor	Peter Seafoods	Contact Fleet Managers.	Dillingham, King Cove, Port Moller, and Valdez
Seafood Processor	Trident Seafoods	Contact Fleet Managers.	Kodiak, Akutan, Chignik, Cordova, Ketchikan, North Naknek, Petersburg, Sand Point, St. Paul, and Wrangell
Seafood Processor	Icicle Seafood	Fleet manager Carrie Hoofnagle Phone: (907) 359-2897	Larsen Bay and Kodiak Island
Aircraft			
Aircraft Services	Andrew Airways	Phone: (907) 487-2566	Kodiak
Aircraft Services	Island Air	Phone: (907) 487-4596	Kodiak
Aircraft Services	Sea Hawk Air	Phone: (907) 486-8282	Kodiak
Aircraft Services	Kingfisher Aviation	Phone: (907) 486-5155	Kodiak
Aircraft Services	Kodiak Airport	Phone: (907) 487-4363	Kodiak
Aircraft Services	Island Trail Network	Andy Schroeder Phone: (888) 301-0568 Email: info@islandtrails.org	Kodiak
Aircraft Services	Vertigo Air	Phone: (907) 512-2030 Email: vertigoflyer@yahoo.com	Kodiak
Aircraft Services	Deckload Aviation	Phone: (907) 512-0744 Email: deckloadaviation@gmail.com	Kodiak

Food Safety			
Public Health Organization	State of Alaska, Alaska Section of Epidemiology	Environmental Public Health Program Phone: (907) 269-8000 E-mail: eph@alaska.gov	Regional

Media Outreach	Contact
KMXT 100.1 Radio	Phone: (907) 486-3181
Kodiak Daily Mirror	Phone: (907) 486-3227 Email: info@KodiakDailyMirror.com
UAF Alaska Sea Grant Marine Advisory Program	Julie Matweyou Email: Julie.matweyou@alaska.edu
Informational flyers to communities	See Community Contact Information

Organization Type	Community Name	Tribal Contact	City Contact
Community	Akhiok	Native Village of Akhiok Jeanetta Rastopsoff, President P.O. Box 5030 Akhiok, AK 99615 (907) 836-2313 jeanetta.rastopsoff@kodiakhealthcare.org	City of Akhiok P.O. Box 5050 Akhiok, AK 99615 907-836-2229 city_of_akhiok10@yahoo.com
Community	Kodiak	Sun'aq Tribe of Kodiak Tom Lance, Natural Resources Director 312 W Marine Way Kodiak, AK 99615 (907) 486-4449 talance@sunaq.org	City of Kodiak 710 Mill Bay Road Kodiak, AK 99615 (907) 486-8636
Community	Larsen Bay	Native Village of Larsen Bay P.O. Box 50 Larsen Bay, AK 99624 (907) 847-2207	City of Larsen Bay PO Box 8 Larsen Bay, AK 99624 Phone:(907) 847-2211 cityoflarsenbay@gmail.com
Community	Old Harbor	Alutiiq Tribe of Old Harbor Old Harbor, AK 99643 (907) 286-2215	City of Old Harbor PO Box 109 Old Harbor, AK 99643 (907) 286-2204 oldharborcitycouncil@gmail.com

Organization Type	Community Name	Tribal Contact	City Contact
Community	Ouzinkie	Native Village of Ouzinkie P.O. Box 130 Ouzinkie, AK 99644 (907) 680-2259 nvo.clerk@gmail.com	City of Ouzinkie PO Box 109 Ouzinkie, AK 99644-0109 (907) 680-2209 cityofouzinkie@ouzinkie.org
Community	Port Lions	Native Village of Port Lions 2006 Airport Rd Port Lions, AK 99550 (907) 454-2234	City of Port Lions PO Box 110 Port Lions, AK 99550 907-454-2332 cityofportlions@gmail.com;

Appendix 4

Needed Equipment Lists to Meet NMFS Alaska Response Standards v181226

Appendix 4 –Needed Equipment Lists to Meet NMFS Alaska Response Standards

Supplies	Unit	General Reqmt	Sample 50 Live/Dead	Nx 50 Dead	Capture/ Rehab 25 Pinnipeds		Capture/ Rehab 2 Cetaceans		Store 1000 Samples
			Field Processing	Facility Processing	Recovery	Care	Recovery	Care	
PPE									
Nitrile gloves (S,M,L,XL)	case	1 case each							
Tyvek (M,L,XL)	case	1 case each							
Boots (sized to responders)	pair	12 Pair							
Slickers	pair				6	6	6	6	
Rain Jackets	each	12							
Herding boards	each				6	6			
Leather/Kevlar gloves	pair				6	6			
Safety Glasses	each	12							
face shield	each					4		4	
PFDs	each	4							
Knee pads	pairs					6			
First Aid Kits	each	1							
Office Supplies									
Clip boards	each	5							
Folders	each	10							
Paper (reams)	ream	2							
Rite in the rain notebook	each	10							
Rite in the rain paper, 200 sheets/box	box	1							
Printer	each	1							
Laptop	each	2							
Pencils	each	20							
Digital camera	each		1	1	1	1	1	1	
Dry erase board	each		1	1	1	1	1	1	
Dry erase markers (asst. colors)	each		2	2	2	2	2	2	
Industrial Sharpies	each	25							
Pens, Ball point	Box	20							

Appendix 4 –Needed Equipment Lists to Meet NMFS Alaska Response Standards

Supplies	Unit	General Reqmt	Sample 50 Live/Dead	Nx 50 Dead	Capture/ Rehab 25 Pinnipeds		Capture/ Rehab 2 Cetaceans		Store 1000 Samples
			Field Processing	Facility Processing	Recovery	Care	Recovery	Care	
Paperwork/Forms									
Search effort log	each				50		5		
Photo log	each	10							
Marine mammal stabilization form	each				30		2		
COC forms	each	1000							
Marine mammal Intake Forms	each					50		10	
Animal collection tags	each				50		10		
Level A Forms	each		50	50	50		10		
NOAA dead animal log	each		3						
NOAA live animal log	each					2		1	
Oiled marine mammal necropsy form	each			60					
Laminated Photo evidence labels	each		5	5					
Photo log form	each		5	5		2		2	
Personnel forms	each	20							
Reference Materials									
Marine Mammals Ashore - Geraci and Lounsbury	each	1							
OPR-52 - Ziccardi et al	each	1							
The Pinnipeds - Riedman	each				1	1			
Zoo Animal and Wildlife Immobilization and Anesthesia - West	each				1	1	1		
Formulary	each					1		1	
Handling and Care									
carrier poles	pair				1		1	1	
Cetacean stretcher	each						1	1	

Appendix 4 –Needed Equipment Lists to Meet NMFS Alaska Response Standards

Supplies	Unit	General Reqmt	Sample 50 Live/Dead	Nx 50 Dead	Capture/ Rehab 25 Pinnipeds		Capture/ Rehab 2 Cetaceans		Store 1000 Samples
			Field Processing	Facility Processing	Recovery	Care	Recovery	Care	
Handling and Care Continued									
Restraint Nets	each				2				
Nylon rope 50'	each		1		1				
sprayers (for Cetacean cooling)	each						1		
towels	each				50	50			
wheel barrows	each					1			
feeding buckets	each					5			
Feeding syringes	each					10			
feeding tongs	each					5			
feeding tubes	each					30			
Water dishes	each					10			
Kitchen Knives	each					2			
Dip nets	each				2				
Tangle nets	each				1				
cutting board	each				2				
Food items, Appropriate for Spp.	case					10		10	
Dawn Soap	gallon					10		2	
pet dryers	each					2			
Rinse nozzles	each					2			
Wash gauntlets	pair					4			
Wash table	each					1			
Wash Aprons	each					4			
Heating pads	each					5			
Bair Hugger	each					1			
Large Metal transport boxes and/or squeeze cages	each				1				
Plastic airline kennels	each				4				
Portable pools	each							1	

Appendix 4 –Needed Equipment Lists to Meet NMFS Alaska Response Standards

Supplies	Unit	General Reqmt	Sample 50 Live/Dead	Nx 50 Dead	Capture/ Rehab 25 Pinnipeds		Capture/ Rehab 2 Cetaceans		Store 1000 Samples
			Field Processing	Facility Processing	Recovery	Care	Recovery	Care	
Handling and Care Continued									
Eggshell foam/foam mat	each						1		
Trash bags	box	100							
5 gallon buckets	each	10							
Scrub brushes	each			2		2		2	
Hoses	each			1		4		4	
Blender	each					1		1	
Food Handling Utensils	set					1		1	
Spatulas	each					1		1	
flipper tags	each					30			
Measuring tapes	each		2	2		2		2	
PIT tag reader or similar	each					1			
PIT tags or similar	each					30			
Scale	each			1		1		1	
tagging gun	each					1			
mosquito forceps	each		1			1		1	
Paint/Grease Sticks (asst colors)	each					5			
Wooden tongue depressors	box		1			1		1	
Cotton gauze squares (4x4)	Sleeve		1			2		2	
Reclosable plastic bags	box		1	1		1		1	
Aluminum foil 1x1000 ft	roll		1	2		1	1	1	
[Cleaning equipment]	set	1							
Medical Equipment									
Endotracheal tubes, Appropriate size for Spp.	each					4		1	
Ambu bag 2L	each					1			

Appendix 4 –Needed Equipment Lists to Meet NMFS Alaska Response Standards

Supplies	Unit	General Reqmt	Sample 50 Live/Dead	Nx 50 Dead	Capture/ Rehab 25 Pinnipeds		Capture/ Rehab 2 Cetaceans		Store 1000 Samples
			Field Processing	Facility Processing	Recovery	Care	Recovery	Care	
Medical Equipment Continued									
Electric Clippers AND EXTRA #40 BLADES, Blade lube	each					1			
Forceps	each					1			
Hemostats	each					1			
Laryngoscopoe with blades	set					1			
Ophthalmoscope	each					1			
Patient anesthesia monitor	each					1			
Pole syringe	each					1			
Anesthesia Machine and Equipment	set					1			
Rectal thermometer (Standard)	each					1			
Stethescope	each					2			
Blunt/Sharp scissors	each					1			
Wound care instrument pack	each					2			
Glucometer	each					1			
Medical/Sampling Supplies									
Needles and Syringes, Appropriate for Spp.	box					10		10	
Catheters, Appropriate for Spp.	each					100		20	
Scalpel blades	box			4		1		1	
Betadine	gallon					1		1	
Chlorhexidine	gallon					1		1	
Culture swabs w Sponge	each			250		50		25	
Fluid administration sets	box					100		20	
Fluorescein stain	box					2		1	
Isopropyl alcohol	gallon			2		2		1	
Oral electrolytes	Packet					25		10	

Supplies	Unit	General Reqmt	Sample 50 Live/Dead	Nx 50 Dead	Capture/ Rehab 25 Pinnipeds		Capture/ Rehab 2 Cetaceans		Store 1000 Samples
			Field Processing	Facility Processing	Recovery	Care	Recovery	Care	
Medical/Sampling Supplies Continued									
Sterile gloves (selection of sizes)	pair					20		5	
Surgical masks	box			5		1		1	
Suture, Assorted sizes/needles	each					10			
Tape, white waterproof	box					1		1	
Vetwrap 2"	box					4			
Serum Separator Vacutainers	box					2		1	
No Additive Vacutainers or similar	box					2		1	
K3 EDTA Vacutainer tubes	box					2		1	
IV Normasol 1000ml bag or similar	case					100		10	
IV Saline 1000ml bag	case					20		2	
IV sets, 10 drop per ml	each					50		5	
1L Pressure bag	each					1		1	
50% dextrose	bottle					1		1	
5% dextrose 1000ml bag	bag					15		2	
Pharmaceuticals									
Emergency meds, Appropriate for Spp.	set					1		1	
Antibiotics, Appropriate for Spp.	set					1		1	
Nutrititive supplements, Appropriate for Spp.	set					1		1	
Ointments/skin medication, Appropriate for Spp.	set					1		1	
Controlled drugs, Appropriate for Spp.	set					1		1	

Appendix 4 –Needed Equipment Lists to Meet NMFS Alaska Response Standards

Supplies	Unit	General Reqmt	Sample 50 Live/Dead	Nx 50 Dead	Capture/ Rehab 25 Pinnipeds		Capture/ Rehab 2 Cetaceans		Store 1000 Samples
			Field Processing	Facility Processing	Recovery	Care	Recovery	Care	
Necropsy									
Heavy duty Polyethylene tarps, 16' x 20'	each			1					
Heavy duty Polyethylene tarps, 20' x 30'	each			1					
Heavy duty Polyethylene tarps, 12' x 16'	each			1					
heavy duty body bags, 36" x 96" long, w/straps, weight 800 lbs	each			35					
heavy duty body bags, 48" x 100" long, w/straps, weight 450 lbs	each			35					
Cadaver coolers	each			10					
Cutting boards	each			2					
Face shield	each			2					
Knives, large	each			4					
Measuring tape	each			1					
Rulers	each			1					
Sample containers	sets			5					
Hanging Scale	each			1					
Stryker saw	each			1					
Trash bags	each			5					
Necropsy ID/Scale bar markers	each			2					
Misc. Necropsy Instruments	sets			1					
US Plastic Corp reclosable white block bags or similar bag that can withstand freezing	each			400					
Tyvek tags, blank, white, 3" x 4" approx.	each			200					

Supplies	Unit	General Reqmt	Sample 50 Live/Dead	Nx 50 Dead	Capture/ Rehab 25 Pinnipeds		Capture/ Rehab 2 Cetaceans		Store 1000 Samples
			Field Processing	Facility Processing	Recovery	Care	Recovery	Care	
Necropsy Continued									
Evidence strips 6 1/2" x 1 1/4" (redundant w Roll in processing?)	each			40					
2 ml freestanding cryule (cryovial) w/cap, sterile, w/ white block	case			25					
RNAlater RNA stabilization reagent (Qiagen), Cat 76104	ml			25					
Viral transport media	each			40					
Whirlpak write-on clear sampling bags, 4 oz	each			200					
Tyvek tags, blank, white, 3" x 4" approx.	each			200					
Biopsy punches, Miltex 6 mm ref 33-36	each			40					
Glass, closed-top jar w/teflon lid, 250 ml solvent rinsed (I-chem brand), V321-0520	each			40					
Sharps containers, large (2+ gallon)	each			1					
Sharps containers, small (5 quarts or more)	each			1					
Teflon screwtop vials with snap-in tabs 15ml	each			40					
Plumber's teflon tape	rolls			3					
Conical vials 15ml	each			80					
Dichloromethane	L			2					
Whirl-Pak bags 15ml with white label	each			200					
9mil reclosable bag w/ white block 6" x 9" or similar, bag must withstand freezing temperatures	each			400					

Supplies	Unit	General Reqmt	Sample 50 Live/Dead	Nx 50 Dead	Capture/ Rehab 25 Pinnipeds		Capture/ Rehab 2 Cetaceans		Store 1000 Samples
			Field Processing	Facility Processing	Recovery	Care	Recovery	Care	
Necropsy Continued									
40ml amber borosilicate Closed-cap vials 300series	each			72					
Mechanical pencils	each			2					
Knives 9" blade, plastic handle	each			5					
Knives 12" blade, plastic handle	each			3					
Electric knife sharpener	each			1					
Gator I folding saw, 10"	each			1					
Formalin 10% buffered, 5 gal cube	each			1					
Biohazard tags, 3 1/4" x 6" vinyl, pkg 25	each			75					
Evidence security tape, red 108' roll Evidentcrimescene.com	rolls			1					
Evidence box sealing tape, 2" wide	rolls			2					
Evidence box sealing tape, 3" wide	rolls			2					
Scissors, Mayo, 5 1/2" straight	each			2					
Scissors, poultry shears	each			2					
6" flexible plastic english/metric ruler	each			3					
Sani-safe boning hook w/orange handle	each			3					
Ratcheting Branch Loppers	each			2					
1/2L plastic buckets with lids	each			50					
1L plastic buckets with lids	each			50					
2L Plastic buckets with lids	each			50					

Appendix 4 –Needed Equipment Lists to Meet NMFS Alaska Response Standards

Supplies	Unit	General Reqmt	Sample 50 Live/Dead	Nx 50 Dead	Capture/ Rehab 25 Pinnipeds		Capture/ Rehab 2 Cetaceans		Store 1000 Samples
			Field Processing	Facility Processing	Recovery	Care	Recovery	Care	
Infrastructure (Oil-specific)									
Equipment Decon Station (Collapisble berm/tank - Canflex or Fastank?)	each					1		1	
Animal Wash station (Collapsible berm/tank	each					1		1	
Sump Pump (Oil/explosion proof)	each					2		1	
Baker Tank	each					1		1	
15 foot Fiberglass Marine Mammal Pool with LSS	each					3		2	
Freezer (samples)	m^3		0.1	0.5					
Locking Cabinetry	m^3		1	10		1		1	10
Freezer (carcasses)	m^3			25					25

Appendix 5

Equipment List per Response Activity

Appendix 5: Equipment Lists Per Response Activity

Quantities indicated are per team to collect samples from 50 pinnipeds/cetaceans (with 10% added for waste); teams may be field or facility based, and 25 live pinnipeds for rehabilitation activities. Note these lists do not include transportation needs such as 4-wheel drive vehicles, ATV's, snowmachines, and aircraft. These are suggested equipment lists of materials that should be on hand before an oil spill event. This list is not all inclusive and there may be additional items not listed and/or things here that may never be used during an event.

Equipment Lists:

Includes supplies needed for External Oil Sampling, Field Dead Recovery, Field Rescue, Necropsy and (some aspects of) Rehabilitation.

Small communities will have limited to no housing facilities, fresh water or additional food supplies for responders; as such plan on bringing tents/bedding, fresh water and food.

Comprehensive Equipment List for All Activities

Item*	Amount
100 piece multi-color cable ties (thomas and betts)	2 bags/100
1/2" braided rope	100 ft
Heavy duty Polyethylene tarps, 16' x 20'	5ea
Heavy duty Polyethylene tarps, 20' x 30'	2 ea
Heavy duty Polyethylene tarps, 12' x 16'	2 ea
heavy duty body bags, 36" x 96" long, w/straps, weight 800 lbs	1 case (10 bags)
heavy duty body bags, 48" x 100" long, w/straps, weight 450 lbs	1 case (6 bags)
Foam sheet, closed cell, 2" thick, 4ft x 10 ft	2 ea
XL dog crates	10
Toxiban suspension, 240 ml	3 cases/12
Isotonic oral fluids, 1 l bottles	36 ea
Foal stomach tube, 3/8" OD x 7' long	2 ea
Non-irritating surgical lubricant 4.5 oz tube	2 ea
Dawn soap	1 case
Digital Camera	1 per team
Memory cards for digital camera	
dry erase board	1 per team
dry erase markers	3 per team
Waterproof paper (alternate to dry erase board)	
Clipboards, redi-rite stainless w/pencil compartment	3 ea
Sharpie marker, fine point	5 boxes/12
Waterproof copy paper ("rite in the rain"), 8.5" x 11", 200 sheets	2 boxes/ 200 sheets
Keson open-reel measuring tape 100'/30 M	2 ea
Trash bags, 6 mil, 55 gal, RED	box/50

*Brands mentioned may be substituted with other brands of similar quality.

Comprehensive Equipment List for All Activities Continued

Item*	Amount
100 quart Ice chest	1 ea
70 quart ice chest	2 ea
5 gallon buckets, w/lid	10 ea
Paint stick (by Laco)	box/10
DaltonID Rototags, Jumbotag, various colors	100 tags
Dalton ID Rototag, Jumbotag applicator	2 ea
Powder-free Nitrile gloves, small	1 case
Powder-free Nitrile gloves, medium	1 case
Powder-free Nitrile gloves, large	1 case
3M N95 particulate respirator mask, reg	1 case (12 boxes of 20)
goggles, CREWS stryker adjustable	20 ea
Tyvek suits, medium	2 cases/25
Tyvek suits, Large	2 cases/25
Tyvek suits, XL	2 cases/25
Hi-Viz color rain slickers-small	3 ea
Hi-Viz color rain slickers-medium	3 ea
Hi-Viz color rain slickers - large	3 ea
Hi-Viz color rain slickers - X Large	3 ea
Hi-Viz color rain slickers- XX large	3 ea
Rubber boots- size 5 (Servus 16" boots, steel toe)	2 pair
Rubber boots- size 7 (Servus 16" boots w/steel toe)	2 pair
Rubber boots- size 9 (Servus 16" boots w/steel toe)	2 pair
Rubber boots- size 11(Servus 16" boots w/steel toe)	2 pair
Rubber boots- size 13(Servus 16" boots w/steel toe)	2 pair
wooden tongue depressors 6in	pack/100
Fiberglass cloth or cotton cloth gauze	
mosquito forceps	
US Plastic Corp reclosable white block bags, 5"x8"	case 1000
Tyvek tags, blank, white, 3" x 4" approx.	5 packs/100
Aluminum foil food grade double matte sided if possible, 12" x 1000 ft	1 roll
Evidence strips 6 1/2" x 1 1/4", 100 strips	1 pack/100
US Plastic Corp reclosable white block bags, 9" x 12"	case 1000
US Plastic Corp reclosable bag, 13" x 18"	case 500
2 ml freestanding cryule (cryovial) w/cap, sterile, w/ white block	1 case
RNAlater RNA stabilization reagent (Qiagen), Cat 76104	50 ml
Viral transport media	2 boxes of 50 vials
Whirlpak write-on clear sampling bags, 4 oz	1 pack/500

*Brands mentioned may be substituted with other brands of similar quality.

Comprehensive Equipment List for All Activities Continued

Item*	Amount
Tyvek tags, blank, white, 3" x 4" approx.	5 packs/100
Biopsy punches, Miltex 6 mm ref 33-36	2 boxes/50
Scalpel blades, size #60	2 boxes/500
Scalpel handles/dissecting blade handle size #8, gray	1 box/5
Blood tubes, glass, Red/gray tiger serum, 10 ml	1 flat of 100 tubes
Blood tubes, glass, green sodium heparin, 10 ml	1 flat of 100 tubes
Blood tubes, glass, lavender whole blood w/EDTA, 5 ml	1 flat of 100 tubes
Glass, closed-top jar w/teflon lid, 250 ml solvent rinsed (I-chem brand), V321-0520	100 ea
Sharps containers, large (2+ gallon)	1 ea
Sharps containers, small (5 quarts or more)	1 ea
Teflon screwtop vials with snap-in tabs 15ml	100 ea
Plumber's teflon tape	3 rolls
Conical vials 15ml	4 flats/50
Sterile syringes, 10ml, Monoject brand	50 ea
Sterile syringes, 20 ml Monoject brand	50 ea
Sterile syringes, 60 ml Monoject brand	20 ea
Dichloromethane	2L (x2)
Whirl-Pak bags 15ml with white label	1 pack/500
9mil reclosable bag w/ white block 6" x 9"	box 1000
40ml amber borosilicate Closed-cap vials 300series	1 case 72
Sharpie marker, fine point	5 boxes/12
Sharpie marker, extra fine point	5 boxes/12
Mechanical pencils	2 boxes/10
Monoject hypodermic needles 18 G x 1 ½"	1 box/100
Monoject hypodermic needles 20G x 1 ½"	1 box/100
Monoject hypodermic needles 22G x 1 ½"	1 box/100
Monoject hypodermic needles 23G x 1"	1 box/100
Butterfly catheter infusion sets, 19G x 3/4" needle, luer adapter	1 box/50
Butterfly catheter infusion sets , 22G x 3/4" needle, luer adapter	1 box/50
Culture swab ™ plus Amies gel w/o charcoal (becton-dickinson#220116)	1 box/50
Culture swabs - with sponge	1 box/50
Sterile swabs	1 box/50
Knives 9" blade, plastic handle	5 ea
Knives 12" blade, plastic handle	3 ea

*Brands mentioned may be substituted with other brands of similar quality.

Comprehensive Equipment List for All Activities Continued

Item*	Amount
5 ' folding table	3 ea
Formalin 10% buffered, 5 gal cube	1 ea
Biohazard tags, 3 1/4" x 6" vinyl, pkg 25	3pk/25
Evidence security tape, red 108' roll Evidentcrimescene.com	1 roll
Evidence box sealing tape, 2" wide	1 roll
Evidence box sealing tape, 3" wide	1 roll
5 " dissecting forceps	5 ea
Scissors, Mayo, 5 1/2" straight	5 ea
Scissors, poultry shears	3 ea
6" flexible plastic english/metric ruler	3 ea
Sani-safe boning hook w/orange handle	3 ea
Hemostat forceps	3 ea
VHF radio	1 per team
Satellite phone	1 per team
Extra gasoline	1 per team
Bear Spray	1 each team
Electric knife sharpener	1 ea
Gator I folding saw, 10" (Ben Meadows)	1 ea

*Brands mentioned may be substituted with other brands of similar quality.

Supply List for Collection of External Oil Samples

To be deployed with field teams collecting external oil samples**.** This supply list assumes the carcass(es) will be left in the field.

Item*	Amount
Digital Camera	1
memory cards for digital camera	1
dry erase board	1
dry erase markers	2
Waterproof copy paper ("rite in the rain"), 8.5" x 11", 200 sheets	2 boxes/ 200 sheets
Clipboards, redi-rite stainless w/pencil compartment	1
Sharpie marker, fine point	2
Paint stick (by Laco)	2
DaltonID Rototags, Jumbotag, various colors	50
Dalton ID Rototag, Jumbotag applicator	1
Powder-free Nitrile gloves, large	1 box
Tyvek suits to fit team members	2 each person
wooden tongue depressors 6in	55
Sterile cotton gauze individually wrapped squares	55
mosquito forceps	1
Reclosable plastic bags, 5"x8"	55
Tyvek tags, blank, white, 3" x 4" approx.	55
Aluminum foil food grade	55 sheets or 1 roll
Evidence strips 6 1/2" x 1 1/4", 100 strips or 1 roll	1 pack/100 strips or 1 roll
VHF radio	1 per team
Satellite phone	1 per team
Extra gasoline	1 per team
Bear Spray	1 each
Bear Guard	1 per team
heavy duty body bags, 36" x 96" long, w/straps, weight 800 lbs	1 case (10 bags)

*Brands mentioned may be substituted with other brands of similar quality.

Supply List for Collection of Carcasses

To be deployed with field teams recovering carcasses.

Item*	Amount w/Team
100 piece multi-color cable ties (thomas and betts)	1 bag/100
1/2" braided rope	100 ft
Heavy duty Polyethylene tarps, 16' x 20'	2
Heavy duty Polyethylene tarps, 20' x 30'	1
Heavy duty Polyethylene tarps, 12' x 16'	
heavy duty body bags, 36" x 96" long, w/straps, weight 800 lbs	1
heavy duty body bags, 48" x 100" long, w/straps, weight 450 lbs	1
Digital Camera	1
Memory cards for digital camera	1
Waterproof copy paper ("rite in the rain"), 8.5" x 11", 200 sheets	as appropriate
Clipboards, redi-rite stainless w/pencil compartment	3 ea
Sharpie marker, fine point	3
Keson open-reel measuring tape 100'/30 M	1
Paint stick (by Laco)	2
Powder-free Nitrile gloves, large	1 box
Tyvek suits to fit team members	2 each person
Steel toe rubber boots to fit team members	1 each person
VHF radio	1 per team
Satellite phone	1 per team
Extra gasoline	1 per team
Bear Spray	1 each team
Bear Guard	1 per team
heavy duty body bags, 36" x 96" long, w/straps, weight 800 lbs	1 case (10 bags)

*Brands mentioned may be substituted with other brands of similar quality.

Supply List for Reconnaissance

Prior to mobilizing for a response, ensure that all equipment is ready and in working condition. Capture and recovery materials, depending on scope of activity, may include:

Item
Communication equipment - portable phones and/or radios
Data recording equipment – GPS unit, maps, data forms, pens, labels
Spotting scope, binoculars
Nets - type varies by species and location of capture
Cages and transport boxes - type varies by species, with frame and/or foam
Stretchers and/or slings - specifically designed to support the species
Large, body size garbage bags, body bags, or large pillowcases
Cane pole or wooden stake/flagging tape (to mark the carcass, if needed- see below)
Rope or other materials to secure carcass from refloating
Water sprayers, buckets, sponges, towels, blankets, etc.
Herding boards
Medical kit - as directed by Vet staff
Personal protection equipment (PPE) and a first aid kit for humans. In addition to PPE required by the Safety Officer to protect personnel from oil exposure, appropriate attire for capture teams includes closed-toed shoes or boots, long-sleeve shirts, long pants, rain gear, coveralls, and organizational identification (e.g., clothing labeled with insignia or logo). Consider bear guard or gun

Supply List for Field Rescue

Quantities reflected are per team to collect 5 pinnipeds (estimated daily max); assumption is there is a larger "stockpile" vs. taken out on a daily basis.

Item*	Amount w/ Team
100 piece multi-color cable ties (thomas and betts)	2 bags/100
1/2" braided rope	100 ft
Foam sheet, closed cell, 2" thick, 4ft x 10 ft	as needed
XL dog crates	as needed
Nets	as needed
Digital Camera	1
Memory cards for digital camera	1
Waterproof copy paper ("rite in the rain"), 8.5" x 11", 200 sheets	20?
Clipboards, redi-rite stainless w/pencil compartment	1
Sharpie marker, fine point	3
Paint stick (by Laco)	2
Powder-free Nitrile gloves, large	1 box
Tyvek suits to fit team members	2 each person
Steel toe rubber boots to fit team members	1 each person
VHF radio	1 per team
Satellite phone	1 per team
Extra gasoline	1 per team
Bear Spray	1 each team
Bear Guard	1 per team

*Brands mentioned may be substituted with other brands of similar quality.

Supply List for Field or Facility Necropsy

Quantities reflected are per team/per animal, assumes external oil sample has already been taken. If external oil sample has not been taken, also include Supply List for External Oil Samples. Tailor PPE clothing and footwear to team specifications.

Item*	Amount
100 piece multi-color cable ties (thomas and betts)	2 bags/100
1/2" braided rope	100 ft
heavy duty body bags, 36" x 96" long, w/straps, weight 800 lbs	1 case (10 bags)
heavy duty body bags, 48" x 100" long, w/straps, weight 450 lbs	1 case (6 bags)
Digital Camera	1 per team
dry erase board	1 per team
dry erase markers	3 per team
Memory cards for digital camera	10
Waterproof copy paper ("rite in the rain"), 8.5" x 11", 200 sheets	2 boxes/ 200 sheets
Clipboards, redi-rite stainless w/pencil compartment	3 ea
Sharpie marker, fine point	5 boxes/12
Trash bags, 6 mil, 55 gal, RED	box/50
100 quart Ice chest	1 ea
70 quart ice chest	2 ea
5 gallon buckets, w/lid	10 ea
Powder-free Nitrile gloves, small	1 case
Powder-free Nitrile gloves, medium	1 case
Powder-free Nitrile gloves, large	1 case
Tyvek suits, medium	2 cases/25
Tyvek suits, Large	2 cases/25
Tyvek suits, XL	2 cases/25
Rubber boots- size 5 (Servus 16" boots, steel toe)	2 pair
Rubber boots- size 7 (Servus 16" boots w/steel toe)	2 pair
Rubber boots- size 9 (Servus 16" boots w/steel toe)	2 pair
Rubber boots- size 11(Servus 16" boots w/steel toe)	2 pair
Rubber boots- size 13(Servus 16" boots w/steel toe)	2 pair
Hi-Viz color rain slickers-small	3 ea
Hi-Viz color rain slickers-medium	3 ea
Hi-Viz color rain slickers - large	3 ea
Hi-Viz color rain slickers - X Large	3 ea
Hi-Viz color rain slickers- XX large	3 ea

*Brands mentioned may be substituted with other brands of similar quality.

Supply List for Field or Facility Necropsy Continued

Item*	Amount
3M N95 particulate respirator mask, reg	1 case (12 boxes of 20)
goggles, CREWS stryker adjustable	20 ea
US Plastic Corp reclosable white block bags, 5"x8"	case 1000
Tyvek tags, blank, white, 3" x 4" approx.	5 packs/100
Aluminum foil food grade double matte sided if possible, 12" x 1000 ft	1 roll
Evidence strips 6 1/2" x 1 1/4", 100 strips	1 pack/100
US Plastic Corp reclosable white block bags, 9" x 12"	case 1000
US Plastic Corp reclosable bag, 13" x 18"	case 500
2 ml freestanding cryule (cryovial) w/cap, sterile, w/ white block	1 case
RNAlater RNA stabilization reagent (Qiagen), Cat 76104	50 ml
Viral transport media	2 boxes of 50 vials
Whirlpak write-on clear sampling bags, 4 oz	1 pack/500
Tyvek tags, blank, white, 3" x 4" approx.	5 packs/100
Biopsy punches, Miltex 6 mm ref 33-36	2 boxes/50
Scalpel blades, size #60	2 boxes/500
Scalpel handles/dissecting blade handle size #8, gray	1 box/5
Blood tubes, glass, Red/gray tiger serum, 10 ml	1 flat of 100 tubes
Blood tubes, glass, green sodium heparin, 10 ml	1 flat of 100 tubes
Blood tubes, glass, lavender whole blood w/EDTA, 5 ml	1 flat of 100 tubes
Glass, closed-top jar w/teflon lid, 250 ml solvent rinsed (I-chem brand), V321-0520	100 ea
Sharps containers, large (2+ gallon)	1 ea
Sharps containers, small (5 quarts or more)	1 ea
Teflon screwtop vials with snap-in tabs 15ml	100 ea
Plumber's teflon tape	3 rolls
Conical vials 15ml	4 flats/50
Sterile syringes, 10ml, Monoject brand	50 ea
Sterile syringes, 20 ml Monoject brand	50 ea
Sterile syringes, 60 ml Monoject brand	20 ea
Dichloromethane	2L (x2)
Whirl-Pak bags 15ml with white label	1 pack/500
9mil reclosable bag w/ white block 6" x 9"	box 1000
40ml amber borosilicate Closed-cap vials 300series	1 case 72
Sharpie marker, fine point	5 boxes/12

*Brands mentioned may be substituted with other brands of similar quality.

Supply List for Field or Facility Necropsy Continued

Item*	Amount
Sharpie marker, extra fine point	5 boxes/12
Mechanical pencils	2 boxes/10
Monoject hypodermic needles 18 G x 1 ½"	1 box/100
Monoject hypodermic needles 20G x 1 ½"	1 box/100
Monoject hypodermic needles 22G x 1 ½"	1 box/100
Monoject hypodermic needles 23G x 1"	1 box/100
Butterfly catheter infusion sets, 19G x 3/4" needle, luer adapter	1 box/50
Butterfly catheter infusion sets , 22G x 3/4" needle, luer adapter	1 box/50
Culture swab ™ plus Amies gel w/o charcoal (becton-dickinson#220116)	1 box/50
Culture swabs - with sponge	1 box/50
Sterile swabs	1 box/50
Knives 9" blade, plastic handle	5 ea
Knives 12" blade, plastic handle	3 ea
Electric knife sharpener	1 ea
Gator I folding saw, 10" (Ben Meadows)	1 ea
5 ' folding table	3 ea
Formalin 10% buffered, 5 gal cube	1 ea
Biohazard tags, 3 1/4" x 6" vinyl, pkg 25	3pk/25
Evidence security tape, red 108' roll Evidentcrimescene.com	1 roll
Evidence box sealing tape, 2" wide	1 roll
Evidence box sealing tape, 3" wide	1 roll
5 " dissecting forceps	5 ea
Scissors, Mayo, 5 1/2" straight	5 ea
Scissors, poultry shears	3 ea
6" flexible plastic english/metric ruler	3 ea
Sani-safe boning hook w/orange handle	3 ea
Hemostat forceps	3 ea
VHF radio	1 per team
Satellite phone	1 per team
Extra gasoline	1 per team
Bear Spray	1 each team
Bear Guard (if in field)	1 per team

*Brands mentioned may be substituted with other brands of similar quality.

Supply List for Rehabilitation Facility

Assumes external oil sample has already been taken. Quantities reflect a target readiness level for 25 live pinnipeds. This is not a comprehensive list. Defer to marine mammal rehabilitation experts (i.e. the Alaska SeaLife Center, or others as designated by NMFS) for comprehensive rehabilitation supply needs. The consumables listed assume a resupply timeframe of 2 weeks.

Item*	Amount
100 piece multi-color cable ties (thomas and betts)	2 bags/100
1/2" braided rope	100 ft
Kiddie pools- large blue, or appropriate shallow water pools	20 ea
Large, deep pool (e.g., K-D pool)	2
Toxiban suspension, 240 ml	1 case/12
Isotonic oral fluids, 1 l bottles	36 ea
Foal stomach tube, 3/8" OD x 7' long	2 ea
Non-irritating surgical lubricant 4.5 oz tube	2 ea
Dawn soap	1 case
Digital Camera	2
dry erase board	2
dry erase markers	3
Memory cards for digital camera	5
Waterproof copy paper ("rite in the rain"), 8.5" x 11", 200 sheets	2 boxes/ 200 sheets
Clipboards, redi-rite stainless w/pencil compartment	3 ea
Sharpie marker, fine point	3 boxes/12
Trash bags, 6 mil, 55 gal BLACK for unoiled solid waste	2 boxes/50
Trash bags, 6 mil, 55 gal CLEAR for oiled solid waste	2 boxes/50
5 gallon buckets, w/lid	2 ea
Paint stick (by Laco)	box/10
DaltonID Rototags, Jumbotag, various colors	30 tags
Dalton ID Rototag, Jumbotag applicator	2 ea
Powder-free Nitrile gloves, small	1 case
Powder-free Nitrile gloves, medium	1 case
Powder-free Nitrile gloves, large	1 case
Tyvek suits, medium	2 cases/25
Tyvek suits, Large	2 cases/25
Tyvek suits, XL	2 cases/25
Rubber boots- size 5 (Servus 16" boots)	2 pair
Rubber boots- size 7 (Servus 16" boots)	2 pair
Rubber boots- size 9 (Servus 16" boots)	2 pair
Rubber boots- size 11(Servus 16" boots)	2 pair
Rubber boots- size 13(Servus 16" boots)	2 pair

*Brands mentioned may be substituted with other brands of similar quality.

Supply List for Rehabilitation Facility Continued

Item*	Amount
Hi-Viz color rain slickers-small	3 ea
Hi-Viz color rain slickers-medium	3 ea
Hi-Viz color rain slickers - large	3 ea
Hi-Viz color rain slickers - X Large	3 ea
Hi-Viz color rain slickers- XX large	3 ea
3M N95 particulate respirator mask, reg	1 case (12 boxes of 20)
goggles, CREWS stryker adjustable	20 ea
2 ml freestanding cryule (cryovial) w/cap, sterile, w/ white block	1 case
RNAlater RNA stabilization reagent (Qiagen), Cat 76104	50 ml
Viral transport media	2 boxes of 50 vials
Blood tubes, glass, Red/gray tiger serum, 10 ml	1 flat of 100 tubes
Blood tubes, glass, green sodium heparin, 10 ml	1 flat of 100 tubes
Blood tubes, glass, lavender whole blood w/EDTA, 5 ml	1 flat of 100 tubes
Sharps containers, large (2+ gallon)	1 ea
Sharps containers, small (5 quarts or more)	1 ea
Sterile syringes, 10ml, Monoject brand	50 ea
Sterile syringes, 20 ml Monoject brand	50 ea
Sterile syringes, 60 ml Monoject brand	20 ea
Mechanical pencils	2 boxes/10
Monoject hypodermic needles 18 G x 1 ½"	1 box/100
Monoject hypodermic needles 20G x 1 ½"	1 box/100
Monoject hypodermic needles 22G x 1 ½"	1 box/100
Monoject hypodermic needles 23G x 1"	1 box/100
Butterfly catheter infusion sets, 19G x 3/4" needle, luer adapter	1 box/50
Butterfly catheter infusion sets , 22G x 3/4" needle, luer adapter	1 box/50
Culture swab ™ plus Amies gel w/o charcoal (becton-dickinson#220116)	1 box/50
Culture swabs - with sponge	1 box/50
Sterile swabs	1 box/50
5 ' folding table	3 ea
Hemostat forceps	3 ea
100 piece multi-color cable ties (thomas and betts)	2 bags/100
1/2" braided rope	100 ft
Kiddie pools- large blue, or appropriate shallow water pools	20 ea
Large, deep pool (e.g., K-D pool)	2
Toxiban suspension, 240 ml	1 case/12

*Brands mentioned may be substituted with other brands of similar quality.

Supply List for Rehabilitation Facility Continued

Item	Amount
Isotonic oral fluids, 1 l bottles	36 ea
Foal stomach tube, 3/8" OD x 7' long	2 ea
Non-irritating surgical lubricant 4.5 oz tube	2 ea
Dawn soap	1 case
Digital Camera	2
dry erase board	2
dry erase markers	3
Memory cards for digital camera	5
Waterproof copy paper ("rite in the rain"), 8.5" x 11", 200 sheets	2 boxes/ 200 sheets
Clipboards, redi-rite stainless w/pencil compartment	3 ea
Sharpie marker, fine point	3 boxes/12
Trash bags, 6 mil, 55 gal BLACK for unoiled solid waste	2 boxes/50
Trash bags, 6 mil, 55 gal CLEAR for oiled solid waste	2 boxes/50
5 gallon buckets, w/lid	2 ea
Paint stick (by Laco)	box/10
DaltonID Rototags, Jumbotag, various colors	30 tags
Dalton ID Rototag, Jumbotag applicator	2 ea
Powder-free Nitrile gloves, small	1 case
Powder-free Nitrile gloves, medium	1 case
Powder-free Nitrile gloves, large	1 case
Tyvek suits, medium	2 cases/25
Tyvek suits, Large	2 cases/25
Tyvek suits, XL	2 cases/25
Rubber boots- size 5 (Servus 16" boots)	2 pair
Rubber boots- size 7 (Servus 16" boots)	2 pair
Rubber boots- size 9 (Servus 16" boots)	2 pair
Rubber boots- size 11(Servus 16" boots)	2 pair
Rubber boots- size 13(Servus 16" boots)	2 pair
Hi-Viz color rain slickers-small	3 ea
Hi-Viz color rain slickers-medium	3 ea
Hi-Viz color rain slickers - large	3 ea
Hi-Viz color rain slickers - X Large	3 ea
Hi-Viz color rain slickers- XX large	3 ea
3M N95 particulate respirator mask, reg	1 case (12 boxes of 20)
goggles, CREWS stryker adjustable	20 ea
2 ml freestanding cryule (cryovial) w/cap, sterile, w/ white block	1 case

*Brands mentioned may be substituted with other brands of similar quality.

Appendix 6

Deterrence Method Practicality Analysis v181224

Ranked Practicality of Various Deterrence Methods:						**Species:**			
Method	**Feasibility given environmental conditions (season, tides, etc.) Yes/No Only continue ranking methods marked YES**	**Efficacy (Double Score)**	**Speed**	**Risk of Injury to personnel**	**Risk of Injury to animal**	**Training Requirements**	**Personnel Required**	**Equipment Available**	**Total**
Oikomi Pipes									
Seal Control Devices									
Aircraft									
Acoustic Deterrent Devices									
Acoustic Harassment Devices									
Fire Hoses									
Vessel Traffic									
Killer Whale Calls									
Mid-Frequency Sonar									
Air Guns									

As detailed in the table below, a practicality analysis of the various deterrence methods being considered can be conducted by enumerating values for the feasibility, efficacy, speed of deployment, risk of injury to personnel, risk of injury to the species, level of training requirements for crews using the method, number of people required to implement the method and equipment availability.

Those methods with the highest score may be better options than those with lower scores, however, scores alone should not be used to make final determinations on deterrence options. Rather, the practicality analysis provides a systematic way to evaluate the major components of a deterrence method, from which a more informed decision can be made.

All ranking should be undertaken by subject matter experts.

There is no one deterrence technique that will work in all situations. The potential benefit of employing a technique will be a product of the current circumstances, how the technique is employed, the experience of the people employing the technique and the degree to which the species are attracted to an area. The risk of exposure to oil must be considered relative to the risk associated with deterrence tactics. In addition to weighing the deterrence options provided, the Wildlife Branch also must consider the costs and benefits associated with taking no deterrence action.

Key to Values in Table*					
Numeric Value	**Assessment of efficacy**	**Estimated time to deploy**	**Risk of Injury to personnel**	**Risk of Injury to animal**	**Feasibility (given environmental conditions)**
0	Unlikely to work	More than 48 hours	Injury highly likely	Previously documented injuries	Yes
1	Unknown efficacy	Within 48 hours	Suspected injury	Suspected injury	No
2	Judged likely to work	Within 24 hours	Injury if misused	Injury if misused	
3	Anecdotal evidence of efficacy	Within 8 hours	Injury unlikely but not well studied	Injury unlikely but not well studied	
4	Documented experience of efficacy	Within 2 hours	Injury unlikely	Injury unlikely	

Numeric Value	Time required to train participants	# of people required	Equipment Availability
0	Greater than one day	More than 50	Requires 3rd party approval (Navy, City, etc.)
1	1 day training	21 to 50	High cost
2	Less than 2 hours training	11 to 20	No local vendor
3	Verbal instruction given at time	5 to 10	Easily purchased and available locally
4	Non-required OR needed permits (and required training) are in place	1 to 4	Available in stock or stored.

*Ranking should only be undertaken by subject matter experts

Appendix 7

Cook Inlet Beluga Whale Monitoring and Deterrence Plan

Introduction and Background

This implementation plan provides guidance for Cook Inlet (CI) beluga whale monitoring and deterrence planning as part of the Cook Inlet & Kodiak Marine Mammal Disaster Response Guidelines.

Deterrence (e.g., hazing) activities during emergency oil spill response are authorized under MMPA/ESA Research and Enhancement Permit 932-1905 issued to the NOAA Fisheries Marine Mammal Health and Stranding Response Program (MMHSRP), Dr. Teri Rowles. Deterrence activities can only commence after authority has been granted by the Regional Stranding Coordinator and as outlined by NMFS.

Cook Inlet beluga whales are listed as endangered under the U.S. Endangered Species Act (ESA) and are also protected by the Marine Mammal Protection Act (MMPA). The Cook Inlet Beluga Whale Recovery Plan identifies oil spills as a high-level threat to this population and lists as a recovery action, to "Review and update oil and hazardous substance spill response plans to minimize effects of spills on Cook Inlet belugas, including strategies to deter Cook Inlet belugas from entering oiled areas" (NMFS 2016).

Evidence suggests that cetaceans are unlikely to detect and avoid spilled oil, and exposure can result in population-level impacts (Harvey and Dahlheim 1994; Loughlin 1994; Matkin et al. 2008; Schwacke et al. 2013; Venn-Watson et al. 2015). As such, Cook Inlet beluga whales should be continuously monitored and decisions about hazing whales should be carefully weighed in view of the potential impacts from the both the hazing activity as well as the risk of oil exposure.

Monitoring

Beginning with notification of a spill, the Wildlife Branch Director, in consultation with the NMFS representative in the UC, will ascertain whether Cook Inlet beluga whales have been observed or are likely to be within 50 miles (8-10 hours) of the spill event by requesting overflights, or seats for wildlife observers on overflights.

The NMFS representative will help to direct the need for overflights (assessment), continuous monitoring, and potentially deterrence.

If beluga whales have been observed or are likely to be within 50 miles, the Branch Director will designate a beluga whale liaison to initiate communications with beluga whale experts, researchers, sighting networks, and advocacy groups to monitor/track the whale's movements relative to clean-up activities and the spill trajectory.

Once whales have been located, the Branch Director (or designee) will determine whether it is safe to dispatch a trained whale observer with significant beluga whale observation experience to the whale's location.

If dispatch of a trained observer to the scene is not safe or feasible, the Branch Director (or designee) should order appropriate resources to collect high definition digital photographs of individual whales at the surface for use by identification experts off scene to identify the quantity and age class composition of whales that are present.

When possible, photographs should be taken in a manner that allows whales to be matched with the Cook Inlet Beluga Whale Photo-Identification Database (protocol courtesy of www.cookinletbelugas.com, Tamara McGuire)

- High resolution images (RAW or fine JPEG)
- Enough light to view contrast
- Minimal glare
- Photos taken at 90^{O} angle to marks or wounds
- Photographs of: the entire whale (entire surfacing sequence in water or entire whale on a stranded animal) the dorsal ridge and side(s) (When we photograph live CIBWs, we rarely see the head and tail region of the whale, therefore most of the whales in the catalog are identified by marks along the dorsal and side regions), and the lower abdomen (to determine sex of whale, mostly just stranded whales)
- Zoomed-in photos of marks (stranded whales)
- For dead whales, include scale in photograph (can be a ruler, coin, pencil, hand, boot, etc.) to indicate the size of the mark or wound being photographed
- Information on whether the photograph is of the left or right side of the whale (if known)
- Time/date stamp- make sure camera settings are accurate, or note correct date/time when submitting the photos
- Information about where the photo was taken (location and lat/long coordinates if possible, mile marker along the Seward Highway)
- Photographer name (for credits)

The Branch Director (or designee) will order real-time, continuous reconnaissance (vessels or aircraft) for continuous monitoring if beluga whales appear to be moving toward the spill, the spill trajectory, or clean-up activities, and/or are found within 20 to 30 miles (6 hours) of oil or trajectory.

Once monitoring begins, the Branch Director (or designee) will consider deterrence to impede the whale's progress toward the spill and will identify available assets to conduct deterrence tactics. Monitors that are tracking whales in the field must provide periodic location updates for comparison with spill location and trajectory forecast information to ascertain if the whale's path may intercept the spill trajectory. A pictorial depiction of these decisions are represented in Figure 1: Decision tree for Cook Inlet Beluga Whale monitoring during an oil spill.

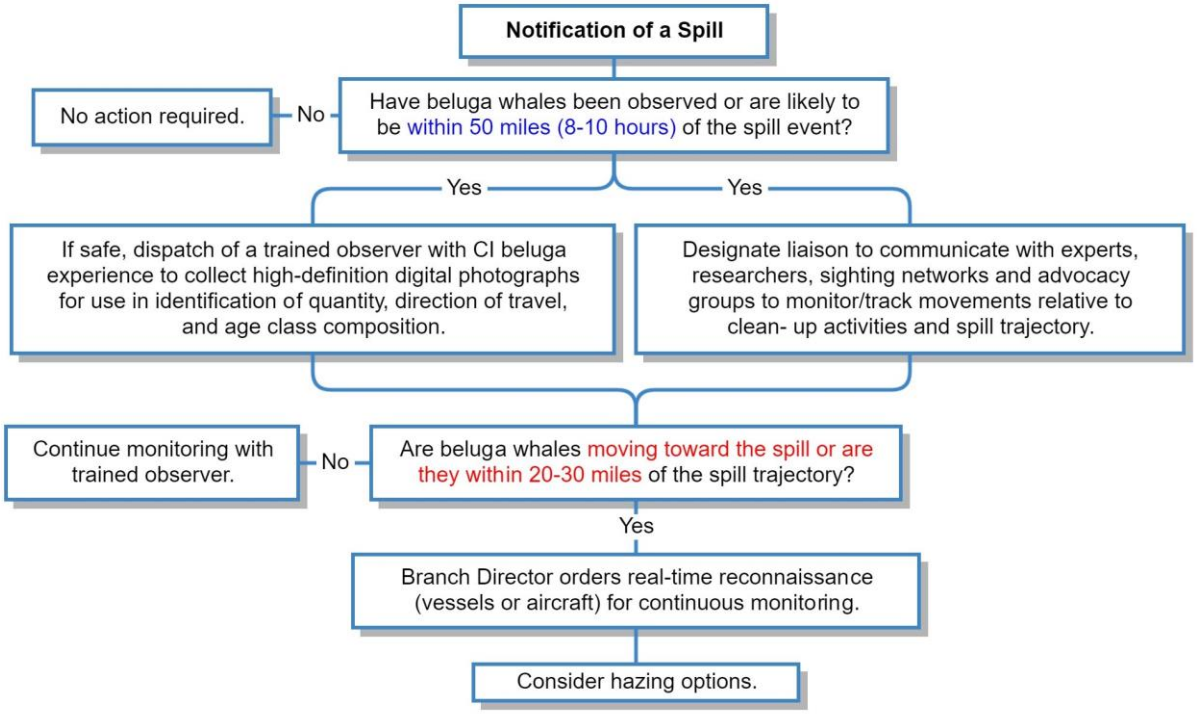


Figure 1. Decision tree for Cook Inlet beluga whale monitoring during an oil spill

Deterrence Decisions

The Deterrence Method Practicality Analysis found in Appendix 6 can be used to help determine the most effective, and least deleterious hazing option. Personnel/groups with Cook Inlet beluga whale behavior and handling experience are identified in Appendix 2 Table 4; these and other subject matter experts, as determined by NMFS, should be involved in identifying if and what deterrence methods should be deployed.

Additional factors to take into consideration before deterrence is undertaken:

- ✓ What is the location and/or the extent of the spill?
- ✓ What are alternative areas that would be safe for marine mammals, and towards which marine mammals should be encouraged to go?
- ✓ What species are present or likely to be at risk?
- ✓ What is the life history status of the mammals at risk (e.g., pregnant, with calf, juveniles vs. adults, etc.)?
- ✓ Who is available with experience and knowledge relevant to hazing the species at risk?
- ✓ Are there techniques known to work on the species at risk?
- ✓ Are the necessary supplies and equipment to implement those techniques available or can they be obtained and mobilized quickly?
- ✓ What are the environmental conditions (e.g., wind and weather)?
- ✓ Will deterrence measures contribute to additional risk to marine mammals and to subsistence uses of those marine mammals?
- ✓ Can the deterrence plan be enacted in a safe manner for people and wildlife?

If deterrence assets have been identified they should be readied for deployment and staged to be on scene if whales are expected to approach within 10 miles (2 hours) of oil or spill trajectory.

Regardless of whether deterrence is implemented, real time monitoring of whale movements within 20 to 30 miles (6 hour reconnaissance buffer) relative to the spill or spill trajectory should be conducted to a) determine if whales have been or are likely to be exposed to oil; and b) to remain prepared for the potential of beluga whales encountering oil or spill response activities.

Potential Immediate Action Deterrence Methods

In situations where immediate action is necessary to prevent Cook Inlet beluga whales from entering oil, managers may choose to use the deterrence/hazing methods that have been pre-approved for the Southern Resident Killer Whale population (refer to Oil Spill Emergency Response Killer Whale— Hazing Implementation Plan, 2012 for thorough discussion). These pre-approved methods, and accompanying diagram are wholly reproduced from the Southern Resident Killer Hazing Plan, and briefly recounted below:

> For the Southern Resident Killer Whale population, NOAA Fisheries has pre-approved; *helicopters, Oikami pipes, and underwater firecrackers* (*seal bombs) deployed from vessels;* for use by response personnel under the direction of the Branch Director and Unified Command to attempt to herd/move whales.
>
> Pre-approved deterrents should be deployed if the risk of entering oil exceeds the risk of disturbing the whales through hazing techniques. Risk to the whales should be assessed based on the proximity of the whales to the oil and their likelihood of entering the oil as well as the type and condition of the oil. The Branch Director will determine whether to activate the Marine Mammal Hazing Unit to implement hazing activities or, if exposure is imminent, to order "on-scene" personnel to attempt hazing. Selection of the most appropriate hazing technique will depend on the particular spill conditions, location of whales, level of risk to the whales, and available assets.
>
> Helicopter hazing may be the most immediately available technique, particularly if there are aircraft available and in use for Reconnaissance. Multiple pre- approved techniques may be implemented in combination (i.e., oikami pipes and firecrackers deployed from the same vessels) or in sequence based on observations of the whales and time needed to mobilize hazing teams. Deployment of pre-approved hazing methods will be directed by the following decision tree (Figure 2 Decision Tree for immediate deployment of Southwest Killer whale pre-approved hazing techniques).

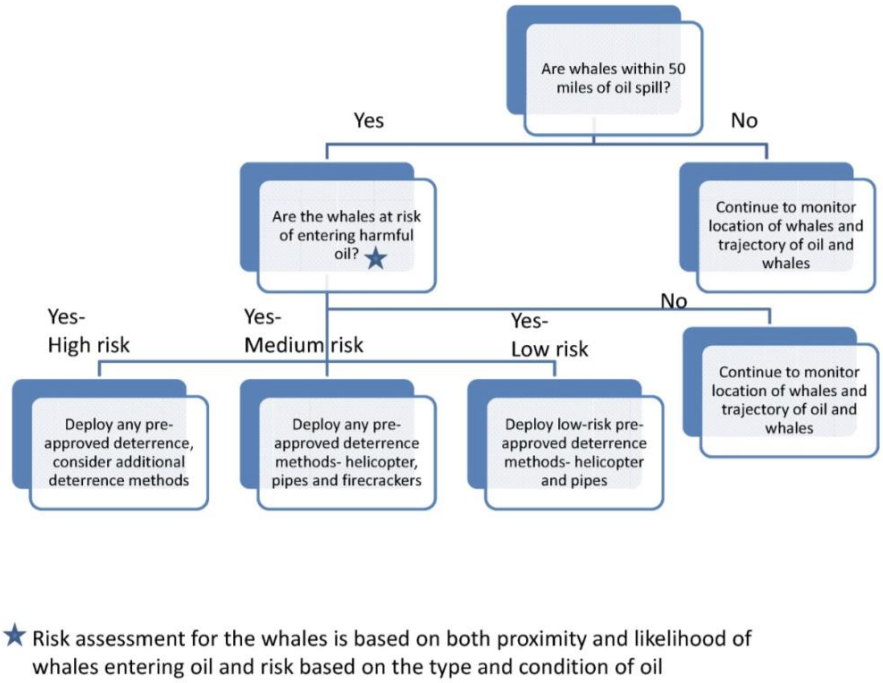


Figure 2. Decision Tree for immediate deployment of southern resident killer whale pre-approved hazing techniques

Appendix 8

8-A: Search Effort Log

8-B: NOAA's Level A Data Form (Front, Back, and Definitions)

8-C: NOAA's Chain of Custody Form and Subsample Form

8-D: Oiled Marine Mammal Data Log – Live Animals

8-E: Oiled Marine Mammal Data Log - Dead Animals

8-F: NOAA's Photograph Log

8-G: Oiled Marine Mammal Evidence Log

8-H: Oiled Marine Mammal Intake Form

8-I: Oiled Marine Mammal Progress Form

Appendix 8-A: Search Effort Log

Search Effort Log

Please record all beaches searched *even if no animals are found.*

Spill Name: _____ Date: _____
Searchers: _____

Note: Time should include all time spent on the beach, even when backtracking. North and south endpoints should be GPS pts. If not, please provide a good description of the area covered. For collected animals, put GPS location here.

	Beach Name	Start Time	End Time	North/West Extreme (Lat/Long)	South/East Extreme (Lat/Long)	Total Distance Searched	Method (by boat, foot, ATV, truck, scan)	Mammals Collected Note: (live/ dead, GPS, ID #)
A								
B								
C								
D								
E								
F								
G								
H								

Appendix 8-B: NOAA's Level A Data Form (Front)

MARINE MAMMAL STRANDING REPORT - LEVEL A DATA

FIELD #: _____ **NMFS REGIONAL #**: _____ (NMFS USE) **NATIONAL DATABASE#**: _____ (NMFS USE)

COMMON NAME: _____ **GENUS**: _____ **SPECIES**: _____

EXAMINER Name: _____ Affiliation: _____

Address: _____ Phone: _____

Stranding Agreement or Authority: _____

LOCATION OF INITIAL OBSERVATION

State: _____ County: _____

City: _____

Body of Water: _____

Locality Details: _____

_____

Lat (DD): _____ . _____ N

Long (DD): _____ . _____ W

☐ Actual ☐ Estimated

How Determined: (check ONE)

☐ GPS ☐ Map ☐ Internet/Software

OCURRENCE DETAILS ☐ Restrand GE# _____ (NMFS Use)

Group Event: ☐ YES ☐ NO

If Yes, Type: ☐ Cow/Calf Pair ☐ Mass Stranding # Animals: _____ ☐ Actual ☐ Estimated

Findings of Human Interaction: ☐ YES ☐ NO ☐ Could Not Be Determined (CBD)

If Yes, Choose one or more: ☐ 1. Boat Collision ☐ 2. Shot ☐ 3. Fishery Interaction

☐ 4. Other Human Interaction:_____

How Determined (Check one or more): ☐ External Exam ☐ Internal Exam ☐ Necropsy

☐ Other: _____

Gear Collected? ☐ YES ☐ NO Gear Disposition: _____

Other Findings Upon Level A: ☐ YES ☐ NO ☐ Could Not Be Determined (CBD)

If Yes, Choose one or more: ☐ 1. Illness ☐ 2. Injury ☐ 3. Pregnant ☐ 4.Other:_____

How Determined (Check one or more): ☐ External Exam ☐ Internal Exam ☐ Necropsy

☐ Other: _____

INITIAL OBSERVATION

Date: Year: _____ Month: _____ Day: _____

First Observed: ☐ Beach or Land ☐ Floating ☐ Swimming

CONDITION AT INITIAL OBSERVATION (Check ONE)

☐ 1. Alive ☐ 4. Advanced Decomposition

☐ 2. Fresh dead ☐ 5. Mummified/Skeletal

☐ 3. Moderate decomposition ☐ 6. Condition Unknown

LEVEL A EXAMINATION ☐ Not Able to Examine

Date: Year: _____ Month: _____ Day: _____

CONDITION AT EXAMINATION (Check ONE)

☐ 1. Alive ☐ 4. Advanced Decomposition

☐ 2. Fresh dead ☐ 5. Mummified/Skeletal

☐ 3. Moderate decomposition ☐ 6. Unknown

INITIAL LIVE ANIMAL DISPOSITION (Check one or more)

☐ 1. Left at Site ☐ 6. Euthanized at Site

☐ 2. Immediate Release at Site ☐ 7. Transferred to Rehabilitation:

☐ 3. Relocated Date: Year:_____ Month:_____Day:___ Facility:_____

☐ 4. Disentangled ☐ 8. Died during Transport

☐ 5. Died at Site ☐ 9. Euthanized during Transport

☐ 10. Other:_____

CONDITION/DETERMINATION (Check one or more)

☐ 1. Sick 7. Location Hazardous

☐ 2. Injured ☐ a. To animal

☐ 3. Out of Habitat ☐ b. To public

☐ 4. Deemed Releasable ☐ 8. Unknown/CBD

☐ 5. Abandoned/Orphaned ☐ 9.Other_____

☐ 6. Inaccessible _____

MORPHOLOGICAL DATA

SEX (Check ONE)

☐ 1. Male

☐ 2. Female

☐ 3. Unknown

AGE CLASS (Check ONE)

☐ 1. Adult ☐ 4. Pup/Calf

☐ 2. Subadult ☐ 5. Unknown

☐ 3. Yearling

☐ Whole Carcass ☐ Partial Carcass

Straight length:_____ ☐ cm ☐ in ☐ actual ☐ estimated

Weight:_____ ☐ kg ☐ lb ☐ actual ☐ estimated

PHOTOS/VIDEOS TAKEN: ☐ YES ☐ NO

Photo/Video Disposition: _____

_____

TAG DATA Tags Were:

Present at Time of Stranding (Pre-existing): ☐ YES ☐ NO

Applied during Stranding Response: ☐ YES ☐ NO

ID#	Color	Type	Placement* (Circle ONE)	Applied	Present
			D DF L LF LR RF RR	☐	☐
			D DF L LF LR RF RR	☐	☐
			D DF L LF LR RF RR	☐	☐

* D= Dorsal; DF= Dorsal Fin; L= Lateral Body
LF= Left Front; LR= Left Rear; RF= Right Front; RR= Right Rear

CARCASS STATUS (Check one or more)

☐ 1. Left at Site ☐ 4. Towed: Lat_____Long_____ ☐ 7. Landfill

☐ 2. Buried ☐ 5. Sunk: Lat_____Long_____ ☐ 8. Unknown

☐ 3. Rendered ☐ 6. Frozen for Later Examination ☐ 9. Other_____

SPECIMEN DISPOSITION (Check one or more)

☐ 1. Scientific collection ☐ 2. Educational collection

☐ 3. Other:_____

Comments: _____

_____

NECROPSIED ☐ NO ☐ YES ☐ Limited ☐ Complete

☐ Carcass Fresh ☐ Carcass Frozen/Thawed

NECROPSIED BY: _____

Date: Year: _____ **Month:**_____ **Day:**_____

NOAA Form 89-864; OMB Control No.0648-0178; Expiration Date 01/31/2017 PLEASE USE THE BACK SIDE OF THIS FORM FOR ADDITIONAL REMARKS

Appendix 8-B: NOAA's Level A Data Form (Back)

ADDITIONAL REMARKS

ADDITIONAL IDENTIFIER: _____ (If animal is restranded, please indicate any previous field numbers here)

DISCLAIMER

THESE DATA SHOULD NOT BE USED OUT OF CONTEXT OR WITHOUT VERIFICATION. THIS SHOULD BE STRICTLY ENFORCED WHEN REPORTING SIGNS OF HUMAN INTERACTION DATA.

DATA ACCESS FOR LEVEL A DATA

UPON WRITTEN REQUEST, CERTAIN FIELDS OF THE LEVEL A DATA SHEET WILL BE RELEASED TO THE REQUESTOR PROVIDED THAT THE REQUESTOR CREDIT THE STRANDING NETWORK AND THE NATIONAL MARINE FISHERIES SERVICE. THE NATIONAL MARINE FISHERIES SERVICE WILL NOTIFY THE CONTRIBUTING STRANDING NETWORK MEMBERS THAT THESE DATA HAVE BEEN REQUESTED AND THE INTENT OF USE. ALL OTHER DATA WILL BE RELEASED TO THE REQUESTOR PROVIDED THAT THE REQUESTOR OBTAIN PERMISSION FROM THE CONTRIBUTING STRANDING NETWORK AND THE NATIONAL MARINE FISHERIES SERVICE.

PAPERWORK REDUCTION ACT INFORMATION

PUBLIC REPORTING BURDEN FOR THE COLLECTION OF INFORMATION IS ESTIMATED TO AVERAGE 30 MINUTES PER RESPONSE, INCLUDING THE TIME FOR REVIEWING INSTRUCTIONS, SEARCHING EXISTING DATA SOURCES, GATHERING AND MAINTAINING THE DATA NEEDED, AND COMPLETING AND REVIEWING THE COLLECTION OF INFORMATION. SEND COMMENTS REGARDING THIS BURDEN ESTIMATE OR ANY OTHER ASPECT OF THE COLLECTION INFORMATION, INCLUDING SUGGESTIONS FOR REDUCING THE BURDEN TO: CHIEF, MARINE MAMMAL AND SEA TURTLE CONSERVATION DIVISION, OFFICE OF PROTECTED RESOURCES, NOAA FISHERIES, 1315 EAST-WEST HIGHWAY, SILVER SPRING, MARYLAND 20910. NOT WITHSTANDING ANY OTHER PROVISION OF THE LAW, NO PERSON IS REQUIRED TO RESPOND, NOR SHALL ANY PERSON BE SUBJECTED TO A PENALTY FOR FAILURE TO COMPLY WITH, A COLLECTION OF INFORMATION SUBJECT TO THE REQUIREMENTS OF THE PAPERWORK REDUCTION ACT, UNLESS THE COLLECTION OF INFORMATION DISPLAYS A CURRENTLY VALID OFFICE OF MANAGEMENT AND BUDGET (OMB) CONTROL NUMBER.

NOAA Form 89-864; OMB Control No.0648-0178; Expiration Date 01/31/2017

Appendix 8-B: NOAA's Level A Data Form (Definitions)

DEFINITIONS OF TERMS FOR LEVEL A VERSION 2007

ADMINISTRATIVE INFORMATION

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

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

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

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

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

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

Affiliation: Affiliation of the examiner who is submitting the report. This could be the same organization as listed below under "Stranding Agreement or Authority", a Designee organization (designee of an Stranding Agreement holder), the agency of a federal, state, or local government official authorized under MMPA Section 109(h), public, citizen or none.

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

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

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

LOCATION OF INITITAL OBSERVATION

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

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

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

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

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

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

- **Global Positioning System (GPS)**
- **Map**
- **Software program/Internet website**

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, 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."

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

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

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

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

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

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

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

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

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

Findings of Human Interaction - 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 human interaction (HI), whether or not you believe they were the cause of death. If you check "Yes," use the back of this form in ADDITIONAL REMARKS to further explain the nature of the injury (or evidence) and how it was assessed and determined to be human related. If possible, document injuries or marks with photographs or sketches/drawings. Describe the injury or mark, the type of fishing gear recovered the location of any wounds (gunshot, fishing gaff, knife incision, line or net entanglement, etc.). Note any external markings or color patterns and if the injury or mark could be determined as antemortem or postmortem (i.e., if animal

seen with injury when alive or by histological confirmation). Also, describe any relevant circumstances regarding the interaction (e.g., whether the interaction was witnessed). Please indicate if you used the Protocol developed by the Virginia Aquarium and Cape Cod Stranding Network entitled "2006 *Protocol for Examining Marine Mammal for Signs of Human Interaction*" and attach a copy of the completed Form to the Level A Data sheet. Also indicate if you have attended training on this protocol.

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

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

If you checked "Yes", check the box that most accurately details the type of human interaction:

Boat Collision - Check if there are any signs of boat or ship collision such as propeller wounds or blunt trauma from a boat hull.

Shot - Check if there are any signs of gunshots. Add in the comments how this was determined (metal detector, bullet found, etc.)

Fishery Interaction - Check if there are any signs of fishery interaction such as wounds related to fishing gear, or fishing gear attached to the animal.

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

How Determined - If you checked "Yes" or "No", describe how the signs of human interaction were determined:

- **External Exam** – The entire external surface of animal is visually assessed for signs of HI. If the entire surface could not be examined, please state why and which parts were looked at (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 examination 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 "SPECIEMEN DISPOSITION."
- **Other –** other obvious signs of HI including presence of gear, and eye witness account of a human interaction.

Gear Collected - Check "Yes" if you collected fishery gear from the animal (hook, line, net, etc.). Check "No" if you did not collect any gear, or if there was no gear to collect.

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

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

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

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

How Determined (check one or more) – if you noted other findings than HI signs, check how this was determined (please use the back of this form in ADDITIONAL REMARKS section to include more detail):

- **External Exam** (see above for definition)
- **Internal Exam** (see above for definition)
- **Necropsy** (see above for definition)
- **Other** – document the process

INITIAL OBSERVATION

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 the how the animal was initially observed:

- **Beach or Land**
- **Floating (in the water)**
- **Swimming.**

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, usually with little scavenger damage; fresh smell; minimal drying and wrinkling of skin, eyes and mucous membranes; eyes clear; carcass not bloated, tongue and penis not protruded; blubber firm and white; muscles firm, dark red, well-defined; blood cells intact, able to settle in a sample tube; serum unhemolyzed; viscera intact and well-defined, gut contains little or no gas; brain firm with no discoloration, surface features distinct, easily removed intact.
- **Moderate Decomposition (Code 3):** Check this box if the carcass was in fair condition (decomposed, but organs basically intact). Carcass intact, bloating evident (tongue and penis protruded) and skin cracked and sloughing; possible scavenger damage; 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.
- **Unknown:** Check this box if the stranded animal was dead at the time of initial observation but information on the condition of the carcass is unavailable.

LEVEL A EXAMINATION

Date – Enter the date of examination that 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 later.

Not Able to Examine - Check this box if you were unable to examine the animal. Some examples would be: 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; manpower/time constraints made a response impossible; etc.

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, usually with little scavenger damage; fresh smell; minimal drying and wrinkling of skin, eyes and mucous membranes; eyes clear; carcass not bloated, tongue and penis not protruded; blubber firm and white; muscles firm, dark red, well-defined; blood cells intact, able to settle in a sample tube; serum unhemolyzed; viscera intact and well-defined, gut contains little or no gas; brain firm with no discoloration, surface features distinct, easily removed intact.
- **Moderate Decomposition (Code 3):** Check this box if the carcass was in fair condition (decomposed, but organs basically intact). Carcass intact, bloating evident (tongue and penis protruded) and skin cracked and sloughing; possible scavenger damage; 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.
- **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.

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

- **Left at Site:** Check if the animal was reported, and was confirmed stranded by a reliable source and acknowledged by the Regional Coordinator, but no response

was made; or the animal was observed by the response team, but no other actions were taken.

- **Immediate Release at Site:** Check if the animal was reported and treated or evaluated, but was not removed from the site.
- **Relocated:** Check if the animal was evaluated or treated, was removed from the site of stranding, and was transported and released at another site without being admitted to an authorized rehabilitation facility.
- **Disentangled:** Check if the animal had entangling gear removed and was released/swam away.
- **Euthanized at Site:** Check if the animal was found alive but was euthanized by an authorized entity.
- **Died at Site:** Check if the animal was found alive and died before transport to an authorized rehabilitation facility or relocation.
- **Transferred to Rehabilitation:** Check if the animal was transported to an authorized rehabilitation facility.
    - **Date** - Fill in the date of the transfer
    - **Facility** - Fill in the name of the authorized rehabilitation facility to which the animal was transferred.
- **Died during Transport**: Check if the animal was found alive and died during transport to a care facility.

- **Euthanized during Transport:** Check if the animal was found alive and was euthanized during transport to an authorized rehabilitation facility by an authorized entity.

- **Other:** Check if the disposition of the live animal differs from the options listed above and document here.

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

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

the beach without an adult female, or a pup/calf that has been monitored and determined to be abandoned. The length of time that the animal should be observed without intervention may be up to 48 hours and varies by region; check with your Regional Stranding Coordinator for your regional policy.

- **Inaccessible:** Check if the animal is in an inaccessible location and therefore was not closely examined (condition could not be determined). Examples of inaccessible locations include: at the base of a cliff, areas with dangerous surf conditions, mudflats, islands, ice, etc.
- **Location Hazardous**
  - **To Animal -** Check if the animal is in a location that is deemed hazardous to its health and welfare (i.e. up a freshwater river, pinnipeds found inland, etc.)
  - **To Public -** Check if the animal is in a location that is deemed hazardous to the public (i.e. a crowded public beach, a marina, etc.)
- **Unknown/CBD**: Check if the animal could not be examined or if the condition could not be determined.
- **Other:** Describe any other situation not addressed above.

MORPHOLOGICAL DATA

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

AGE CLASS (check One): Check the box indicating the animal's age class. If possible, use information based on reproductive organs, teeth or accepted length/age data:

- **Adult**: This age class would be used for an animal that is judged or found upon necropsy to be sexually mature.
- **Subadult**: This age class would be used for a animal that is judged to be greater than one year old, but not yet mature.
- **Yearling**: This age class would be used for an animal that is judged to be approximately one year old, using length or time of year.
- **Pup/Calf:** This age class would be used for a stranded animal that is smaller than yearling size, or in a population where it would be younger than one year old.
- **Unknown**: This age class would be used for an animal if you are unable to determine its age.

Whole Carcass: Check the box if the carcass is sufficiently intact for the Level A morphometric data (straight length, weight) to be collected.

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

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

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

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 documents are housed.

TAG DATA

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

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

NOTE: If no tags were present or applied, the responder should check **"NO"** for both boxes and skip the rest of the section.

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

ID# - Write the number(s) of the identifying tag(s), brand(s), or other applied marking(s), if applicable.
Color - Using basic color-names, indicate the identifying color of tags where applicable.
Type - List the type of tag, brand, or other applied marking. For example, radio, PIT, plastic, roto, spaghetti, satellite, freeze brand, bleach mark, paint, etc.
Placement - Circle (ONE) the location of each applied/present marking:
D = dorsal body
DF = dorsal fin

L = 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 makings 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.

CARCASS/SPECIMEN DISPOSITION

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

- **Left at site** - Check this box if the carcass, including skeleton, was left where it was found to decompose.
- **Buried** - Check this box if most of the carcass, including skeleton, was buried.
- **Rendered** - Check this box if the carcass, including skeleton, was rendered.
- **Towed** - Check this box if the carcass, including skeleton, was towed to sea. Fill in the latitude and longitude of the position where the carcass was left.
- **Sunk** - Check this box if the carcass, including skeleton, was sunk. Fill in the latitude and longitude of the position where the carcass was sunk..
- **Frozen for later examination** - Check this box if all or most of the carcass and/or skeleton was retained and frozen for later examination.
- **Landfill** - Check this box if the carcass, including skeleton, was sent to a landfill or other waste facility.
- **Unknown** - Check this box if the fate of the carcass is unknown or if the carcass was lost.
- **Other** – Check this box if the fate of the carcass is other than what is listed above and document here.

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

- **Scientific collection** - check this box if specimens from the live animal or carcass, including skeletal parts, were retained for scientific research**.**
- **Educational collection** - check this box if specimens from the live animal or carcass, including skeletal parts, were retained for educational purposes.

- **Other** - check this box if the fate of specimens from the live animal or carcass, including skeletal parts, was other than that above and briefly indicate the disposition.
- **Comments** - List comments regarding disposition of the specimen (i.e., identifying which tissues were collected and retained, differentiating where tissues were sent, etc.).

NECROPSY - Indicate "YES" if a necropsy was completed to obtain Level-C data.

- **Limited Necropsy** - A partial necropsy includes a detailed exam of the carcass in which some of the organs or systems are examined, collected, and analyzed according to established protocols, but either the condition of the animal or other factors limits a complete necropsy. Please indicate in the **ADDITIONAL REMARKS** section the systems examined and not examination as well as examination findings.
- **Complete necropsy** - A complete necropsy consists of a detailed exam where the majority of organs are examined, collected (i.e., if feasible, this could include tissues for histopathology) and analyzed according to established protocols. This will include 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.

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 human interaction, morphometrics, necropsy, rehabilitation disposition, etc. Include further details or comments on any of the Level A data fields from the front of the sheet.

Appendix 8-C: NOAA's Chain of Custody Form (Front)

CHAIN OF CUSTODY RECORD			**Case Number:**
DATE AND TIME OF COLLECTION:	AGENCY/FACILITY AFFILIATION:	SEIZED/COLLECTED BY:	
SOURCE OF EVIDENCE/PROPERTY (person and/or location) TAKEN FROM: RECEIVED FROM: FOUND AT:		DEFENDANT/COMPANY NAME AND REMARKS:	

ITEM NO:	DESCRIPTION OF EVIDENCE/PROPERTY/SAMPLE (include seizure tag numbers, field/stranding identification numbers, facility identification name/number, and species)			
ITEM NO:	FROM: (PRINT NAME, AFFILIATION)	RELEASE SIGNATURE	RELEASE DATE:	DELIVERED VIA: FEDEX U.S. MAIL IN PERSON OTHER:
	TO:(PRINT NAME, AFFILIATION)	RECEIPT SIGNATURE	RECEIPT DATE:	
ITEM NO:	FROM: (PRINT NAME, AFFILIATION)	RELEASE SIGNATURE	RELEASE DATE:	DELIVERED VIA: FEDEX U.S. MAIL IN PERSON OTHER:
	TO:(PRINT NAME, AFFILIATION)	RECEIPT SIGNATURE	RECEIPT DATE:	

Appendix 8-C: NOAA's Chain of Custody Subsample Form (Front)

CHAIN OF CUSTODY RECORD *SUBSAMPLE FORM*				**Case Number:**
DATE AND TIME OF COLLECTION:	AGENCY/FACILITY AFFILIATION:		SEIZED/COLLECTED BY:	
SOURCE OF EVIDENCE/PROPERTY			DEFENDANT/COMPANY NAME AND REMARKS:	
ITEM NO:	DESCRIPTION OF EVIDENCE/PROPERTY/SAMPLE (include seizure tag numbers, field/stranding identification numbers, facility identification name/number, and species)			
ITEM NO:	FROM: (PRINT NAME, AFFILIATION)	RELEASE SIGNATURE	RELEASE DATE:	DELIVERED VIA: FEDEX U.S. MAIL IN PERSON OTHER:
	TO:(PRINT NAME, AFFILIATION)	RECEIPT SIGNATURE	RECEIPT DATE:	
ITEM NO:	FROM: (PRINT NAME, AFFILIATION)	RELEASE SIGNATURE	RELEASE DATE:	DELIVERED VIA: FEDEX U.S. MAIL IN PERSON OTHER:
	TO:(PRINT NAME, AFFILIATION)	RECEIPT SIGNATURE	RECEIPT DATE:	

Appendix 8-C: NOAA's Chain of Custody Form (Back)

ITEM NO:	FROM: (PRINT NAME, AFFILIATION)	RELEASE SIGNATURE	RELEASE DATE:	DELIVERED VIA: FEDEX U.S. MAIL IN PERSON OTHER:
	TO:(PRINT NAME, AFFILIATION)	RECEIPT SIGNATURE	RECEIPT DATE:	
ITEM NO:	FROM: (PRINT NAME, AFFILIATION)	RELEASE SIGNATURE	RELEASE DATE:	DELIVERED VIA: FEDEX U.S. MAIL IN PERSON OTHER:
	TO:(PRINT NAME, AFFILIATION)	RECEIPT SIGNATURE	RECEIPT DATE:	
ITEM NO:	FROM: (PRINT NAME, AFFILIATION)	RELEASE SIGNATURE	RELEASE DATE:	DELIVERED VIA: FEDEX U.S. MAIL IN PERSON OTHER:
	TO:(PRINT NAME, AFFILIATION)	RECEIPT SIGNATURE	RECEIPT DATE:	
ITEM NO:	FROM: (PRINT NAME, AFFILIATION)	RELEASE SIGNATURE	RELEASE DATE:	DELIVERED VIA: FEDEX U.S. MAIL IN PERSON OTHER:
	TO:(PRINT NAME, AFFILIATION)	RECEIPT SIGNATURE	RECEIPT DATE:	
ITEM NO:	FROM: (PRINT NAME, AFFILIATION)	RELEASE SIGNATURE	RELEASE DATE:	DELIVERED VIA: FEDEX U.S. MAIL IN PERSON OTHER:
	TO:(PRINT NAME, AFFILIATION)	RECEIPT SIGNATURE	RECEIPT DATE:	
ITEM NO:	FROM: (PRINT NAME, AFFILIATION)	RELEASE SIGNATURE	RELEASE DATE:	DELIVERED VIA: FEDEX U.S. MAIL IN PERSON OTHER:
	TO:(PRINT NAME, AFFILIATION)	RECEIPT SIGNATURE	RECEIPT DATE:	
ITEM NO:	FROM: (PRINT NAME, AFFILIATION)	RELEASE SIGNATURE	RELEASE DATE:	DELIVERED VIA: FEDEX U.S. MAIL IN PERSON OTHER:
	TO:(PRINT NAME, AFFILIATION)	RECEIPT SIGNATURE	RECEIPT DATE:	
ITEM NO:	FROM: (PRINT NAME, AFFILIATION)	RELEASE SIGNATURE	RELEASE DATE:	DELIVERED VIA: FEDEX U.S. MAIL IN PERSON OTHER:
	TO:(PRINT NAME, AFFILIATION)	RECEIPT SIGNATURE	RECEIPT DATE:	

Appendix 8-C: NOAA's Chain of Custody Form (Directions)

Stranding Response: Guidelines for Chain of Custody and Evidence Handling

(Draft 3.11.2011)

Introduction

Stranding responders may be asked to incorporate chain of custody (COC) and special sample and data handling procedures in cases or events that have potential legal implications. These guidelines are intended to provide instructions for common scenarios. Law enforcement from your federal or state agencies can assist with questions and should be consulted whenever necessary. Although the COC and evidence handling may seem daunting at first, the primary objectives are good record keeping and security, with the goal of preserving the integrity and validity of materials. These principles are good practices in stranding investigation regardless of the circumstances. There are two sections in these guidelines: chain of custody and handling of evidence.

I. Chain of custody

Chain of custody is a written record of the origin of evidence and provides a list of people that have had possession of that evidence. The COC record can be used for various purposes, such as to address concerns as to whether items were tampered with or otherwise altered in a manner that is relevant to a given case. Evidentiary items that stranding responders may encounter include: carcasses, biological/diagnostic samples, data sheets and electronic photographic data. Generally, any material collected from a case should be documented under COC. *If you are unsure if an item is considered to be evidence, be conservative and document it*. The best COC record is clearly written and thoroughly documents the history of an evidence item, starting with the collector or initial recipient, and as it passes from person to person, i.e. there are no "breaks" in the chain. Anyone that takes possession of evidence or alters evidence (such as someone who runs an analysis on a sample or performs a necropsy) should appear has having received that evidence on the COC record. The only exception is shipping of samples and couriers (e.g. FedEx delivery personnel), which is covered in a subsequent section. The COC passes from person to person, not facility to facility, e.g. it is not appropriate for one person within a facility to accept custody of an item and another person to release it. *The same person that is the last recipient must be the person who releases the item(s)*.

A COC record format has been developed for stranding response and blank forms are attached to this document. There are both written and electronic fill-in versions of two forms, a **Primary Form** and a **Subsample Form**. The **Primary Form** should be used to document the animal (alive or carcass) and any items collected in the field, such as external samples, fishing gear, field data sheets, and photographs. The **Subsample Form** is used for anything collected from items listed on the primary form, such as clinical samples or necropsy samples. Data sheets can be listed in either form as appropriate depending on when the datasheet is completed. Make sure the number of pages are indicated for each data sheet (see example below). Typically, an animal will have one primary form and one or more subsample forms. You may use the written or electronic forms, although electronic forms are preferred (for legibility purposes). Try to avoid combinations of written and typed entries for the descriptive fields (all except for the release/receipt fields). If you make a mistake, line through the error (single line) add the correction and initial the change. Never scratch out, erase, use white out, or otherwise obscure entries. This rule applies to COC records as well as any other documents, e.g. stranding forms, and is good scientific practice. Use a pen for all written entries, black or blue ink. *Write clearly and legibly*.

Who starts a Primary COC record? Ideally, it is the person who is the initial stranding responder. Subsample forms are started by a hospital manager, veterinarian, or person leading necropsy, i.e. someone primarily responsible for collecting samples/data. If an animal is collected by a member of the public or someone unfamiliar with COC, the person who receives the animal may initiate the COC and enter the relevant information in the "received from" field. **Only one person initiates the COC record.** The following are example forms to illustrate how to fill out a COC record. The first example is the Primary Form for a dead, stranded bottlenose dolphin.

CHAIN OF CUSTODY RECORD

Case Number:

DATE AND TIME OF COLLECTION:	AGENCY/FACILITY AFFILIATION:	SEIZED/COLLECTED BY:
12/12/2010, 1430	NOAA Fisheries, SE Fisheries Science Center	James Smith

SOURCE OF EVIDENCE/PROPERTY (person and/or location)	DEFENDANT/COMPANY NAME AND REMARKS:
TAKEN FROM: RECEIVED FROM: FOUND AT: Grand Isle, Louisiana 29 degrees 14.437'N / 89 degrees 58.806'W	BP Deepwater Horizon Spill Incident (MC252)

ITEM NO:	DESCRIPTION OF EVIDENCE/PROPERTY/SAMPLE (include seizure tag numbers, field/stranding identification numbers, facility identification name/number, and species)
1	JXM2010121201, Tursiops truncatus carcass
2	External swab collected from dorsum of carcass
3	External swab collected from ventrum of carcass
4	Field photographs (DVD) copy 1 of 2
5	Field photographs (DVD) copy 2 of 2
6	**Original data sheet (Level A Data – 2 pages)**

ITEM NO:	FROM: (PRINT NAME, AFFILIATION)	RELEASE SIGNATURE	RELEASE DATE:	DELIVERED VIA:
1-5	James Smith, NOAA Fisheries	*James Smith*	12/12/2010	FEDEX U.S. MAIL IN PERSON OTHER:
	TO:(PRINT NAME, AFFILIATION)	RECEIPT SIGNATURE	RECEIPT DATE:	
	Allison Doe, Ocean World	*Allison Doe*	12/12/2010	

ITEM NO:	FROM: (PRINT NAME, AFFILIATION)	RELEASE SIGNATURE	RELEASE DATE:	DELIVERED VIA:
				FEDEX U.S. MAIL IN PERSON OTHER:
	TO:(PRINT NAME, AFFILIATION)	RECEIPT SIGNATURE	RECEIPT DATE:	

The shaded fields document any transfer of items and who released or received them. **IMPORTANT: The first person to release any items should be the same person as listed in the "Seized/collected by" field at the top of the form.** The numbers of items transferred are entered in the left column. In this simple example, all items were given from the initial responder, James Smith, to Allison Doe. The parties sign the form and the delivery method (in person) is circled.

Case number: This number is assigned by law enforcement, it is left blank unless otherwise instructed.

Date and time of collection: Enter the complete date and time (use military format or indicate am/pm)

Agency/affiliation: Affiliation of the person initiating the form.

Seized/Collected by: Person initiating the form. Do NOT enter multiple people.

Source of evidence/property: Includes any information relevant to the source of evidence. "Taken from" generally is left blank as it applies to a law enforcement action. "Received from" is filled out if some else was the primary source of the item, for example if a member of the public brought in an animal or item. "Found at" includes the physical location and coordinates of the stranding.

Defendant/Company name: For the Northern Gulf = "BP Deepwater Horizon Spill Incident (MC252)"

Item number: All items are given sequential individual numbers. If possible, avoid assigning items a single number.

Description of evidence: Include the stranding identification number, any

The next action that may happen is submission of a sample for analysis. In the example above, the primary stranding responder, James Smith, has transferred everything to Allison Doe at a facility where necropsy is to be performed. Among the items were two external swabs that were collected to determine the identity of an unknown substance on the carcass. Allison needs to ship these samples to a laboratory. **The original primary COC record should remain with the main evidentiary item, typically the live animal or the carcass.** The COC is copied, and then the items are signed as released on both the original and copied forms. The signed copy is sent with the sample to the laboratory. A notation is then entered on the original COC record. This procedure is done the same for the Subsample Form, as shown in the next section. Here is what the bottom of the forms should look like:

Original (still at the same facility as the animal)

ITEM NO:	FROM: (PRINT NAME, AFFILIATION)	RELEASE SIGNATURE	RELEASE DATE:	DELIVERED VIA:
1-5	James Smith, NOAA Fisheries	*James Smith*	12/12/2010	FEDEX U.S. MAIL ~~IN PERSON~~ OTHER:
	TO:(PRINT NAME, AFFILIATION)	RECEIPT SIGNATURE	RECEIPT DATE:	
	Allison Doe, Ocean World	*Allison Doe*	12/12/2010	
ITEM NO:	FROM: (PRINT NAME, AFFILIATION)	RELEASE SIGNATURE	RELEASE DATE:	DELIVERED VIA:
2,3	Allison Doe, Ocean World	*Allison Doe*	12/20/2010	(FEDEX) U.S. MAIL IN PERSON OTHER:
	TO:(PRINT NAME, AFFILIATION)	RECEIPT SIGNATURE	RECEIPT DATE:	
	Shipped to Environmental labs on 12/20/2010			

Copy signed for release (sent with sample and signed upon receipt)

ITEM NO:	FROM: (PRINT NAME, AFFILIATION)	RELEASE SIGNATURE	RELEASE DATE:	DELIVERED VIA:
1-5	James Smith, NOAA Fisheries	*James Smith*	12/12/2010	FEDEX U.S. MAIL ~~IN PERSON~~ OTHER:
	TO:(PRINT NAME, AFFILIATION)	RECEIPT SIGNATURE	RECEIPT DATE:	
	Allison Doe, Ocean World	*Allison Doe*	12/12/2010	
ITEM NO:	FROM: (PRINT NAME, AFFILIATION)	RELEASE SIGNATURE	RELEASE DATE:	DELIVERED VIA:
2,3	Allison Doe, Ocean World	*Allison Doe*	12/20/2010	(FEDEX) U.S. MAIL IN PERSON OTHER:
	TO:(PRINT NAME, AFFILIATION)	RECEIPT SIGNATURE	RECEIPT DATE:	
	Jane Johnson, Environmental Labs	*Jane Johnson*	12/21/2010	

The courier, FedEX in this example, does not sign for custody. Sealing of evidence will be covered in the next section. This is how the COC is split to accommodate sending items to various people/locations. The end result should be that the original COC has notations of where all items are or were sent. The copy sent out with sample now serves as the COC record for that specific sample. If the animal is transferred, then the original primary COC record goes with it and a copy is retained at the facility as the record for any samples remaining in-

house. If the animal is released into wild, retained as a long-term captive, or if the carcass disposed of, keep the COC record with the animal's record unless otherwise instructed.

The **Subsample Form** is used whenever material is derived from an item on the Primary Form. Typical examples are clinical samples, e.g. blood, collected from a live animal, necropsy samples, or division of a sample into smaller quantities. Simply put, if you collect anything from a live or dead animal, initiate a Subsample COC. Continuing with the example of the dolphin, here is how the Subsample Form would be filled out when this animal is necropsied. A subsample form is started by the necropsy lead and all items collected at necropsy are entered.

CHAIN OF CUSTODY RECORD
SUBSAMPLE FORM

Case Number:

DATE AND TIME OF COLLECTION: 12/12/2010, 0800	AGENCY/FACILITY AFFILIATION: Ocean World	SEIZED/COLLECTED BY: Allison Doe
SOURCE OF EVIDENCE/PROPERTY: Necropsy samples collected from JXM2010121201, Tursiops truncatus		DEFENDANT/COMPANY NAME AND REMARKS: BP Deepwater Horizon Spill Incident (MC252)

ITEM NO:	DESCRIPTION OF EVIDENCE/PROPERTY/SAMPLE (include seizure tag numbers, field/stranding identification numbers, facility identification name/number, and species)
1.	Formalinized tissues set 1 of 2
2.	Formalinized tissues set 1 of 2
3.	Tissue samples in I-chem (bile, liver, kidney, blubber)
4.	Tissue samples in foil (liver, lung, kidney, heart)
5.	Stomach contents, enteric contents in I-chem
6.	Necropsy photographs (DVD) copy 1 of 2
7.	Necropsy photographs (DVD) copy 2 of 2
8	**Original data sheet (Necropsy form – 5 pages, Sample collection checklist – 1 page)**

ITEM NO:	FROM: (PRINT NAME, AFFILIATION)	RELEASE SIGNATURE	RELEASE DATE:	DELIVERED VIA:
1	Allison Doe, Ocean World	Allison Doe	12/13/2010	FEDEX / U.S. MAIL / IN PERSON / OTHER:
	TO:(PRINT NAME, AFFILIATION)	RECEIPT SIGNATURE	RECEIPT DATE:	
	Shipped to University Pathology on 12/13/2010			
ITEM NO:	FROM: (PRINT NAME, AFFILIATION)	RELEASE SIGNATURE	RELEASE DATE:	DELIVERED VIA:
3	Allison Doe, Ocean World	Allison Doe	12/15/2010	FEDEX / U.S. MAIL / IN PERSON / OTHER:
	TO:(PRINT NAME, AFFILIATION)	RECEIPT SIGNATURE	RECEIPT DATE:	
	Shipped to NIST Hollings Laboratory		12/15/2010	

Date and time of collection: Date and time of necropsy.

Collected by: Necropsy lead: veterinarian, pathologist, or biologist.

Source: Include any specific identifers for the animal and species.

As in the previous example, specific items are signed as released and their disposition is noted on the original COC subsample record (shown here) and a signed released copy (not shown) is sent with the sample(s). Based on this COC record, all items except for items 1 and 3 should still be in Allison Doe's possession. **The original COC subsample record should stay with the necropsy record at the facility unless otherwise instructed.**

A similar approach is used for clinical samples from a live animal. Here is an example if the dolphin above was a live rehabilitation case:

CHAIN OF CUSTODY RECORD
SUBSAMPLE FORM

Case Number:

DATE AND TIME OF COLLECTION: 12/12/2010	AGENCY/FACILITY AFFILIATION: Ocean World	SEIZED/COLLECTED BY: Dr. Eric Smith

SOURCE OF EVIDENCE/PROPERTY	DEFENDANT/COMPANY NAME AND REMARKS:
Clinical samples collected from JXM2010121201, Tursiops truncatus, name "Dolphin."	

ITEM NO:	DESCRIPTION OF EVIDENCE/PROPERTY/SAMPLE (include seizure tag numbers, field/stranding identification numbers, facility identification name/number, and species)
1.	Serum sample
2.	Serum sample (cryovial)
3.	Blood smear (5x)
4.	Blow hole culture

ITEM NO:	FROM: (PRINT NAME, AFFILIATION)	RELEASE SIGNATURE	RELEASE DATE:	DELIVERED VIA:
1, 3 (1 of 5)	Dr. Eric Smith, Ocean World		12/12/2010	(FEDEX) U.S. MAIL IN PERSON OTHER:
	TO:(PRINT NAME, AFFILIATION)	RECEIPT SIGNATURE	RECEIPT DATE:	
	SHIPPED TO USA PATHOLOGY SERVICES			

ITEM NO:	FROM: (PRINT NAME, AFFILIATION)	RELEASE SIGNATURE	RELEASE DATE:	DELIVERED VIA:
4	Dr. Eric Smith, Ocean World		12/12/2010	FEDEX U.S. MAIL IN PERSON OTHER:
	TO:(PRINT NAME, AFFILIATION)	RECEIPT SIGNATURE	RECEIPT DATE:	
	SHIPPED TO USGS WILDLIFE HEALTH CENTER			

A subsample form can be used for individual samples, or multiple samples on a given day. **If the form includes a single sample that is to be sent out, then the original subsample form should be sent with the sample as no items on that form would be left in possession of the collector (a copy should be retained in the animal's**

record). Another possible exception is shown here. It is standard that some types of samples, such as blood smears or cytology slides, are collected in many replicates. It is acceptable to list the number of replicates and how many are released. In this example, serum and one blood smear are sent for clinical pathology, and one serum sample and four blood smear slides are retained at the facility. A live clinical case likely will have many subsample forms for its duration in rehabilitation.

In summary, here are the steps for COC and shipping items:

1. Copy the original COC record (Primary Form or Subsample Form) that has the item on it.
2. Sign a release of the sample on BOTH the copy AND the original.
3. Note where the item was shipped on the original form and keep the original.
4. Send the signed copy with the shipped sample(s).
5. The person receiving the sample signs the copy and keeps the COC as a the record for that sample(s).

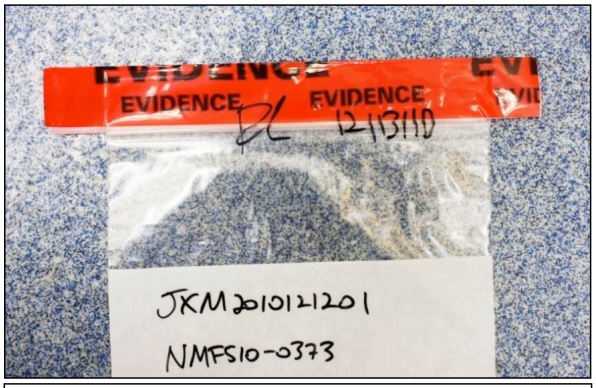
Helpful practices for COC records within facilities/organizations:

1. Have the fewest people possible serve as evidence custodians, and make sure that these individuals are familiar with the guidelines. Evidence can be signed over to one or two designated custodians within an organization, which facilitates transfer of custody.
2. Keep track of anyone who leaves your organization that is listed as a holder of evidence, especially if it will be difficult to reach them. Be sure that they sign over custody to another staff member before they leave. This measure is especially important when temporary personnel are brought in.
3. Do not create gaps in the COC record. **If you are not the last person to have custody of a sample, then you cannot release it.** Chain of custody is from individual to individual, not from organization to organization.
4. Be aware that anyone that assumes custody of evidentiary material is subject to be called upon for legal purposes, such as to verify custody and handling of a sample. This responsibility should not be taken lightly.

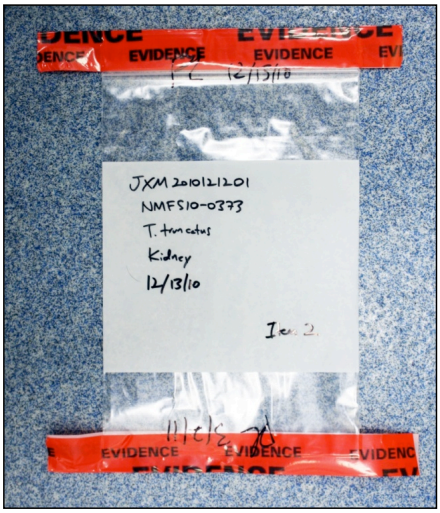
II. Handling of evidence

Sealing samples/evidence

When evidence is collected, it should be preserved in a way that ensures integrity during storage and shipment. All items should be clearly labeled/tagged with identifiers, contents, date of collection, and evidentiary item number. The collector that is the primary evidence holder, i.e. the person listed in the "seized/collected by" field of the COC should seal the sample using tamperproof tape as soon as possible after collection, and *before it is released to the next person*. Tamperproof tape is initialed and dated in manner that would be visibly disrupted if the item was opened/accessed. Here are some examples:



Plastic bags of all shapes and sizes are commonly used to hold evidentiary items/biological samples. The opening should be completely sealed as shown here, and initialed and dated along the edge. Any tampering would be clearly visible. Clean and dry the surface before applying tape. Take time to seal containers thoroughly, avoiding wrinkles, to reduce accidental loss of the seal.



If a sample is accessed, and the seal broken, it should be resealed and the action noted in laboratory notes. For bags, an unsealed part of the bag should be cut open, and then resealed. In this example, the bag was originally sealed on 12/13/2010 and then accessed and resealed on 3/2/11. The original seal is left intact. Note that the evidentiary item number is included on the container label.

Jars are sealed by wrapping tape around the lid or around the entire jar, as shown. The initials and date overlap an area that would be broken if opened.

Helpful practices for sealing evidence

1. Place small items and items that are difficult to seal, such as blood tubes and slides, in a bag and seal the bag.
2. Clean and dry surfaces thoroughly before applying tape and avoid wrinkles and exposed adhesive surfaces.
3. If sealed items are to be frozen, place them in a second bag before freezing. The second bag will reduce potential damage to the tape and the likelihood of accidental loss of the seal after freezing.
4. Use the red/black rolled evidence tape (shown in the photo examples) for frozen samples. The individual strips of tamperproof tape and other brands tend to come off during freezing.

Photographic evidence

Most photographic evidence is in a digital format. Use designated cameras and photo cards. A placard that includes identifiers, such as stranding number and pathology accession numbers, date, and a scale should appear in the photos. It is a good practice to begin each case with a photo placard labeled "start" and the time, and end the photographic series for a case with a placard labeled "end" and the time. **It is critical that photos remain unaltered and sequential.** Do not delete any photos on the camera. The contents of the photocard should be transferred directly to a non-rewritable CD or DVD. The transfer must be direct. Do not transfer photos to a computer hard drive and then to a disk, and do not open the files prior to making copies. Most computers will do this with a card reader and CD/DVD burner. Transfer the complete contents of the disk, do not delete or alter photos for any reason. You can always note the relevant image numbers in the record. Make a minimum of two copies and check to make sure that the photos were successfully written onto the disc. The disks serve as the official photographic evidence. After these official copies have been made and confirmed, it is permissible to copy data onto a hard drive, print images, and format and reuse the electronic photo card.

Security

All items collected as evidence should be stored in a secure, locked area. Freezers containing evidence should be locked. Only keyed locks, not combination locks, should be used. It is best if three or fewer people are designated key holders and primary evidence custodians for a given facility.

Oiled Marine Mammal Data Log: LIVE Animals

Oil Spill Name:				Facility:						
Intake Log Number (L-xxxx)	Date Collected (m/d/y)	Time Coll'ted (24 hr)	Collector Name	Collection Location (Beach Name)	GPS Coordinates (N)	GPS Coordinates (W)	Level A/ Field #	Date Arrived (m/d/y)	Time Arrived (24 hr)	Species

Last updated 1 June 2013

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Oiled Marine Mammal Data Log: LIVE Animal (continued from front side)

Oil Spill Name:				Facility:								
Intake Log Number (L-xxxx)	Date Processed (m/d/y)	Time Processed (24 hr)	Processor Name	Species	Level A Field #	Tag Color/#	% Oiled	Sample/ Photo Taken? (Y/N)	Disposition Date (m/d/y)	Disposition Status (R,D,E,T)	Release Tag #	Morgue ID

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Oiled Mammal Data Log: DEAD Animals

Oil Spill Name:				Facility:									
Intake Log Number (D-xxxx)	Date Collected (m/d/y)	Time Coll'ted (24 hr)	Collector Name	Collection Location (Beach Name)	GPS Coordinates (N)	GPS Coordinates (W)	Level A/ Field #	Date Arrived (m/d/y)	Time Arrived (24 hr)	Date Proc'ed (m/d/y)	Time Proc'ed (24 hr)	Processor Name	Species

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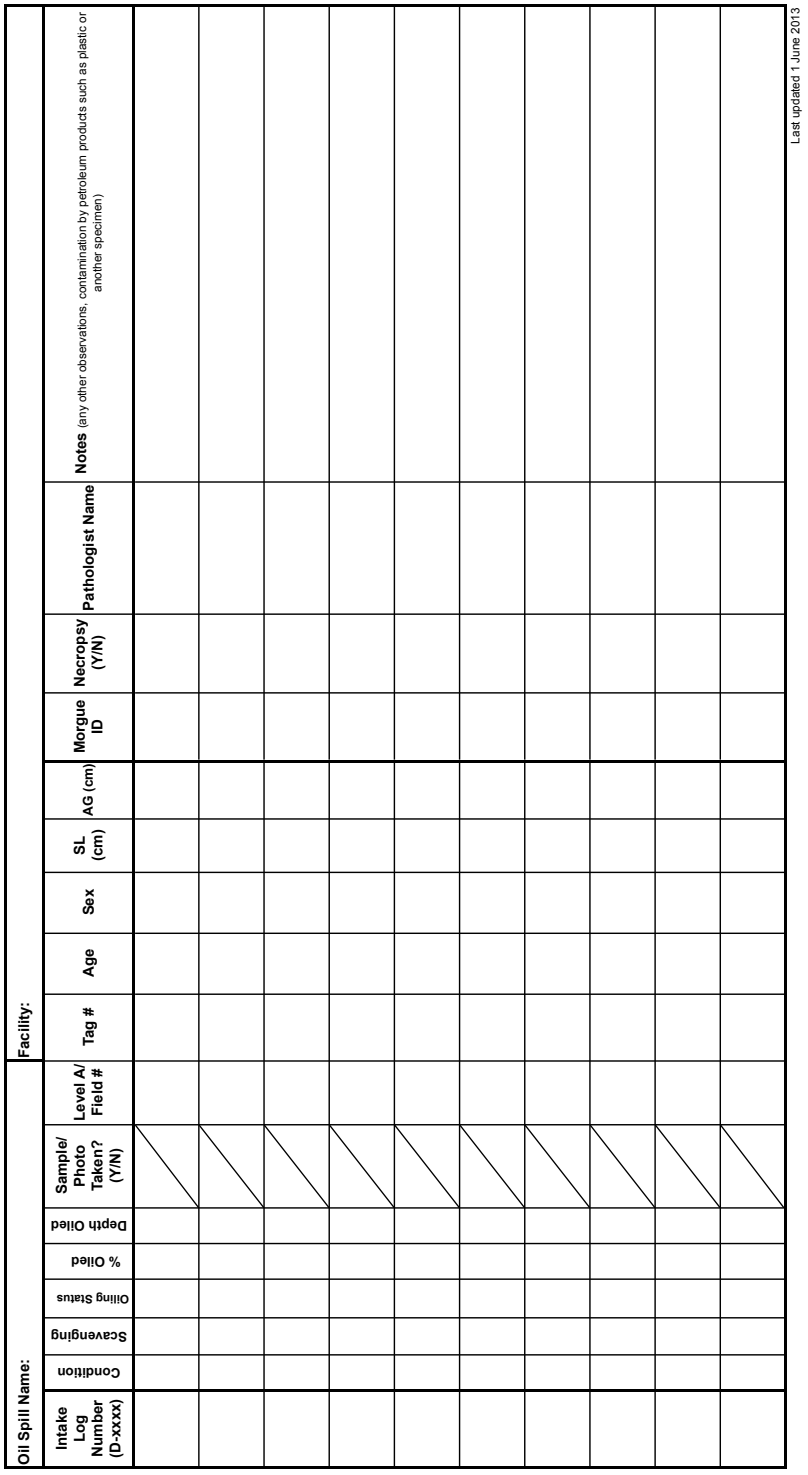
Appendix 8-E: Oiled Marine Mammal Data Log - Dead Animals (Back)



Oiled Marine Mammal Data Log: DEAD Animals (continued from front side)

Oil Spill Name: | **Facility:**

Intake Log Number (D-xxxx)	Condition	Scavenging	Oiling Status	% Oiled	Depth Oiled	Sample/ Photo Taken? (Y/N)	Level A/ Field #	Tag #	Age	Sex	SL (cm)	AG (cm)	Morgue ID	Necropsy (Y/N)	Pathologist Name	Notes (any other observations, contamination by petroleum products such as plastic or another specimen)

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Appendix 8-F: NOAA's Photograph Log

Oiled Marine Mammal Photograph Log

Oil Spill Name:				Memory Card ID:		
Date (m/d/y)	**Time (24 hr)**	**Log or Level A/ Field #**	**Photo #**	**Description**	**OK? (Y/N)**	**Photographer Name**

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Oiled Marine Mammal Property Room Evidence Log

Oil Spill Name:				Facility:					
Entered		Removed		Seizure Information			Article Description	Disposition (Action)	Entered By (Name)
Date (m/d/y)	Time (24 hr)	Date (m/d/y)	Time (24 hr)	Level A/ Field #	Date (m/d/y)	Seized By (Name)			

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Appendix 8-H: Oiled Marine Mammal Intake Form

Oiled Marine Mammal Intake Form

Spill Name:			Log Number:	
CAPTURE	Capture Date/Time:		Capture Location:	
	Level A Field ID:		Collector:	
PROCESSING	Intake Date/Time:		Species:	
	Tag Color/#:		Examiner's Signature:	
EXT. OIL ID	Signs of Oiling	Oil Visible Skin Burns Smell	Area Oiled	Head Body Multiple Entire
	Oil Color	Black Brown Clear Other	Depth of Oiling	Deep Moderate Surface
	% Oiled	<2% 2-25% 26-50% 51-75% 76-100%	Samples	Hair Swab Photo
PHYSICAL EXAM	Weight/Temp.	_____ Kg _____ °F	Age	Pup Sub-adult Adult Unknown
	Std Length/Girth	_____ cm _____ cm	Sex	Male Female
	Heart Rate	WNL _____ beats/min	Body Condition	Normal Thin Emaciated
	Resp. Rate	WNL _____ breaths/min	Attitude	BAR QAR Nonresponsive Seizing
	Dehydration	None Mild Moderate Severe	CRT/mm color	_____ Sec Pink Pale White Purple
	Human Interaction	☐ Yes ☐ No ☐ CBD Type: Boat Collision Shot Fisheries Other: _____		
	Neurologic	NSF Other:		
	Head/Mouth	NSF Other:		
	Eyes/Ears	NSF Other:		
	Heart/Lungs	NSF Other:		
	Gastrointestinal	NSF Other:		
	Musculoskeletal	NSF Other:		
	Integument	NSF Other:		
	Comments:			
TX-DX	Blood taken? ☐ Yes ☐ No HCT LTT RTT GTT		Toxiban? ☐ Yes ☐ No	Time: _____
	Pre-wash Exam: _____ Veterinarian Signature		Wash Date:	Weight: Bloodwork Attached ☐
DISPOSITION	Disposition Exam: _____ Veterinarian Signature		Exam Date:	Weight: Bloodwork Attached ☐
	Disposition Date:	Disposition Location:	Disposition: Released Died Euthanized Transferred Retained	
	Necropsy Exam: _____ Veterinarian Signature		Necropy Date:	Necropsied by:
	Flipper Tag No.:	Location: RF LF RH LH	Radio/Satellite Tag:	

TAG #: _____ SPECIES: _____

Appendix 8-I: Oiled Marine Mammal Progress Form

Oiled Marine Mammal Daily Progress Form

Spill Name _____ Log # _____ Tag Color/# _____ Species _____

Date	Treatment and Progress Notes	Init.

Appendix 9

Community Member Narrative

Appendix 9: Community Member Narrative

1) Please use the following form to capture the narrative describing the circumstances of the observation/carcass/sample provided by the community member. Keep this narrative with animal's record (e.g. necropsy, etc.)
2) Ensure that someone from the region is assigned to follow-up and provide details about the process and results (in laymen's terms) to the hunter.

Note: Personal contact information is to be kept confidential and retained by the NMFS. If the community member initially contacted a local organization about the carcass, all follow-up questions etc. for the community member should be directed through that organization, or their designee, unless specific permission is obtained from the community member that they may be contacted by other organizations (including NMFS).

Name: _____ Phone: _____

Email: _____ Address:_____

Time of Observation: _____ Date of Observation: _____

Do they represent an organization? If yes, please list name: _____

Location of observation (use landmarks and lat/long if possible):

_____

_____

Record the observation as verbatim as possible in the community member's own words. If you are filling out this form on the behalf of the community member, and you add any of your own content, please put these additions in parentheses. Add onto back of form if more space is needed:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Did the community member give you samples or a carcass? Circle One: Yes No

If Yes, briefly describe the samples/carcass:

_____

_____

Are there any associated media (recording, video, photo)? Circle one: Yes No
If yes, please describe the media that you have:

_____

_____

Does the community member consent to allowing use of their media to document response effort/diagnostic purposes/outreach? Circle one: Yes No

If consent is given, please record where the media was sent and to whom:

Email or mailing address: _____

Name of person in possession of media: _____

Community Member Follow-up Information

Date Contacted: _____
Name of person contacting community member: _____

Brief Description of Details:

_____

_____

_____

_____

Appendix 10

Marine Mammal External Oil Sampling Protocol

Appendix 10: Marine Mammal External Oil Sampling Protocol

Supplies

- Sampling instrument
  - *Visibly Oiled* = Wooden spatula (e.g., individually paper-wrapped tongue depressor)
  - *Not Visibly Oiled* = 4" x 4" fiberglass cloth or cotton cloth gauze, mosquito forceps, isopropyl alcohol
- Solvent-rinsed glass jar with a Teflon-lined lid (e.g, I-Chem 300 Series jars)
- Aluminum foil
- Waterproof labels (e.g., Avery 5522 weatherproof white labels)
- Evidence tape
- Permanent Sharpie marker
- Zip-lock baggies

Take extensive pictures, following Appendix 11 Oiled Marine Mammal Photography Protocol. Record photographs in Appendix 8-5: NOAA's Photograph Log

If supplies are not pre-staged, protocol can be completed with gauze, aluminum foil, and a sharpie.

Procedure

1. Take sample from fur/skin; always sample armpits, flippers, neck and anus areas as well.
   a. *Visibly Oiled* = Scrape visible oil from fur/skin with wooden spatula (tongue depressor)
   b. *Not Visibly Oiled* = Rub affected area with a 4x4 fiberglass or cotton cloth (or gauze) with sterile forceps or hemostats that have been cleaned with isopropyl alcohol.
2. Place sample in I-Chem jar and close lid
   a. *Visibly Oiled* = Break off spatula and discard un-oiled portion (avoid touching /contaminating oil sample with nitrile gloves)
   b. *Not Visibly Oiled* = Drop cloth into jar
   c. **NOTE:** If jar is not available, wrap sample/spatula in aluminum foil (dull side to sample)
3. List identifying information on waterproof label to place on the glass jar (or foil packet):
   a. Spill name
   b. Date/time of sampling
   c. Intake log number (or Level A/Field ID # if field processed)
   d. Other animal identification number if available (such as Field ID #/tag #/color)
   e. Species
4. Fill out Custody Seal and apply it across the lid of the jar and onto the sides of the glass
   a. If using foil, use the label to seal the folded ends of the packet, then place into Zip-lock bag
5. Lock sample in a -20°C (or colder) freezer
   a. If processed in the field, keep sample refrigerated or on ice until it can be stored
6. Fill out NOAAs Oiled Marine Mammal Freezer Log with sample information
7. Indicate oil sample collected on Oiled Marine Mammal Data Log (Appendix 8-D if Live or 8-E if Dead) and Appendix 8-H Intake Form

All evidence should be securely stored and refrigerated/frozen until the Wildlife Branch Director provides further instructions. If samples are to be sent for analysis, a Chain of Custody Form is required.

Appendix 11

Oiled Marine Mammal Photography Protocol

Appendix 11: Oiled Marine Mammal Photography Protocol

Supplies

- ✓ Digital camera with dedicated memory card.
- ✓ Dry erase board (or piece of paper)
- ✓ Dry erase marker (or Sharpie)
- ✓ Appendix 8-F NOAA Photograph Log
- ✓ NSB Photo Documentation Example Guide (attached)

Procedure

1. List identifying information on dry erase board/paper
   a. Spill name
   b. Date/time of photograph
   c. Intake log number (or Level A/Field ID # if field processed)
   d. Other animal identification number if available (such as Field ID #/tag #/color)
   e. Species
   f. Name of facility (or beach name if field processed) where photo is taken
2. Take photo of the animal's entire body (internal and external) showing the best view of the oiled area(s) refer to NSBDWM Photo Documentation Guide for example. These photos are necessary for UME and other disaster response events to fully document the entire affected animal,
   a. If the animal is too large to photograph in a single image, take a photo that clearly illustrates the area oiled and an identifying tag or other device.
   b. Once a picture has been taken it must remain on the memory card and cannot be modified in any way (this includes downloading images from the card to a computer).
   No photographs should be deleted from the memory card.
3. Record the photo on Appendix 8-F NOAA Photograph Log
   a. Include all photos taken on the Log, including mistakes and/or bad photos.
4. Indicate photograph taken on Appendix 8-E Oiled Marine Mammal Data Log and Appendix 8-H Intake Form
5. Secure the camera and memory card in a locked evidence cabinet
   a. When the memory card is full, use a stand-alone DVD recorder (not a computer) to create a backup copy.
   b. Once a backup copy is created, place the memory card and DVD in an envelope labeled with the spill name and the range of log numbers for the animals imaged on the card.
   c. Place new memory card into camera for additional use.

Appendix 12

Community Member Dead Marine Mammal Oil Sampling Protocol

Appendix 12: Community Member Dead Marine Mammal Oil Sampling Protocol

All efforts should be made for HAZWOPER-trained NMFS staff or stranding network members to respond to dead marine mammals affected by an oil spill. If NMFS staff or stranding network members are unable to collect or sample oiled dead marine mammals, consenting community members may be guided to assist **external oil sampling only** by following this protocol. **Instruct community member to wear gloves and other PPE at all times.**

1. **Record details of event and make notifications.**
    i. Once stranding network member is contacted by a community member about a dead oiled marine mammal, fill out Appendix 9 Community Member Narrative.
    ii. Contact NMFS regional stranding coordinator (877) 925-7773 or Wildlife Branch Director (if ICS is set up) and obtain permission to guide community member to assist in the oil sampling protocol. Obtain payment instructions from NMFS for transportation of supplies and materials to/from community.

If the carcass weighs >300 lbs, external oil sampling must be done at site of carcass: Guide the community member with Appendix 10; send them supplies and pay airfare. If supplies can't be sent, Appendix 10 can be completed with common items found in a household and first aid kit (use aluminum foil, gauze, and a sharpie marker.)

If the carcass weighs <300 lbs, the carcass can likely be shipped to a NMFS designated facility:

Supplies
Body bags
PPE (Powder-free nitrile gloves, tyvek suits)
Camera
Sharpies, stickers for body bag

Instructions to Community Member
1. Send supply list to them, instruct community member to wear PPE
2. Take extensive pictures (see Appendix 11 Oiled Marine Mammal Photography Protocol).
3. Write animal species, location, date/time of observation, and who the animal is being sent to on sticker and put on body bag
4. Put marine mammal in body bag, send to NMFS designated facility/person.

Appendix 13

Notification to Communities

Appendix 13: Notifications to Communities During NMFS-led Disaster Responses

Note that during non-NMFS led disaster events, information/notifications must go through the UC Liaison office. This procedure is only applicable during NMFS-led disaster responses.

Provide Initial Notification and Continuous Updates on Event to Communities
Frequent, culturally sensitive communication is imperative during a disaster event, as local communities are often the main source of information regarding the event, and are the most seriously affected from the impacts of the event itself, as well as the ensuing response effort.

Community members often have an unparalleled depth of knowledge about the local environment, and their subsistence and recreational activities often result in vast reconnaissance of remote regions of Alaska. As such, communities are usually the first to report that a disaster event is occurring and often provide the majority of observations and carcasses/samples to agencies during a response effort.

Procedure

1) Work with local stranding agreement holder/non-profit regional Native organization to develop flyers/announcements (see attached example). These notifications should:
    - Be in English, as well as the local Native language. Uses local names for animals and locations.
    - Provide clear, non-technical details about the status of the event including where/when it is, response measures, and key findings.
    - Have a local contact number/name of who to contact if they have information (provide pictures of things to watch for) regarding the disaster.

2) Distribute these flyers/announcements (in the regional languages) to the media and community contacts listed in Appendix 3 Regional Contacts.

Appendix 14

Necropsy Protocol Cover Sheet

Appendix 14: Oiled Marine Mammal Necropsy

Cover Sheet

Procedure considerations:

- ✓ **Know Before You Go:** ask NMFS or Group Supervisor if additional samples need to be collected (e.g. for food safety). If non-ICS event, ask where samples need to be sent. For Food Safety Sample Collection protocol, NMFS staff can contact State of Alaska, Alaska Section of Epidemiology, Environmental Public Health Program Manager (**See Appendix 3, Food Safety section**).

- ✓ **Photo Documentation is extremely important**. Please follow the Appendix 11 to thoroughly document the internal and external condition of the animal. Record the photographs in the Appendix 8-F NOAA Photography Log.

- ✓ **Record/Keep Community Member Narrative:** If you received the carcass/samples from a community member, fill out Appendix 9 Community Member Narrative, and keep this information with the necropsy report.

- ✓ **When feasible, collect 4 duplicates of each sample**. Generally, 3 samples will be used for diagnostics, and 1 for archive.

- ✓ **Follow Data Collection Protocol:** Necropsy reports are filed and all samples handled and stored using appropriate chain-of-custody protocols discussed in the Data Collection sections of the Cook Inlet and Kodiak Marine Mammal Disaster Response Guidelines, and provided by the trustee representative.

- ✓ **Keep Continuous Inventory of Samples**— volume/quantity/mass of the samples collected. Update this inventory each time you sub-sample. This allows for streamlined decision making and prioritization of analysis.

- ✓ **Carcass Disposal:** Several circumstances might prohibit the collection and storage of a complete carcass, including large or remote carcasses or lack of available refrigeration. Leaving carcasses allows for post-secondary oiling via scavenging and should be avoided. The Group Supervisor (or NMFS stranding coordinator if non-ICS event) will consult local tribal and city government for appropriate disposal options (see Appendix 3).

Appendix 15

Oiled Marine Mammal Tissue Sampling

Appendix 15: Oiled Marine Mammal Tissue Sampling Protocol

Supplies

- ✓ Solvent-rinsed glass containers with Teflon-lined lids for tissues
- ✓ Solvent-rinsed Teflon sheets for tissues
- ✓ Aluminum foil (if Teflon sheets are not available)
- ✓ Sterile syringes and needles
- ✓ Amber glass vials or glass vials covered with foil with Teflon lids (for bile, urine)
- ✓ Teflon screw top vials (for blood storage and urine)
- ✓ Stainless steel scalpels, knifes, forceps
- ✓ Isopropyl alcohol (99.9% pesticide free IPA) to rinse instrument
- ✓ Wooden tongue depressors (can be used to handle tissues if necessary)
- ✓ Whirl-pak bags or Zip-lock freezer bags
- ✓ Permanent marker or pen (Industrial Sharpie)
- ✓ Evidence/Custody tape and labels

All instruments used in handling (e.g., scalpels, forceps, cutting boards) or storing (e.g., jars, foil) samples must be made of a non-contaminating material (stainless steel, glass, Teflon, or aluminum). Take extensive pictures, following Appendix 11; record photographs in Appendix 8-F NOAA's Photograph Log

Comments on Tissue Collection for PAH Analysis

- Tissues to collect (in decreasing order of preference): Bile; urine; whole blood; stomach and intestinal contents; blubber/fat; liver; kidney; lung; intestine; brain; muscle
- Samples taken for analysis should only be collected from **alive** or **freshly dead animals**
  - If a necropsy cannot be performed within 24 hours, carcass should be frozen for later sampling
- Recommended **minimum sample size** is **10-20 g of tissues** (approx. 1-2 tablespoons) and **5 ml for fluids** (blood, urine, bile, feces, stomach contents)
  - However, collect whatever amount is present
- Fluids such as blood, urine, and bile should be collected using sterile syringes or pipettes and transferred to Teflon vials (blood) or amber glass vials (bile, urine)
- Use powder-free nitrile gloves (vinyl gloves are an acceptable alternative)
- Cutting tools should be cleaned and rinsed with isopropyl alcohol between tissues
  - If heavily oiled, instruments can be cleaned with detergent (e.g., Dawn), rinsed with water, and then rinsed with alcohol.
- Samples are stored preferably in solvent-rinsed Teflon-lined glass jars, labeled, and secured with evidence tape/custody seal.
  - If glass jars are not available, samples can be placed in Teflon sheets or aluminum foil and stored in whirl-paks/freezer bags.
- If samples/tissues have come in contact with a contaminating material (e.g. plastic bag), collect and store a representative example of that material (e.g. plastic bag) using the above methods
- Duplicate hydrocarbon and histology samples whenever possible.
- Each sample must be labeled with spill name, date/time of sampling, log number (or Level A/Field ID # if field processed), other animal ID if available (e.g., Field ID #/tag #/color) and species
  - List identifying information on waterproof label to place on the glass jar (or sheet)
- Samples should be chilled immediately on ice then frozen ASAP in -20ºC in a locked freezer. All evidence should be securely stored and refrigerated/frozen until the Wildlife Branch Director provides further instructions. If samples are transferred to a different location or sent for analysis, a Chain-of-Custody form is required.

Appendix 16

Oiled MM Analytical Labs

Alpha Woods Hole Laboratories Peter Kane 375 Paramount Drive Raynham, MA 02767 Phone: (508) 822-9300	**TDI-Brooks International** Thomas McDonald 1902 Pinon College Station, TX 77845 Phone: (979) 693-3446 Phone: (979) 220-3821
Mote Marine Laboratory Dana Wetzel 1600 Ken Thompson Parkway Sarasota, FL 34236 Phone: (941) 388-441, ext. 335	**Geochemical & Environmental Research Group (GERG)** Terry Wade Texas A&M University 833 Graham Road College Station, TX 77845 Phone: (979) 862-2323, ext. 134

The laboratory should be able to perform analysis of the 16 traditionally-studied, parent PAHs listed as priority pollutants by the Environmental Protection Agency (EPA) in addition to the 44 alkylated and heterocyclic PAHs and metabolites. Additional laboratories, including those managed by NOAA, may be selected during oil spill response.

Unified Command and trustee agencies will make the final decision on laboratory use.

Appendix 17

Northwest Region Euthanasia Protocol

Appendix 17: Northwest Region Euthanasia Protocol

(From Geraci and Lounsbury, 2005)

The Northwest Region recognizes two options for administrating euthanasia (humane killing); chemical euthanasia and ballistics (gunshot). Chemical euthanasia by injection must be administered by a veterinarian or an animal technician under direct or indirect supervision of a veterinarian (WAC 246-935-050). Ballistics must be carried out by accredited state, local, or federal law enforcement personnel and may take a marine mammal in the normal course of their duties as an official or employee, and no permit is required as long as it is accomplished in a humane manner and is for the protection or welfare of the animal or for the protection of the public health and welfare (50 CFR 216.22, Permit No. 932-1489-08). Steller Sea Lion covered under 50 CFR 223.202. Guadalupe Fur Seal covered under 50 CFR 223.201.

Chemical euthanasia or the dispatch of a marine mammal is an option when; it is necessary to end the suffering of an animal in irreversibly poor condition, the action is permitted by all relevant agencies, the procedure can be carried out humanely, no rehabilitation facility is available, the animal persistently strands, the animal is an immediate danger to public safety, a licensed veterinarian is not available for euthanasia, and the release of the animal endangers wild populations or public health. Please contact the Northwest Marine Mammal Stranding Network before dispatching any marine mammal, trained professionals are available for consultation. If possible, please take photos of the animal, this will assist the stranding network on determining species and overall health condition. If you believe an animal is moribund , contact the stranding network so we can assess the animal and determine an appropriate course of action. If there is an emergency situation and a decision needs to be made immediately, please use this protocol to make an educated decision.

If chemical euthanasia is impractical, larger animals (elephant seals and some sea lions and select cetaceans) are best dispatched by firing a high-velocity bullet into the brain. This technique requires skill, training, and legal authorization for the weapon and should not be considered an option on a busy beach. If dispatch is the only option on a busy beach please keep in mind one of the cardinal rules of gun safety: Be sure of your target and what is beyond and around it.

Chemical euthanasia for smaller cetaceans and natural death for large whales may be the most humane and practical option. Specific cases that clearly call for euthanasia or dispatch in cetaceans include; disabling injuries such as a dislocated or broken tailstock, penetrating wounds in the thorax or abdomen, hemorrhage from the mouth, blowhole, genital opening, or anus, blistering or sloughing of a major portion of the skin surface, loss of reflexes, or loss of jaw tone, or protruding penis. Suffocation by obstructing the blowhole is neither effective nor humane.

Dolphins and small whales (to 8 m) can be killed quickly by shooting. Any high-powered rifle with standard bullets can be used for cetaceans less than 2 m. For cetaceans 2-8 m in length, use a firearm with a large bore (.303 or greater) and high muzzle velocity, and 180-grain soft or solid round- nosed bullets. The gun should be fired approximately 1 meter from the animal's head; a firearm discharged directly against the skin may explode. Aiming down and backward through the blowhole to an imaginary point joining the flippers is sometimes recommended; however, if the shot is aimed to far backwards, the bullet must pass through the thickest part of the skull. Another option is to shoot from the side, about halfway between the posterior margin of the eye and a point above the origin of the pectoral flipper, for added assurance, fire three shots in a line through the targeted area. See the figure below to ensure you have the correct target area in mind. Shooting is not advised for euthanizing whales more than about 8 m in length or sperm whales of any size.

Appendix 18

Seal UME Necropsy Protocol & Checklist

Animal ID _____ Date _____ Initials _____

Appendix 18 UME NECROPSY REPORT: SEAL

Developed by Dr. Kathy Burek
Alaska Veterinary Pathology Services (AVPS)
Please see AVPS website for most up to date forms: https://sites.google.com/site/akvetpath/

1) If you received a sample from a community member, follow protocol in Appendix 9 Community Member Narrative and keep with this record
2) Take extensive internal and external photos following the documentation procedures in Appendix 11

ID Number:_____Location:_____(Lat;Long)_____
Reported by: _____ Contact info:_____
Date found: _____Date recovered:_____Necropsy Date:_____
Species: _____ Age: _____ Sex: M F Unknown
Prosectors:_____Contact info:_____
Volunteers: *Please provide name, contact info, and hours worked*
_____
_____
_____
_____
Weather info:_____
Human Interaction Forms? ☐; Chain of custody forms: ☐; Level A forms filled out ☐
Brief History:

Gross Diagnoses:

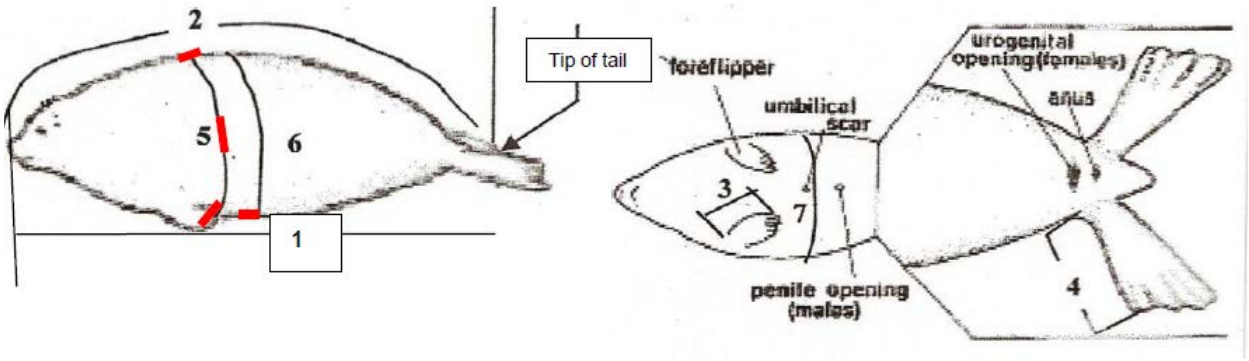
_____

MEASUREMENTS (cm unless indicated)

Weight (kg) _____ estimate / actual (circle one)
Standard length (1) _____cm / inch / feet?
Curvilinear length (2) _____ cm / inch / feet?
Skull width _____cm (Across zygomatic arches)
Skull length _____cm (From tip of nasal bone to end of foramen magnum condyles)
Girth: Axillary (flipper pit) (5) _____ cm
Girth: maximum (6) _____ cm
Girth:hip _____ cm
Blubber thickness (mm) (see red marks below):
Dorsal Axillary _____mm
Vent Midline axilla _____mm (ventral axillary midline)
Lateral at Axilla _____mm

Animal ID _____ Date _____ Initials _____

Xyphoid _____ mm



EXTERNAL EXAMINATION

CARCASS CLASSIFICATION:
Code 2 Fresh
Code 3 Fair (decomposed organs intact)
Code 4 Poor (advance decomposition)
Code 5 Mummified
Was the carcass frozen ?? YES NO

BODY CONDITION:
1 Robust
2 Good
3 Average
4 Poor
5 Emaciated

GROSS

NECROPSY FINDINGS:

Physical Exam (general condition, lesions, deformities, appearance, color): (See lesion form page 3.)
Primary incision (fat stores,carcass condition, etc:
Body cavities (fluid?):
Musculoskeletal (color of muscle, appearance of joint fluid:

Animal ID _____ Date _____ Initials _____

Respiratory (foam, fluid, texture and color of lungs, parasites?)
Cardiovascular:
Lymphoid:
Endocrine:
Urinary:
Liver: (bile, parasites, color, texture)
Digestive: (serosal surface, content, mucosal surface, parasites)
Reproductive: (measure (weight and LXDXH) ovaries, uterine horns, placenta if present) Right ovary _____Left ovary _____right horn _____left horn _____
Nervous / sensory:

Animal ID _____ Date _____ Initials _____

ORGAN MEASUREMENTS: OPTIONAL (but good to do)

Adrenals:	Right : _____g	Left : _____g	**Thymus:**	_____g
Kidney	Right: _____g	Left: _____g	**Liver**	_____g
Lung	Right: _____g	Left: _____g	Placenta	_____g ____X _____X_____cm
Thyroid:	Left : _____g	Right : _____g	Testes	_____g

HEART:

Mass _____g	RV mass _____ g	LV/ IVS mass _____g	RAV_____cm	PA _____cm
LAV _____cm	AoV _____cm	LV _____cm	RV _____cm	IVS _____cm

CARCASS DISPOSITION:

SAMPLES SUBMITTED IMMEDIATELY AND WHERE

COMMENTS (CAUSE OF DEATH, INTERPRETATIONS):

HOW DID YOU TAKE YOUR TOXICOLOGY SAMPLES?:

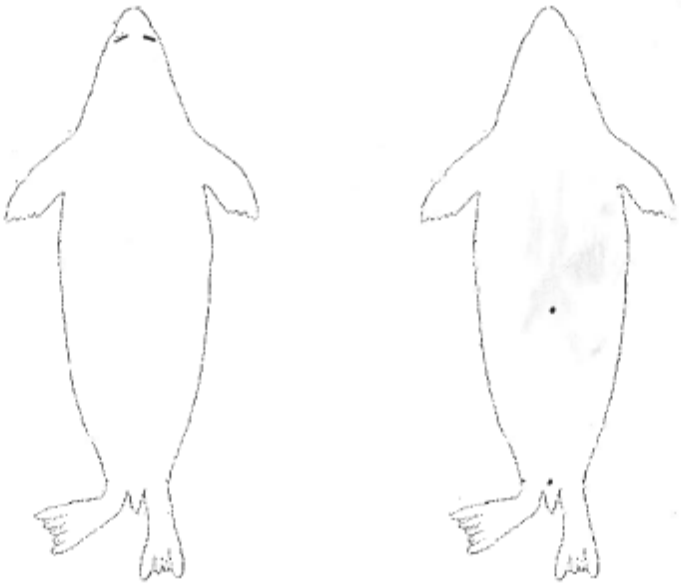
Ziplocs / Foil / Acetone-cleaned Foil / Teflon / Whirlpak / I-Chem jarsOther_____

Rinsed tissues with: _____ ype of gloves (circle): latex vinyl powder-free nitrile

PLEASE DRAW ON THIS SCHEMATIC ANY AREAS OF HAIR ABNORMALITY AND ANY LESIONS.

Animal ID _____ Date _____ Initials _____

External Markings/Measurements/Lesions – Pinnipeds



DORSAL VENTRAL

DATE_____ ACCESS NO._____ EXAMINERS_____

DESCRIPTION:_____

Animal ID _____ Date _____ Initials _____

Classification of Carcass condition:

Code	Definition	Gross Appearance	Specimen collection
1	Live		Morphometrics, blood, biopsies, urine, infectious diseases, diagnostic imaging
2	Freshly dead "edible"	No bloating; minimal drying and wrinkling of epidermis (in cetacean and manatees or dermis and epidermis in pinnipeds and otters); minimal wrinkling and change of eyes and mucous membranes; muscles firm; blubber firm and white or yellow; internal organs intact; liver still with physical integrity	All types of specimens should be collected
3	Moderate decomposition	Slight bloating with tongue and penis protruding; some skin sloughing and cracking; eyes sunken; blubber may be blood tinged; muscles soft; all internal organs including liver still have gross integrity but are soft and friable	Morphometrics, gross path, parasitology, genetics, life history, +/- histo on lesions.
4	Advanced decomposition	Bloated; missing patches of epidermis and hair; internal organs show lack of integrity and are extremely friable; blubber with gas pockets and pooled oil	Morphometrics, gross path, parasitology, genetics, life history
5	Severe decomposition	Mummified; skeletal	Limited morphometrics, age, skeletal pathology, genetics

Notes on sampling:

PHOTOS: Take lots of photos. Include the animal ID and a measuring device in the photo. Take notes on photos under the system descriptions, or photo numbers in the table. Unknowns a good thing to do is take a photo, label it unknown 1,2,3,…. And then tag a piece for histo.

Archive samples: In general put in whirlpak or cryovials (or ziplock and squeeze out all air) and freeze in as cold as possible (ultracold is best – otherwise regular freezer)

Disease samples: Try to collect as aseptically as possible. You can collect these samples first, use a fresh scalpel blade or flame clean if possible, store in whirlpak. Just do the best you can and if they are contaminated, take as big a sample as will fit in a small whirlpak.

Toxicology samples: Collect as cleanly as possible and try to rinse the blade between samples with water and high grade ethanol or isopropyl if possible. A fist size or slightly larger sample can be trimmed down to make up for any contamination in taking the sample. Put in acetone washed Teflon, foil or an I-chem jar if they can be taken cleanly. Then into a whirlpak (or ziplock if you run out of whirlpaks). Kidney and one liver samples also goes directly into a whirlpak without foil.

HABS (harmful algal bloom toxins): best samples are urine, feces, stomach content. If there is no urine, pericardial fluid is also very good. On fetuses, stomach content is very good to use. Preg female, collect amniotic fluid. Minimum of 5 ml of sample. Analyses can be done at the HAB NOAA lab in Seattle ELIZABETH FRAME KATHI LEBEVRE.

Histopathology: NO NOT FREEZE THESE SAMPLES. Samples should be in 10% neutral buffered formalin in a ratio of 1 part tissue to 10 parts formalin. If you don't have big enough containers, the formalin can be switched out after a day to help with fixation. *Samples should be 0.5 to 1 cm thick.*

Animal ID _____ Date _____ Initials _____

Fetuses: Stomach content is an important sample in fetuses. Do all the same sample collections plus the following for stomach content: pull out some stomach content (with sterile needle and syringe), put in a few cryovials. 3-4 1 or 2 ml cryovials for culture work and 2 - 5 ml cryovials for biotoxins. If you have bacterial media or culturettes, you can take those too. These would be best to submit the swabs to the lab fresh, but if you can't, freeze at ultracold. If you don't have these sampling items, tie off the stomach and freeze in a whirlpak.

Placentas: Very valuable samples. Take formalin fixed samples, samples in whirlpaks (three 4 oz), freeze back entire if possible, if not, weigh and measure after taking samples.

Parasites: External parasites (70% ethanol-ETOH), Nematodes (70% ETOH or formalin). Put acanthocephalans in distilled water, refrigerate over night, then fix in formalin or 70% ETOH. Cestodes?

Blubber: If people are doing studies with blubber biopsies in live animals, they may want pieces of the biopsy sites. If so, take a 5cm square (skin to muscle layer) sampled from the dorsal side of animal 2-3cm to the right of the vertebral column, 2-3cm anterior to the pelvic girdle. For Toxicology, AMMTAP and archive, collect from ventral midline at the xiphoid.

Whisker: Easiest -- Freeze cheek with all whiskers intact. Or pull longest whisker on left side and put in paper envelope (SSL). These are for stable isotopes

Label each sample with Animal ID, tissue type and Date collected; DOUBLE BAG AND LABEL

Appendix 18 UME Necropsy Sample Checklist: Seal
Developed by Dr. Kathy Burek
Alaska Veterinary Pathology Services (AVPS)
Please see AVPS website for most up to date forms: https://sites.google.com/site/akvetpath/

Table 1 Code 2 Animals (fresh enough to eat!)

Tissue	UA Museum	Disease / biotoxins	Other TOX	Archive (Only if VERY FRESH)	Life HX	Fixed	Notes
Samples in yellow are PRIORITY SAMPLES; In RED are HIGH PRIORITY							
EXTERNAL							
Aqueous humor		Cryovial					
Eye		Whirlpak 4 oz				□	
Hair			Whirlpak 4 oz x 3			EM	
Normal Skin		Whirlpak 4 oz x3 NOTE SITE			DMSO X 1	□□□□□□□□	**Sxn to take MucoC lip, eye, anus; ventral neck, dorsal midline, ventral midline, hind flips L &R**
Skin lesions		Whirl 4 oz X3 NOTE SITE; Viral media x 3; SNAP or RNAlater X3					
Whiskers	Envelope				Envelope		
Claws	Envelope				Envelope		
Oropharyngeal swabs		Dry swabx3; RNAlater X3					
Nasal swabs		Viral Media x 3; DRY x3; RNAlater X3					

Table 2 Code 2 Animals (fresh enough to eat!) Continued

Tissue	UA Museum	Disease / biotoxins	Other TOX	Archive (Only if VERY FRESH)	Life HX	Fixed	Notes
Rectal swabs		Viral Media x 3; DRY x3; RNAlater X3					
SQ TISSUES / MUSCULOSKELETAL							
Blubber (axilla/xiphoid)		Whirlpak 7 oz	Teflon or foil / 24oz Whirl	Teflon / Whirl	teflon jar	□	
Lymph node: axillary		Whirlpak 4 oz x2				*□	
LN Inguinal		Whirlpak 2 oz, Viral media x 2; SNAP or RNAlater X2				*□	
Peripheral LN ABNORMAL		Whirlpak 2 oz, Viral media x2; SNAP or RNAlater X2				*□	
Testes						□	
Thyroid						□	
Tongue		Whirlpak 4 oz x2				□	

Table 3 Code 2 Animals (fresh enough to eat!) Continued

Tissue	UA Museum	Disease / biotoxins	Other TOX	Archive (Only if VERY FRESH)	Life HX	Fixed	Notes
Tonsil		Dry x3; Viral X3; Cryovial				□	
Bone ____site		Whirlpak 4oz x 2				□	
Muscle: Diaphragm		Whirlpak 4 ox				*□	
Muscle: pectoral	Cryovial 2ml BLUE	Whirlpak 4 ozx2			DMSO X 1	*□	
Muscle: PFL						*□	
Muscle: PHL						*□	
Muscle: epaxial					Whirlpak 4 oz	*□	
CHEST							Do especially if no urine for HABs
Pericardial fluid (chest)		Cryo 2ml	Cryo 5 ml x3				
Pleural (chest) fluid		Cryo 2ml	Cryo 5 ml x3				
Thymus		4 oz Whirl x3				□	

Table 4 Code 2 Animals (fresh enough to eat!) Continued

Tissue	UA Museum	Disease / biotoxins	Other TOX	Archive (Only if VERY FRESH)	Life HX	Fixed	notes
Trachea		Whirlpak 4 oz				□	
Bone marrow (sternebra)		Whirlpak 7 oz x 2				□	
Blood serum - or tissue fluid		2 ml Cryo X AMAP					
Blood, whole		Amies swab if sterilely done; Cryo 2ml x 3; SNAP or RNAlater X2; Tubes to spin to serum					
Lymph node: Hilar or TB		Cryovial 2mL x 2; SNAP or RNAlater X2				*□	R and L
Lung CV		Whirlpak 4 oz x2 R,L				* □□	R and L
Lung w/ bronchus		Whirlpak 4 oz x3; SNAP or RNAlater X2				* □□	
Lung CdD (parasit)		Whirlpak 18oz				*□	
Heart	Cryo 2ml RED	Whirlpak 4 oz x2; Viral x2				*□ LV, IVS, RV	

Table 5 Code 2 Animals (fresh enough to eat!) Continued

Tissue	UA Museum	Disease / biotoxins	Other TOX	Archive (Only if VERY FRESH)	Life HX	Fixed	notes
ABDOMEN							
Bile		Cryo 2ml (If ABN) x 2	amber vial x2				
Gall bladder						*□	
Liver	Cryo 2ml	Whirlpak 4 oz x3; SNAP or RNAlater X2; Viral x3	Teflon or FOIL / Whirlpak 24 oz; Whirlpak 24 oz x 2 (HMs)	Teflon / Whirlpak 24 oz		□	
Peritoneal (belly) fluid		Cryo 2ml X 3					
Spleen	Cryo 2ml	Whirlpak 4 oz x3; SNAP or RNALater X2; Viral x3				□	
Adrenal		2mL cryovial x2				□	
Kidney	Cryo 2ml	Whirl 4 oz x2	Whirlpak 7 oz x 1 (HMs)	Teflon/ Whirlpak 24 oz (POPs)		□	
Bladder						□	
Urine		Cryo 2mL	Cryo 5ml X 3				

Table 6 Code 2 Animals (fresh enough to eat!) Continued

Tissue	UA Museum	Disease / biotoxins	Other TOX	Archive (Only if VERY FRESH)	Life HX	Fixed	notes
Reproductive							
Amniotic fluid		Cryovials x3, Viral x3; SNAP or RNAlater X3	Cryo 5ml X 3				
Uterus and ovaries		Whirl 4 oz x3; dry swab x 3			NBF (ENTIRE)	□	
Placenta		Whirl 7 oz.x3; Viral x 3; SNAP or RNAlater X3				□ x 2	
GI							
Esophagus						□	
Stom. Content		Whirlpak 7 oz	Whirlpak 7 oz		Entire in Gal ZIP		
Stomach						□	
Duodenum + Pancreas						*□	tied off in loops
Small intestine		Whirl-pak 7 oz X 2				*□ x3	

Table 7 Code 2 Animals (fresh enough to eat!) Continued

Tissue	UA Museum	Disease / biotoxins	Other TOX	Archive (Only if VERY FRESH)	Life HX	Fixed	notes
ileum						*□	
cecum						*□	
colon						*□	
Feces		Whirl x3; Viral x 3	Whirlpak 4 oz.				
LN: mesenteric		Whirl 7 oz x2				*□	
HEAD AND BRAIN							
Brain		AMIES SWAB; Whirlpak 4 ozx3; SNAP or RNAlater X2				□	in cassette
Pituitary						□	
Mandible	Zip-loc (or mandible + skull)				Zip-loc		
Skull	Zip-loc						

Table 8 Code 2 Animals (fresh enough to eat!) Continued

Tissue	UA Museum	Disease / biotoxins	Other TOX	Archive (Only if VERY FRESH)	Life HX	Fixed	notes
ADDITIONAL SAMPLES							
Other Lesions		Whirlpak 7 oz x3; Viral media x 3; SNAP or RNAlater X3				*□	

Table 9 Code 3 Animals

Tissue	UA Museum	Disease / biotoxins	Other TOX	Life HX	Fixed	notes
EXTERNAL						
Aqueous humor		Cryovial 2ml				
Eye		Whirlpak 4 oz			□	
Hair			Whirlpak 4 oz x3		EM	
Normal Skin		Whirlpak 4 oz x3 NOTE SITE		Rear flipper punch X2 in DMSO, ETOH, or freeze	□□□□□□□*	**for histopath: , eyelid, lip margin, dorsal midline,ventral midline, anus, axilla, hind flipper;**
skin mucocutneous		Whirlpak 4 oz x3				
Skin lesions		Whirlpak 4 oz X3 NOTE SITE; Viral media x3				
Whiskers	Whirlpak 4 oz			Whirlpak 4 oz		
Claws (Seals)	Whirlpak 4 oz			Whirlpak 4 oz		
Oropharyngeal swabs		Dry swabx3				
Nasal swabs		Viral Media x 3; DRY x3				
Rectal swabs		Viral Media x 3; DRY x3				
SQ TISSUES / MUSCULOSKELETAL						
Blubber (axilla/xiphoid)		Whirlpak 7 oz	Teflon / 18oz Whirl x2	teflon jar or cleaned Teflon	□	
Lymph node: axillary		Whirlpak 4 oz x2			*□	
LN ABNORMAL		Whirlpak 4 oz x2, Viral media x 3; Cryovial x2			*□	
LN Inguinal		Whirlpak 4 oz x2				
Testes					□	
Thyroid					□	

Table 10 Code 3 Animals Continued

Tissue	UA Museum	Disease / biotoxins	Other TOX	Life HX	Fixed	notes
Tissue	UA Museum	Disease / biotoxins	Other TOX	Life HX	Fixed	notes
Tongue		Whirlpak 4 oz x2			□	
Tonsil		Dry x3; Cryovial			□	
Bone ____site		Whirlpak 4 oz x2			□	
Muscle: Diaphragm					*□	
Muscle: pectoral	Cryovial 2ml - BLUE	Whirlpak 4 oz x2			*□	
Muscle: PFL					*□	
Muscle: PHL					*□	
Muscle: epaxial					*□	
CHEST						
Pericardial fluid (chest)		Cryo 2ml x2	Cryo 5 ml x2			Do especially if no urine for HABs
Pleural (chest) fluid		Cryo 2ml x2	Cryo 5 ml x2			
Thymus		Whirlpak 4 oz x3			□	
Trachea		Whirlpak 4 oz			□	
Bone marrow (sternebra)		Whirlpak 4 oz			□	
Blood serum		Cryo 2ml x3				
Blood, whole		Amies x2; Cryo 2ml x2; Cent tubes to spin to serum (chicken-fat clot)				if there is a chicken fat clot, spin that for serum
Lymph node: Hilar or TB		Cryovial 2mL x2			*□	
Lung CV		Whirlpak 4 oz x 3			* □□	R and L

Table 11 Code 3 Animals Continued

Tissue	UA Museum	Disease / biotoxins	Other TOX	Life HX	Fixed	notes
Lung w/ bronchus		Whirlpak 4 oz x3			* □□	R and L
Lung CdD		Whirlpak 18oz			*□	
Heart	Cryo 2ml-RED	Whirlpak 4 oz X2			*□ LV, IVS, RV	
ABDOMEN						
Bile		Cryo 2ml (If ABN) x 2	amber vial x2			
Gall bladder					*□	
Liver	Cryo 2ml-YELLOW	Whirlpak 4 oz x3, Viral media x 3; Cryovial x2	Whirlpak 18 oz x 2 (HMs)		□	
Peritoneal (belly) fluid		Cryo 2ml x3				
Spleen	Cryo 2ml-GREY	Whirlpak 4 oz x3, Viral x3			□	
Adrenal		2mL cryovial x2			□	
Kidney	Cryo 2ml-ORANGE	Whirl 4 oz x2	Whirlpak 7 oz x 1 (HMs)		□	
Bladder					□	
Urine		Cryo 2mL	Cryo 5 mL X2			
REPRODUCTIVE						
Amniotic fluid		Cryovials x3	Cryo 5 ml x3			
Uterus and ovaries		Culturette- amies x2; DRYx2; Whirl 4 ozx3		NBF (ENTIRE)	□	
Placenta		Whirlpak 4 oz x3, Viral x3			□ x 2	
GI						
Esophagus					□	
Stom. Content		Whirlpak 7 oz	Whirlpak 7 oz	Entire in Gal ZIP		

Table 12 Code 3 Animals Continued

Tissue	UA Museum	Disease / biotoxins	Other TOX	Life HX	Fixed	notes
Stomach					□	
Duodenum + Pancreas					*□	
Small intestine		Whirlpak 4 oz x3 tied off in loops			*□	
ileum					*□	
cecum					*□	
colon					*□	
Feces		Whirl 4 oz or cryos x3	Whirlpak 4 oz or 5 ml cryovial			
LN: mesenteric		Whirl 4 oz x2			*□	
HEAD AND BRAIN						
Brain		Amies x2; Whirlpak 4 oz x 3			□	
Pituitary					□	in cassette
Mandible	Zip-loc (or mandible + skull)			Zip-loc		
Skull	Zip-loc					
ADDITIONAL SAMPLES						
Lesions		Whirlpak 7 oz x3, Amies swab; Viral media x 3			*□	
* = Samples requiring a histo tag						
Samples in yellow are PRIORITY SAMPLES						

Table 13 Code 4 Animals

Tissue	UA Museum	Disease / biotoxins	Other TOX	Life HX	Fixed	Notes
EXTERNAL						
Hair			Whirl-pak 7 oz			
Whiskers	Envelope			Envelope		
Claws (Seals)	Envelope			Envelope		
Skin				DMSO X 1		
Skin lesions		Whirl-pak 7 oz			*□	Note Site
SQ and MUSCULOSKELETAL						
Blubber (axilla/xiphoid)			Teflon / Whirl-pak			
Muscle: pectoral	Cryo 2ml			DMSO X 1		
CHEST						
Pericardial fluid (chest)			Cryo 5 ml			
Heart	Cryo 2ml					
Chest Lesions		Whirl-pak 7 oz			*□	
ABDOMEN						
Abdominal Lesions		Dry swab in 2 mL cryo			*□	
Liver	Cryo 2ml		Whirl-pak 18 oz			
Spleen	Cryo 2ml					
Kidney	Cryo 2ml		Whirl-pak 18 oz			
Urine			Cryo 5 ml x 2			
REPRO						
REPRO lesions		Dry swab in 2 mL cryo			□	
Amniotic fluid			Cryo 5 mL			
Uterus and ovaries		Cryovial 2mL with dry swab if ABN		NBF (ENTIRE)	□	

Table 14 Code 4 Animals Continued

Tissue	UA Museum	Disease / biotoxins	Other TOX	Life HX	Fixed	Notes
GI						
GI lesions		Dry swab in 2 mL cryo			*□	
Stom. Content			Whirl-pak 7 oz	Entire in garbage bag		
Feces		Whirl-pak 7 oz X 2	Whirl-pak 7 oz			
HEAD AND BRAIN						
Mandible	Zip-loc (or mandible + skull)			Zip-loc		
ADDITIONAL SAMPLES						
ABN LN: _____		Whirl-pak 7 oz			*□	
* = Samples requiring a histo tag						
Samples in yellow are PRIORITY SAMPLES						

Table 15 Code 5 Animals

Tissue	UA Museum	Other TOX	Life HX	notes
EXTERNAL				
Whiskers	envelope		Envelope	
Claws (Seals)	envelope		Envelope	
Teeth; UI; If not collecting mandible or skull)			Envelope	
Skin			DMSO X 2	
Muscle: pectoral	Cryo 2ml			
CHEST				
Pericardial fluid (chest)		Cryo 5 ml		
Heart	Cryo 2ml			
ABDOMEN				
Liver	Cryo 2ml	Whirl-pak 18 oz		
Kidney	Cryo 2ml	Whirl-pak 18 oz		
Spleen	Cryo 2ml			
Urine		Cryo 5 ml X 2		
Repro				
Uterus and ovaries				
Amniotic fluid		Cryo 5 ml		
GI				
Stom. Content		Whirl-pak 7 oz	Entire in garbage bag	
Feces		Whirl-pak 7 oz		
HEAD AND BRAIN				
Mandible	Zip-loc (or mandible + skull)		Zip-loc	
ADDITIONAL SAMPLES				
Lesions	Consider histo and bag for lesions.			
Samples in yellow are PRIORITY SAMPLES				

Appendix 19

Baleen Whale UME Necropsy Protocol & Checklist

Appendix 19 UME NECROPSY REPORT: BALEEN CETACEAN

Developed by Dr. Kathy Burek
Alaska Veterinary Pathology Services (AVPS)
Please see AVPS website for most up to date forms: https://sites.google.com/site/akvetpath/

1) If you received a sample from a community member, follow protocol in Appendix 9 Community Member Narrative and keep with this record
2) Take extensive internal and external photos following the documentation procedures in Appendix 11

ID Number:_____
Location:_____(Lat;Long)_____
Reported by: _____ Contact info:_____
Date found: _____Date recovered:_____Necropsy Date:_____
Species: _____ Age: _____ Sex: M F Unknown
Prosectors:_____Contact info:_____
Weather info:_____
Human Interaction Forms? ☐; Chain of custody forms: ☐; Level A forms filled out ☐ _____**BRIEF HISTORY:**

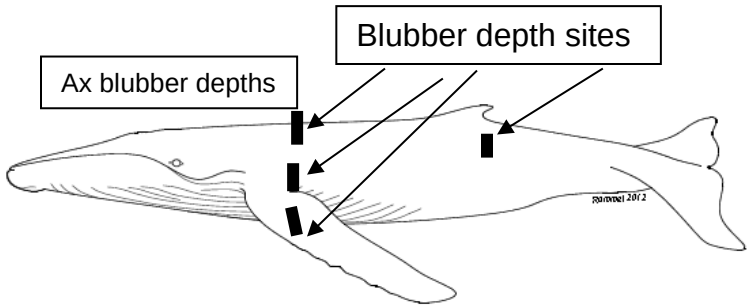
GROSS DIAGNOSIS:

_____

MEASUREMENTS (cm unless indicated)

Basic Measurements	**Value**	**Basic Measurements***	**Value**
Total length (9)		Skin thickness	
Girth at axilla (17ax)		Blubber thickness, dorsal bdf **(w/o skin)** straight down from caudal end of dorsal ridge, 45° from spine.	
Girth, anus (17an)		Blubber thickness, dorsal midline Axillary **(w/o skin)**	
Fluke width (15)		Blubber thickness, ventral midline Axillary **(w/o skin)**	
		Blubber thickness, lateral Axillary, **(w/o skin)**	

*see diagram below for more extensive measurements.



EXTERNAL EXAMINATION (CIRCLE)

CARCASS CLASSIFICATION:
Code 2 Fresh
Code 2.5 mild decomposition
Code 3 moderate (decomposed organs intact)
Code 4 Poor (advance decomposition)
Code 5 Mummified

BODY CONDITION:
1 Robust
2 Good
3 Average
4 Poor
5 Emaciated

GROSS NECROPSY FINDINGS:

PHYSICAL EXAM (general condition, lesions, deformities, appearance, color):
SQ: (fat stores,carcass condition, etc):
BODY CAVITIES (FLUID?): is there fat in the mesenteries? Fat around the kidneys?
MUSCULOSKELETAL (color of muscle, appearance of joint fluid:

RESPIRATORY (foam, fluid, texture and color of lungs, parasites? – don't forget the sinuses and blowhole). Is the fat band at the back of the lungs thick?
CARDIOVASCULAR:
ENDOCRINE: **Adrenals:** **Thyroid:**
URINARY:
LIVER: (bile, parasites, color, texture)
DIGESTIVE: (serosal surface, content, mucosal surface, parasites): TEETH PHOTO
REPRODUCTIVE:

CARCASS DISPOSITION:

SAMPLES SUBMITTED IMMEDIATELY AND WHERE

ANCILLARY DIAGNOSTICS:

Photos ☐ Radiographs/X-ray ☐ CT scan; ☐ MRI; ☐Other Imaging _____
Where taken / stored?

COMMENTS (CAUSE OF DEATH- WHAT DO YOU THINK HAPPENED?):

HUMAN INTERACTION SAMPLES: BULLETS / FISHING GEAR / OTHER:

HOW DID YOU TAKE YOUR TOXICOLOGY SAMPLES?:

Circle: Ziplocs / Foil / Acetone-cleaned Foil / Teflon / Whirlpak / I-Chem jars
Other_____ Rinsed tissues with: _____
Type of gloves (circle): latex vinyl powder-free nitrile

Appendix 19 UME Necropsy Sample Checklist: Baleen Whale

Table 1 Code 2 Baleen Whales

Tissue	UAM	DZ	Biotoxins	TOX	;	Life HX	Fixed	notes
EXTERNAL								
Blowhole		Culturette - Amies; Dry swab in 2 mL cryovial x 2; culturette - viral						
Skin		Whirl-pak 7 oz				Bottle x 2	☐	
Skin lesions		Whirl-pak 7 oz					☐	(humpbacks)
Rostral Tubercles		Whirl-pak 7 oz					☐	(humpbacks)
Cyamids		Whirl-pak 7 oz					☐	(humpbacks)
Aqeuous humor		Cryovial 2 ml						
Eye						Whirl-pak 18 oz	☐	

Table 2 Code 2 Baleen Whales Continued

Tissue	UAM	DZ	Biotoxins	TOX	;	Life HX	Fixed	Notes
ORAL CAVITY								
Tongue		Whirl-pak 18 oz					☐	
Tonsil		Whirl-pak; Culturette - Amies; Dry swab in 2 mL cryovial; Culturette - viral					☐	
Acoustic Fat Pad						Whirl-pak 18 oz	☐	
Baleen	zip-loc gallon					zip-loc gallon		
SQ TISSUES								
Blubber		Whirl-pak 18 oz		Foil / Whirlpak			☐	
Blubber BDF				Foil / Whirlpak	Teflon / Whirlpak			
LN Prescapular		Whirl-pak 7 oz					☐	
Muscle Sterno						Whirl-pak 7 oz	☐	
Muscle Epaxial	Cryovial - 2 ml Color	Whirl-pak 7 oz		Whirl-pak 7 oz		Whirl-pak 7 oz	☐	
Bone marrow						Whirl-pak 7 oz	☐	
Bone		Whirl-pak 18 oz						

Table 3 Code 2 Baleen Whales Continued

Tissue	UAM	DZ	Biotoxins	TOX	;	Life HX	Fixed	Notes
CHEST								
Pleural fluid		Cryovial 2 ml						
Pericardial Fluid		Cryovial 2 ml	Cryovial 5 ml X2					
Thymus		Whirl-pak 7 oz					☐	
Serum		Cryovial 2 ml X 3						
Whole Blood		Culturette - Amies; Cryovial 2 mL						
LN Hilar		Whirl-pak 7 oz					☐	
Lung - Entire (beluga only)		garbage bag						
Lung Peripheral		Whirl-pak 7 oz					☐	
Lung w/ Bronchus		Whirl-pak 7 oz					☐	
Trachea		Whirl-pak 7 oz					☐	
Heart	Cryovial - 2 ml Color	Whirl-pak 7 oz		Whirl-pak 7 oz			☐	

Table 4 Code 2 Baleen Whales Continued

Tissue	UAM	DZ	Biotoxins	TOX	;	Life HX	Fixed	Notes
ABDOMEN								
Liver	Cryovial - 2 ml Color	Whirl-pak 11 oz		Foil / Whirlpak; Whirl-pak 18 oz	Teflon		☐	
Bile				Cryovial 2 ml				
Spleen	Cryovial - 2 ml Color	Whirl-pak 7 oz; Culturette - Amies; Dry swab in 2 mL cryovial x 2; Culturette - viral					☐	
Adrenal Gland		Whirl-pak 7 oz					☐	
Urine			Cryovial 5 ml X2					
Kidney	Cryovial - 2 ml Color	Whirl-pak 18 oz		Whirl-pak 18 oz; Foil/Whirlpak	Teflon / Whirlpak		☐	

Table 5 Code 2 Baleen Whales Continued

Tissue	UAM	DZ	Biotoxins	TOX	;	Life HX	Fixed	Notes
REPRODUCTIVE TRACT								
Testes (Int)		Whirl-pak 7 oz					☐	
Amnionic Fluid		Cryovial 2 ml	Cryovial 5 ml X2					
Uterus		Culturette- amies; Cryovial 2mL with dry swab					☐	
Ovaries							☐	
Placenta		Whirl-pak 18 oz X 3					☐	
GI TRACT								
Stomach Contents		Whirl-pak 4 oz	Whirl-pak 4 oz			Zip-loc 2 gallon	☐	
Jejunum		Whirl-pak 18 oz x 2					☐	
LN Mesenteric		Whirl-pak 7 oz					☐	
Colon		Whirl-pak 18 oz						
Feces		Whirl-pak 7 oz X 3						
GI cary Blair Swab		Culturette - Cary-Blair X 2						
GI dry Swab		Cryovial 2 ml - dry swab X 2						
GI viral swab		culturette - viral						

Table 6 Code 2 Baleen Whales Continued

Tissue	UAM	DZ	Biotoxins	TOX	;	Life HX	Fixed	Notes
SKULL / HEAD								
Ear plug (both)						15% NBS and then 10%		
Brain		Whirl-pak 7 oz; Culturette - Amies; Cryovial 2 mL dry swab x 2; Culturette - viral		Foil / Whirlpak			☐	
Tympanic bullae						NBS Jar		
Spinal Cord		Whirl-pak 7 oz					☐	
ADDITIONAL SAMPLES								
lesion Amies Swab		Culturette - Amies						
lesion Amies Swab		Culturette - Amies						
lesion dry Swab		Cryovial 2 ml - dry swab						
lesion dry Swab		Cryovial 2 ml - dry swab						
lesion viral Swab		culturette - viral						
Lesions		Whirl-pak 7 oz					☐	
LN		Whirl-pak 7 oz						

Table 7 Code 3 Baleen Whales

Tissue	UAM	DZ	Biotoxins	TOX	Life HX	Fixed	Comment
EXTERNAL							
Blowhole		Cryovial 2 ml - dry swab X 2					
Skin		Whirl-pak 7 oz			Bottle x 2	☐	
Skin lesions		Whirl-pak 7 oz				☐	(humpbacks)
Rostral Tubercles		Whirl-pak 7 oz				☐	(humpbacks)
Cyamids		Whirl-pak 7 oz				☐	(humpbacks)
Eye					Whirl-pak 18 oz	☐	
Tongue		Whirl-pak 18 oz				☐	
Acoustic Fat Pad					Whirl-pak 18 oz	☐	
Mandible	zip-loc gallon				zip-loc gallon		

Table 8 Code 3 Baleen Whales Continued

Tissue	UAM	DZ	Biotoxins	TOX	Life HX	Fixed	Comment
SQ TISSUES							
Blubber		Whirl-pak 18 oz		Foil / Whirlpak		☐	
Blubber BDF				Foil / Whirlpak			
Muscle Epaxial	Cryovial - 2 ml Color			Whirl-pak 7 oz		☐	
CHEST							
Pericardial Fluid			Cryovial 5 ml				
Pericardial Fluid			Cryovial 5 ml				
Whole Blood		Culturette - Amies					
LN Hilar		Whirl-pak 7 oz				☐	
Lung Peripheral		Whirl-pak 7 oz				☐	
Lung w/ Bronchus		Whirl-pak 7 oz				☐	
Heart	Cryovial - 2 ml Color	Whirl-pak 7 oz		Whirl-pak 7 oz		☐	

Table 9 Code 3 Baleen Whales Continued

Tissue	UAM	DZ	Biotoxins	TOX	Life HX	Fixed	Comment
ABDOMEN							
Liver	Cryovial - 2 ml Color	Whirl-pak 11 oz, Whirl-pak 7 oz		Foil / Whirlpak		☐	
Spleen	Cryovial - 2 ml Color	Whirl-pak 7 oz ; Cryovial 2 ml - dry swab X 2				☐	
Urine			Cryovial 5 ml X 2				
Kidney	Cryovial - 2 ml Color			Whirl-pak 11 oz; Foil /Whirlpak			
REPRODUCTIVE TRACT							
Testes (Int)		Whirl-pak 7 oz				☐	
Amnionic Fluid		Cryovial 2 ml	Cryovial 5 ml x 2				
Uterus		Culturette-amies; Cryvial 2mL dry swab				☐	
Ovaries						☐	
Placenta		Whirl-pak 18 oz X 3				☐	

Table 10 Code 3 Baleen Whales Continued

Tissue	UAM	DZ	Biotoxins	TOX	Life HX	Fixed	Comment
GI TRACT							
Stomach Contents		Whirl-pak 4 oz X 2			Zip-loc 2 gallon		
LN Mesenteric		Whirl-pak 7 oz				☐	
Feces		Whirl-pak 7 oz	Whirl-pak 7 oz				
SKULL / HEAD							
Ear plug					15% NBS and then 10%		
Brain		Cryovial 2 ml - dry swab X 2				☐	
Tympanic bullae					NBS Jar		
Spinal Cord		Whirl-pak 7 oz				☐	
ADDITIONAL SAMPLES							
Lesions		Whirl-pak 7 oz				☐	
LN		Whirl-pak 7 oz					

Table 11 Code 4 Baleen Whales

Tissue	UAM	DZ	Biotoxins	TOX	Life HX	Fixed	Comment
EXTERNAL							
Skin		Whirl-pak 7 oz			Bottle x 2		
Skin lesions		Whirl pack				☐	(humpbacks)
Rostral Tubercles						☐	(humpbacks)
Cyamids						☐	(humpbacks)
Eye					Whirl-pak 18 oz		
Acoustic Fat Pad					Whirl-pak 18 oz		
Mandible	zip-loc gallon				zip-loc gallon		
SQ TISSUES							
Blubber BDF				Foil / Whirlpak			
CHEST							
Pericardial Fluid			Cryovial 5 ml X 2				
Heart	Cryovial - 2 ml Color						

Table 12 Code 4 Baleen Whales Continued

Tissue	UAM	DZ	Biotoxins	TOX	Life HX	Fixed	Comment
ABDOMEN							
Liver	Cryovial - 2 ml Color			Whirl-pak 18 oz			
Spleen	Cryovial - 2 ml Color						
Urine			Cryovial 5 ml X 2				
Kidney	Cryovial - 2 ml Color			Whirl-pak 11 oz			
REPRODUCTIVE TRACT							
Testes (Int)		Whirl-pak 7 oz					
Placenta		Whirl-pak 18 oz X 2					
GI TRACT							
Stomach Contents		Whirl-pak 4 oz			Zip-loc 2 gallon		
Feces		Whirl-pak 7 oz					
SKULL / HEAD							
Ear plug						15% NBS and then 10%	
Tympanic bullae						NBS Jar	
ADDITIONAL SAMPLES							
Lesions		Whirl-pak 7 oz				☐	

Table 13 Code 5 Baleen Whales

Tissue	UAM	DZ	Biotoxins	TOX	Life HX	Fixed
EXTERNAL						
Skin					Bottle x 2	
Eye					Whirl-pak 18 oz	
Mandible	zip-loc gallon				zip-loc gallon	
SQ TISSUES						
CHEST						
Heart	Cryovial - 2 ml Color					
ABDOMEN						
Liver	Cryovial - 2 ml Color			Whirl-pak 18 oz		
Spleen	Cryovial - 2 ml Color					
Kidney	Cryovial - 2 ml Color			Whirl-pak 18 oz		
REPRODUCTIVE TRACT						
GI TRACT						
Stomach Contents		Whirl-pak 4 oz				
SKULL / HEAD						
Ear plug					15% NBS and then 10%	
Tympanic bullae					10% NBS jar	
ADDITIONAL SAMPLES						
Lesions		Whirl-pak 7 oz				☐

Appendix 20

Toothed Whale UME Necropsy Protocol & Checklist

Animal Field ID __ __ Date _____ Initials _____

Appendix 20 UME NECROPSY REPORT: TOOTHED WHALE

Developed by Dr. Kathy Burek
Alaska Veterinary Pathology Services (AVPS)
Please see AVPS website for most up to date forms: https://sites.google.com/site/akvetpath/

1) If you received a sample from a community member, follow protocol in Appendix 9 Community Member Narrative and keep with this record
2) Take extensive internal and external photos following the documentation procedures in Appendix 11

ID Number:_____
Location:_____(Lat;Long)_____
Reported by: _ _____ Contact info:_____
Date found: __Date recovered:_____Necropsy Date:_____
Species: _____ Age: _____ Sex: M F Unknown
Prosectors:_____Contact info:_____
Weather info:_____
Human Interaction Forms? ☐; Chain of custody forms:_☐; Level A forms filled out ☐
BRIEF HISTORY:

GROSS DIAGNOSIS:

_____

MEASUREMENTS (cm unless indicated)

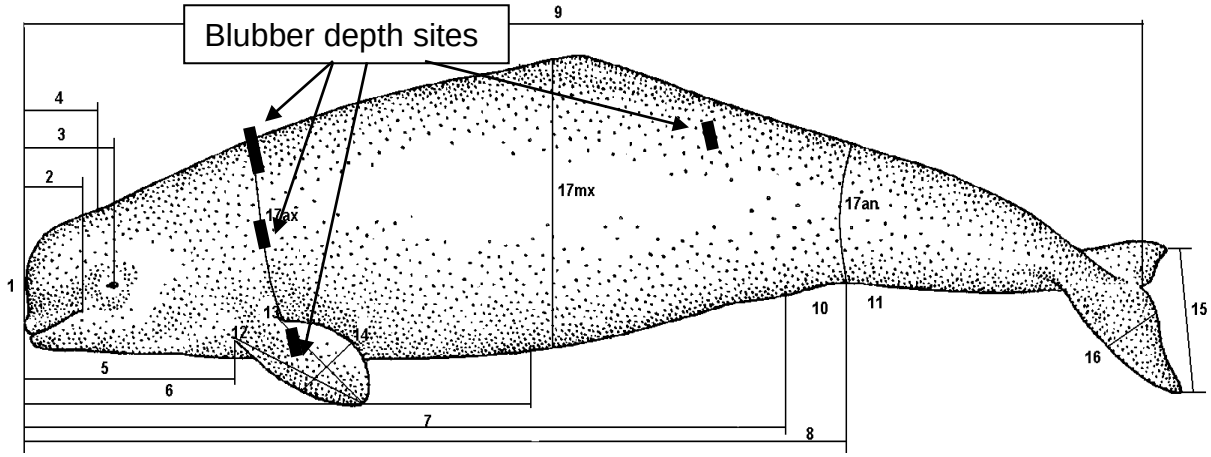
Tooth count: Total _____ UpL _____ Up R _____ Low L _____ Low R_____

Diameter / length largest tooth

Basic Measurements	**Value**	**Basic Measurements***	**Value**
Total length (9)		Skin thickness	
Estimated weight?		Blubber thickness, dorsal bdf **(w/o skin)** straight down from caudal end of dorsal ridge, 45° from spine.	
Girth at axilla (17ax)		Blubber thickness, dorsal midline Axillary **(w/o skin)**	
Girth, anus (17an)		Blubber thickness, ventral midline Axillary **(w/o skin)**	
Fluke width (15)		Blubber thickness, lateral Axillary, **(w/o skin)**	

Animal Field ID __ __ Date _____ Initials _____

*see diagram below for more extensive measurements.



EXTERNAL EXAMINATION (CIRCLE)

CARCASS CLASSIFICATION:
Code 2 Fresh
Code 2.5 mild decomposition
Code 3 moderate (decomposed organs intact)
Code 4 Poor (advance decomposition)
Code 5 Mummified

BODY CONDITION:
1 Robust
2 Good
3 Average
4 Poor
5 Emaciated

GROSS NECROPSY FINDINGS:

PHYSICAL EXAM Draw on documents below. My Apologies for the art!
PHOTO of Overall Left lateral _____ Right lateral _____ Dorsal _____ Ventral _____ Dorsal Ridge _____Flank fullness _____ Cd-R Tail shot" _____ Fluke shot _____
Open mouth shot _____

SQ:

BODY CAVITIES (FLUID?): is there fat in the mesenteries? Fat around the kidneys?

MUSCULOSKELETAL (color of muscle, appearance of joint fluid:

Animal Field ID __ __ Date _____ Initials _____

RESPIRATORY (foam, fluid, texture and color of lungs, parasites? – don't forget the sinuses and blowhole). Is the fat band at the back of the lungs thick?
CARDIOVASCULAR:
ENDOCRINE: Adrenal gland, ,thyroid and pituitary
URINARY: is there fat around the kidneys?
LIVER: (bile, parasites, color, texture)
LYMPHOID: Lymph nodes: **Spleen:** **Thymus:**

Animal Field ID __ __ Date _____ Initials _____

DIGESTIVE: (serosal surface, content, mucosal surface, parasites): TEETH PHOTO
REPRODUCTIVE: (measure (weight and LXDXH) ovaries, uterine horns, placenta if present):
NERVOUS SYSTEM:

CARCASS DISPOSITION:

SAMPLES SUBMITTED IMMEDIATELY AND WHERE

ANCILLARY DIAGNOSTICS:

Photos ☐ Radiographs/X-ray ☐ CT scan; ☐ MRI; ☐Other Imaging _____

Where taken / stored?

COMMENTS (CAUSE OF DEATH, INTERPRETATIONS):

HUMAN INTERACTION SAMPLES: BULLETS / FISHING GEAR / OTHER:

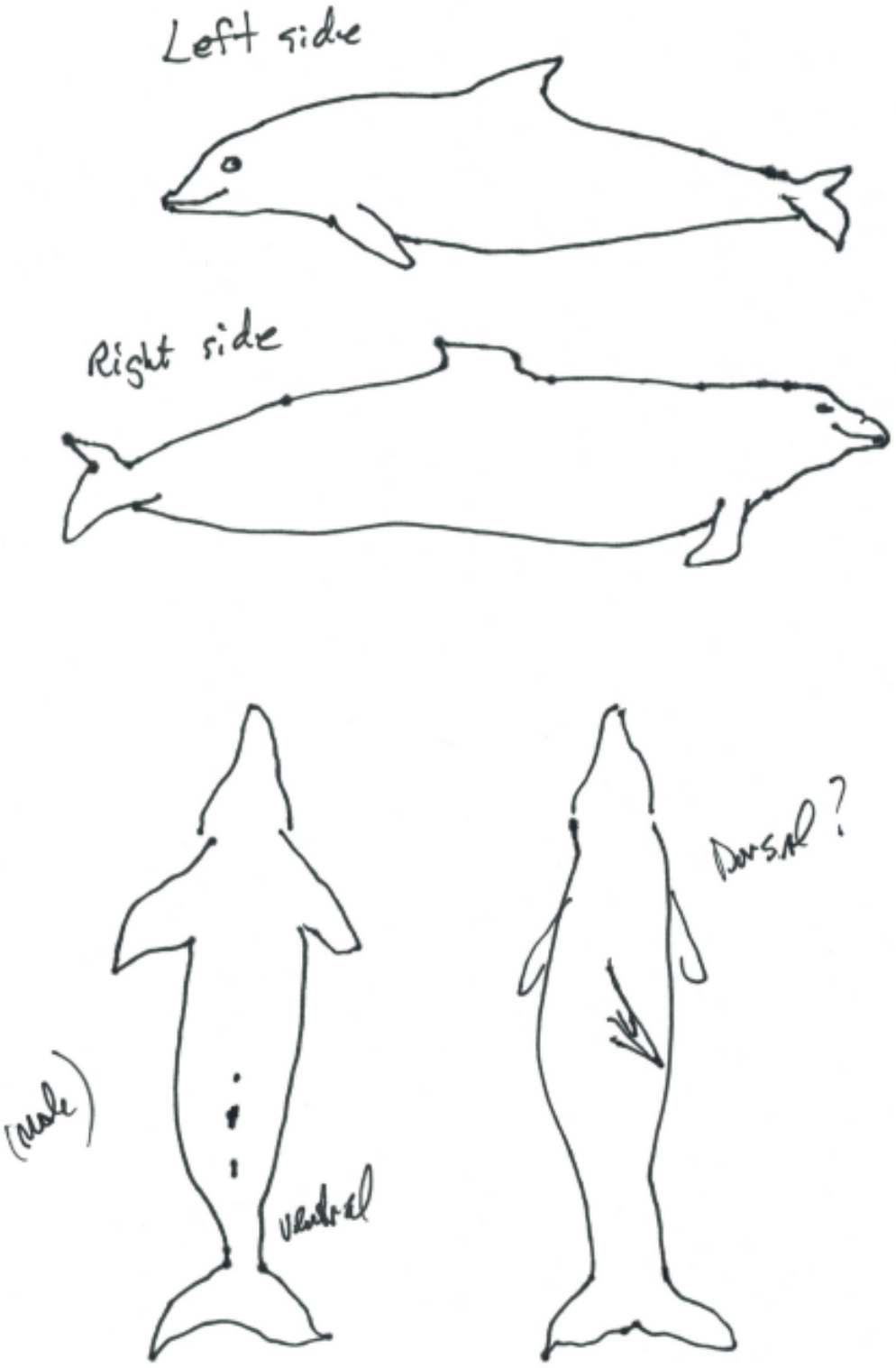
HOW DID YOU TAKE YOUR TOXICOLOGY SAMPLES?:

Circle: Ziplocs / Foil / Acetone-cleaned Foil / Teflon / Whirlpak / I-Chem jars

Other_____ Rinsed tissues with: _____

Type of gloves (circle): latex vinyl powder-free nitrile

Animal Field ID __ __ Date _____ Initials _____



Apologies for the" art". Please note on the documents areas of skin lesions / trauma / where samples were taken.

Animal Field ID __ __ Date ______________ Initials _________________

Receipt signature:______________________ Receipt date:____________________
Print name/agency:____
Release signature: ______________________ Release date:____________________
Method of transfer to next person:_________________________________

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Print name/agency:____
Release signature: ______________________ Release date:____________________
Method of transfer to next person:_________________________________

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Method of transfer to next person:_________________________________

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Print name/agency:____
Release signature: ______________________ Release date:____________________
Method of transfer to next person:_________________________________

Appendix 20 UME Necropsy Checklist: Toothed Whale

Developed by Dr. Kathy Burek
Alaska Veterinary Pathology Services (AVPS)
Please see AVPS website for most up to date forms: https://sites.google.com/site/akvetpath/

Table 1 Code 2 Toothed Whales

Tissue	UAM	DZ	Biotoxins	TOX	Archive	Life HX	Fixed (NBF)
EXTERNAL							
Blowhole		Culturette - Amies dry swab X2; culturette - viral					
Skin		Whirl-pak 7 oz				DMSO X2	☐
Aqeuous humor		Cryovial 2 ml					
Eye						Whirl-pak 18 oz	☐
ORAL CAVITY							
Tongue		Whirl-pak 18 oz					☐
Tonsil		Whirl-pak 7 oz Culturette - Amies dry swab X2; culturette - viral					☐
Acoustic Fat Pad						Whirl-pak 18 oz	☐
Mandible or teeth	zip-loc gallon or paper envelope					zip-loc gallon or paper envelope	

Table 2 Code 2 Toothed Whales Continued

Tissue	UAM	DZ	Biotoxins	TOX	Archive	Life HX	Fixed (NBF)
SQ TISSUES / MUSCULOSKELETAL							
Blubber DAX, LAX VAX (Circle one)		Whirl-pak 18 oz					☐
				Foil / Whirlpak			☐
Blubber BDF				Foil / Whirlpak	Teflon / Whirlpak		
LN Prescapular		Whirl-pak 7 oz					☐
Muscle Sterno						Whirl-pak 7 oz	☐
Muscle Epaxial	Cryovial - 2 ml Color	Whirl-pak 7 oz		Whirl-pak 7 oz		Whirl-pak 7 oz	☐
Bone		Whirl-pak 18 oz					
CHEST							
Pleural fluid		Cryovial 2 ml					
Pericardial Fluid		Cryovial 2 ml	Cryovial 5 ml X 2				
Thymus		Whirl-pak 7 oz					☐
Serum		Cryovial 2 ml X 3					

Table 3 Code 2 Toothed Whales Continued

Tissue	UAM	DZ	Biotoxins	TOX	Archive	Life HX	Fixed (NBF)
Whole Blood		Culturette - Amies Cryovial 2 ml					
LN Hilar		Whirl-pak 7 oz					☐
Lung Peripheral		Whirl-pak 7 oz X2					☐
Lung w/ Bronchus		Whirl-pak 7 oz					☐
Trachea		Amies swab Dry swab in cryo X2 Viral media swab					☐
Heart	Cryovial - 2 ml Color	Whirl-pak 7 oz		Whirl-pak 7 oz			☐
ABDOMEN							
Liver	Cryovial - 2 ml Color	Whirl-pak 11 oz		Foil / Whirlpak Whirl-pak 18 oz	Teflon / Whirlpak		☐
Bile				Cryovial 2 ml			
Spleen	Cryovial - 2 ml Color	Whirl-pak 7 oz Culturette - Amies dry swab X2; culturette - viral					☐
Adrenal Gland		Whirl-pak 7 oz					☐
Urine			Cryovial 5 ml X2				

Table 4 Code 2 Toothed Whales Continued

Tissue	UAM	DZ	Biotoxins	TOX	Archive	Life HX	Fixed (NBF)
Kidney	Cryovial - 2 ml Color	Whirl-pak 18 oz		Whirl-pak 18 oz (HMs) Foil / Whirlpak (POPS)	Teflon / Whirlpak		☐
REPRODUCTIVE TRACT							
Testes (Int)		Whirl-pak 7 oz					☐
Amnionic Fluid		Cryovial 2 ml	Cryovial 5 ml X2				
Uterus		Culturette- amies Cryovial 2mL with dry swab					☐
Ovaries							☐
Placenta		Whirl-pak 18 oz X 3					☐
GI TRACT							
Stomach Contents		Whirl-pak 4 oz	Whirl-pak 4 oz			Zip-loc 2 gallon	
Jejunum		Whirl-pak 18 oz X2					x3 ☐
LN Mesenteric		Whirl-pak 7 oz					☐
Colon		Whirl-pak 18 oz					

Table 5 Code 2 Toothed Whales Continued

Tissue	UAM	DZ	Biotoxins	TOX	Archive	Life HX	Fixed (NBF)
Feces		Whirl-pak 7 oz Culturette - Cary-Blair X 2 Cryovial 2 ml - dry swab X 2 culturette - viral	Whirl-pak 7 oz				
SKULL / HEAD							
Brain		Whirl-pak 7 oz Culturette - Amies dry swab X2; culturette - viral		Foil / Whirlpak			☐
Tympanic bullae						NBF Jar	
Spinal Cord		Whirl-pak 7 oz					☐
ADDITIONAL SAMPLES							
Lesions		Whirl-pak 7 oz Culturette - Cary-Blair X 2 Cryovial 2 ml - dry swab X 2 culturette - viral					☐

Table 6 Code 3 Toothed Whales

Tissue	UAM	DZ	Biotoxins	TOX	Life HX	Fixed	COMMENTS
EXTERNAL							
Blowhole		Cryovial 2 ml - dry swab X 2					
Skin		Whirl-pak 7 oz			DMSO X2	☐	
Eye					Whirl-pak 18 oz	☐	
Tongue		Whirl-pak 18 oz				☐	
Acoustic Fat Pad					Whirl-pak 18 oz	☐	
Mandible or teeth	zip-loc gallon or paper envelope				zip-loc gallon or paper envelope		
SQ TISSUES / MUSCULOSKELETAL							
Blubber		Whirl-pak 18 oz		Foil / Whirlpak		☐	
Blubber BDF				Foil / Whirlpak			
Muscle Epaxial	Cryovial - 2 ml Color			Whirl-pak 7 oz		☐	

Table 7 Code 3 Toothed Whales Continued

Tissue	UAM	DZ	Biotoxins	TOX	Life HX	Fixed	COMMENTS
CHEST							
Pericardial Fluid			Cryovial 5 ml X2				
Whole Blood		Culturette - Amies					
LN Hilar		Whirl-pak 7 oz				☐	
Lung Peripheral		Whirl-pak 7 oz				☐	
Lung w/ Bronchus		Whirl-pak 7 oz				☐	
Heart	Cryovial - 2 ml Color	Whirl-pak 7 oz		Whirl-pak 7 oz		☐	
ABDOMEN							
Liver	Cryovial - 2 ml Color	Whirl-pak 11 oz		Foil / Whirlpak		☐	
Spleen	Cryovial - 2 ml Color	Whirl-pak 7 oz Cryovial 2 ml - dry swab X 2				☐	
Urine			Cryovial 5 ml X 2				

Table 8 Code 3 Toothed Whales Continued

Tissue	UAM	DZ	Biotoxins	TOX	Life HX	Fixed	COMMENTS
Kidney	Cryovial - 2 ml Color			Whirl-pak 11 oz (HMs) Foil / Whirlpak (POPs)			
REPRODUCTIVE TRACT							
Testes (Int)		Whirl-pak 7 oz				☐	
Amnionic Fluid		Cryovial 2 ml	Cryovial 5 ml x 2				
Uterus		Culturette- amies Cryvial 2 mL dry swab				☐	
Ovaries						☐	
Placenta		Whirl-pak 18 oz X 3				☐	
GI TRACT							
Stomach Contents			Whirl-pak 4 oz X 2		Zip-loc 2 gallon		
LN Mesenteric		Whirl-pak 7 oz				☐	
Feces		Whirl-pak 7 oz	Whirl-pak 7 oz				

Table 9 Code 3 Toothed Whales Continued

Tissue	UAM	DZ	Biotoxins	TOX	Life HX	Fixed	COMMENTS
SKULL / HEAD							
Brain		Cryovial 2 ml - dry swab X 2				☐	
Spinal Cord		Whirl-pak 7 oz				☐	
ADDITIONAL SAMPLES							
Lesions		Whirl-pak 7 oz Cryovial 2 ml - dry swab X 2 Viral media swab				☐	
Abnormal LN		Whirl-pak 7 oz Cryovial 2 ml - dry swab X 2 Viral media swab					

Table 10 Code 4 Toothed Whales

Tissue	UAM	DZ	Biotoxins	TOX	Life HX	Fixed (NBF)	COMMENTS
EXTERNAL							
Skin		Whirl-pak 7 oz					
					Bottle		
					Bottle		
Eye					Whirl-pak 18 oz		
Acoustic Fat Pad					Whirl-pak 18 oz		
Mandible or teeth	zip-loc gallon or paper envelope				zip-loc gallon or paper envelope		
SQ TISSUES							
Blubber BDF				Foil / Whirlpak			
CHEST							
Pericardial Fluid			Cryovial 5 ml X 2				
Heart	Cryovial - 2 ml Color						
ABDOMEN							
Liver	Cryovial - 2 ml Color						
				Whirl-pak 18 oz			

Table 11 Code 4 Toothed Whales Continued

Tissue	UAM	DZ	Biotoxins	TOX	Life HX	Fixed (NBF)	COMMENTS
Spleen	Cryovial - 2 ml Color						
Urine			Cryovial 5 ml X 2				
Kidney				Whirl-pak 11 oz			
	Cryovial - 2 ml Color						
REPRODUCTIVE TRACT							
Testes (Int)		Whirl-pak 7 oz					
Placenta		Whirl-pak 18 oz X 2					
GI TRACT							
Stomach Contents			Whirl-pak 4 oz		Zip-loc 2 gallon		
Feces			Whirl-pak 7 oz				
SKULL / HEAD							
Tympanic bullae					NBS Jar		
ADDITIONAL SAMPLES							
Lesions		Whirl-pak 7 oz				☐	

Table 12 Code 5 Toothed Whales

Tissue	UAM	DZ	Biotoxins	TOX	Life HX	Fixed	COMMENTS
EXTERNAL							
Skin					Bottle		
					Bottle		
Eye					Whirl-pak 18 oz		
Mandible or teeth	zip-loc gallon or paper envelope				zip-loc gallon or paper envelope		
SQ TISSUES							
CHEST							
Heart	Cryovial - 2 ml Color						
ABDOMEN							
Liver	Cryovial - 2 ml Color			Whirl-pak 18 oz			
Spleen	Cryovial - 2 ml Color						
Kidney	Cryovial - 2 ml Color			Whirl-pak 18 oz			
REPRODUCTIVE TRACT							
GI TRACT							
Stomach Contents			Whirl-pak 4 oz				

Table 13 Code 5 Toothed Whales Continued

Tissue	UAM	DZ	Biotoxins	TOX	Life HX	Fixed	COMMENTS
Feces			Whirl-pak 4 oz				
SKULL / HEAD							
Tympanic bullae					NBF Jar		
ADDITIONAL SAMPLES							
Lesions		Whirl-pak 7 oz				☐	

Appendix 21

Equipment and Supplies for a Single Necropsy

EQUIPMENT AND SUPPLIES FOR A SINGLE NECROPSY

1. Clipboard, metal
2. Necropsy Table (Checklist)
3. Necropsy Report Form(s)
4. Necropsy Manual
5. Scarcard
6. Census Form
7. Tag/handling card
8. Survival factor form
9. Self-sticking pre-printed specimen labels (3 sheets)
10. Waterproof labels ("rite-in-rain" paper, pre-cut) (3 sheets)
11. Pencils (2)
12. Ball-point pens (optional) (2)
13. Permanent markers (sharpies) (2)
14. Ruler (metric)
15. Metal tape measure (metric)
16. Tape measure, flexible (metric)
17. Surgical scissors (2: straight and curved)
18. Rubber gloves
    chemical resistant - 2 pr. latex
    heavy duty - 6 pr. latex exam gloves - 15 pr
19. Scalpel handles (4: 2 #8, 2 #6)
20. Scalpel blades (30)
21. Blubber biopsy punch, 6 mm (2)
22. Forceps (2 pr.)
23. Hemostats (1)
24. Dacron Swabs *(5)*
25. Microscope slides
26. Slide holder for microscope slides
27. Small vials (—2 x ½") - 6 ea.
28. Med. vials (—3' x 2) - 6 ca.
29. Whirlpak bags (20 ea.)
30. Ziploc bags (large)
31. Paper towels
32. Antibacterial soap/Hand sanitizer
33. Sharps container
34. Needles, 1 ½', 18g *(5)*
35. Syringes, 20cc or 35cc *(5)*
36. Blood tubes, PT, TT (4)
37. Biohazard bag (2)
38. Camera with colored slide film and/or Digital camera
39. Shovels
40. Jars and buckets partially filled with 10% NB Formalin
    a. 2 large jars for duplicate sets of histopathology tissue samples
    b. 1 bucket for entire female reproductive tract
    c. 1 bucket for esophagus
    d. 1 5gal. bucket for entire gastrointestinal tract from beginning of stomach to anus
    e. 2 jars for eyes f. 2 jars for brain
41. Hacksaw
42. Axe
43. Cryovials (20)
44. String to tie off beginning of stomach, etc. (1 roll)
45. Cutting board (not on spc. coil. list)
46. Disposable aprons (3)
47. Bone shears
48. Archival tag labels for boxes
49. Dissecting tray
50. White or light blue plastic sheet for photographic background
51. 85% saline for relaxing parasites
52. 10% NB Formalin
53. Ethyl Alcohol *95%*
54. Isopropyl Alcohol 70%
55. Glycerol
56. Teflon container (3)
57. Aluminum foil (1 roll)
58. Knives
59. Blank notecard

Appendix 22

Epidemiology Sampling Supply List

Epidemiology sampling supply list

LABORATORY SUPPLIES
glass slides
cover slips
Slide holders
Unopette WBC System (100)
Capillary pipettes for Unopette
critoseal (tube sealer)
Hemacytometer Chamber
Hemacytometer cover glass Lab
counter
Kim wipes
Quickcheck test strips BUN 25/bottle
Glucose test strips/50 strips/vial
Accucheck Advantage Glucometer
glucometer control solution
Disposable transfer pipettes
Non-heparinized HCT tubes
latex gloves
wooden applicator sticks

LABORATORY EQUIPMENT
Clinical Refractometer Microscope
Spare microscope bulbs
lens paper
lens cleaner
Centrifuge
Microhematocrit centrifuge
light for reading HCT

SWABBING/FECAL COLLECTION
Virology transport media in 1.8 ml cryovials
Virology swabs
Bacteriology swabs -Culturette
C&S bacteriology media (for Salmonella)
PVA fixative solution 32 oz
vials
fecal loops
KYJel
Digital thermometer (rectal)

BIOPSY SUPPLIES biopsy
punches 6 mm disposable
scalpel blades #11 forceps
scissors
xylocaine 2% 50 ml
disposable sterile glove
scintillation vials
amber vials
cryovials, 5.0 ml

CRYOVIALS
1.0 ml
1.8 ml
5.0 ml
nalgene marking pens

SYRINGES
35 cc slip tip
60 cc
12 cc slip tip
6 cc
IV extension sets

NEEDLES
18 gx3.5"
18 gx 1.5"
22gx1.5

VACUTAINER TUBES
SST 9.5 ml
LTT 3 ml
GNTT 5 ml
GNTT 9 ml

DISINFECTANTS, SCRUBBING, ETC
isopropyl
liter Betadine solution
Nolvasan 1 gallon
scrub brush
gauze
distilled water 1 gallon
bleach
paper towels
bottles for scrubbing
soap for handwashing

HANDLING SUPPLIES
tape measure for length and girth
coveralls
masks
hoop net
boots
cotton gloves
knee pads
calipers

FIELD FORMS
necropsy
clinical exam
restraint
lab sheets
specimen collection log
controlled drug log
specimen labels

MISCELLLANEOUS
cooler
Nitrogen Dewar
batteries
pens
pencils
sharps containers
Biohazard bags
latex gloves
Photographic camera w/lens
Film - 400 ASA slides/paper

Appendix 23

References

Appendix 23 - References

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