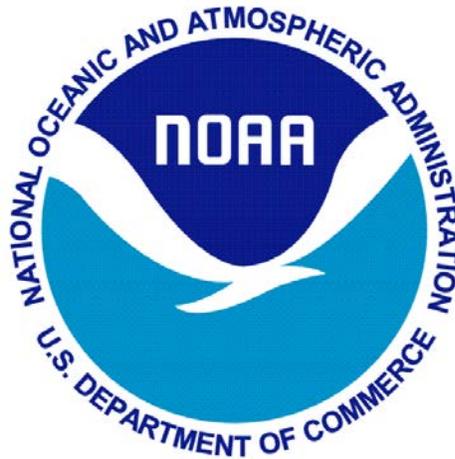


NMFS MARINE MAMMAL HEALTH AND STRANDING RESPONSE PROGRAM

Cook Inlet & Kodiak Marine Mammal Disaster Response Guidelines



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National Marine Fisheries Service

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Jennifer Dushane, Technical Editor
Alaska Ecological Research

Michael Ziccardi, Technical Editor
Karen C. Drayer Wildlife Health Center, School of Veterinary Medicine, University of California at Davis

Contributing Authors
Sadie Wright, Sarah Wilkin, Mandy Migura, and Teresa Rowles
NOAA's National Marine Fisheries Service

U.S. DEPARTMENT OF COMMERCE
Wilbur Ross, Secretary
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
Neil Jacobs, Administrator

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Acronyms Used in Guidelines

AAC	Alaska Administrative Code
ACP	Area Contingency Plan
ADEC	Alaska Department of Environmental Conservation
ADF&G	Alaska Department of Fish and Game
AKEOP	State of Alaska Emergency Operations Plan
AMMDRG	Arctic Marine Mammal Disaster Response Guidelines
ANCSA	Alaska Native Claims Settlement Act
APHIS	Animal and Plant Health Inspection Service
ARRT	Alaska Regional Response Team
ASLC	Alaska SeaLife Center
AWA	Animal Welfare Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CI	Cook Inlet
CIKMMDRG	Cook Inlet & Kodiak Marine Mammal Disaster Response Guidelines
CIRI	Cook Inlet Region, Inc.
CISPRI	Cook Inlet Spill Prevention & Response, Inc.
CoC	Chain of Custody
CWA	Clean Water Act
DOD	Department of Defense
DWBD	Deputy Wildlife Branch Director
DWH	Deepwater Horizon
EPA	U. S. Environmental Protection Agency
ESA	Endangered Species Act
ESF	Emergency Support Function
FEMA	Federal Emergency Management Agency
FOSC	Federal On-Scene Coordinator
GIS	Geographic Information System
HAZCOM	Hazard Communication
HAZWOPER	Hazardous Waste Operations and Emergency Response
IAP	Incident Action Plan
IRA	Indian Reorganization Act
ICS	Incident Command System
IPCoMM	Indigenous People's Council for Marine Mammals
JBER	Joint Base Elmendorf-Richardson
JIC	Joint Information Center
LOSC	Local On-Scene Coordinator
LTK	Local and Traditional Knowledge
MM	Marine Mammal
MMC	Marine Mammal Commission
MMHSRP	Marine Mammal Health and Stranding Response Program
MMPA	Marine Mammal Protection Act
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MRU	Mobile Response Unit
MTRS	Mobile Treatment Response Systems
NCP	National Contingency Plan
NGO	Non-Governmental Organization

NIMS	National Incident Management System
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NRDA	Natural Resource Damage Assessment
NRF	National Response Framework
NRS	National Response System
OLE	Office of Law Enforcement
OPA-90	Oil Pollution Act of 1990
OSC	On-Scene Coordinator
OSRO	Oil Spill Removal Organization
PAH	Polycyclic Aromatic Hydrocarbon
PPE	Personal Protective Equipment
QA/QC	Quality Assurance/Quality Control
RP	Responsible Party
RPIC	Responsible Party Incident Commander
RRT	Regional Response Team
RSC	Regional Stranding Coordinator
SA	Stranding Agreement
SN	Stranding Network
SSC	Scientific Support Coordinator
SONS	Spill of National Significance
SOSC	State On-scene Coordinator
UC	Unified Command
UME	Unusual Mortality Event
USC	United States Code
USCG	U. S. Coast Guard
USDA	U.S. Department of Agriculture
USFWS	U. S. Fish and Wildlife Service
VHF	Very High Frequency
WBD	Wildlife Branch Director

Executive Summary

Introduction

The coastline of Alaska and its offshore areas provide seasonal feeding, breeding, and migratory habitat for large numbers of marine mammals. In some cases, the major portion of the world's population of a particular species may be present, including numerous species and distinct population segments of species that are listed as either Threatened or Endangered under the U.S. Endangered Species Act. Moreover, these species include important subsistence resources for Alaska Native communities.

The National Marine Fisheries Service (NMFS) manages whales and most pinnipeds. The U.S. Fish and Wildlife Service (USFWS) manages Pacific walrus, northern sea otters, and polar bears. There are many similarities between NMFS and USFWS disaster responses, but there are also key differences. As such, the trust agency for the species impacted by a disaster must be contacted for directions to guide appropriate response actions.

The 24/7 Stranding Response hotline to report dead, oiled, injured, or entangled marine mammals under NMFS's jurisdiction is 1-877-925-7773. Questions about USFWS species should be directed to the USFWS' Marine Mammals Management Office (1-800-362-5148). If USFWS trust species are oiled, please contact USFWS Spill Response Notification hotline, (907) 242- 6893 or email fwsakspillresponse@fws.gov. The Joint Information Center for a large oil spill or other emergency event will likely establish an incident-specific hotline for wildlife reports.

In preparation for a disaster response, specifically for oil spills, extensive efforts have been undertaken in Alaska toward developing strategies and protocols to respond to marine wildlife. In 1987, the Alaska Regional Response Team (ARRT) established a working group to develop guidance for dealing with oiled wildlife that Federal On-Scene Coordinators (FOSC) could use during a federally-funded response to an oil spill. This guidance is known as the Wildlife Protection Guidelines of Alaska and continues to be updated regularly. National Marine Fisheries Service is a participant in the ARRT and, in collaboration with other participating agencies, has developed marine mammal response guidance that include primary, secondary, and tertiary strategies.

In 2004, NMFS began the development of Pinniped and Cetacean Oil Spill Response Guidelines (hereafter National Guidelines) for its trust species. Those guidelines were finalized in 2006 and most stranding networks were trained from 2006-2009. Since the Deepwater Horizon (DWH) oil spill response in 2010, the National Guidelines have been revised to incorporate lessons learned during DWH and subsequent spills (Ziccardi et al. 2015). Recognizing the importance of regionally-specific disaster response guidelines, NMFS then developed the Arctic Marine Mammal Disaster Response Guidelines (AMMDRG), which were finalized in 2017 (NMFS 2017).

Concurrent with the development of the AMMDRG, NMFS also developed Alaska Region Statewide Marine Mammal Spill Preparedness and Response Structure; Expectations for Responsible Parties (hereafter, NMFS Alaska Response Standards). The NMFS Alaska Response Standards have been revised and the updated statewide standards are presented herein (NMFS 2017). The NMFS Alaska Response Standards outlines minimum standards for marine mammal response capacity for the first several weeks of a disaster response, and were written to provide specific criteria to federal

and state regulators seeking to ensure compliance with their respective statutes regarding oiled wildlife response preparedness and response requirements statewide.

The Cook Inlet and Kodiak Marine Mammal Disaster Response Guidelines (CIKMMDRG) build upon the National Guidelines, incorporate information from the National Contingency Plan (NCP), National Response Framework (NRF), and State of Alaska Emergency Operations Plan (AKEOP), and expand upon the Alaska Regional Contingency Plan, Wildlife Protection Guidelines. Specifically, they address disaster response activities specific to NMFS trust species of cetaceans and pinnipeds in the Cook Inlet and Kodiak regions of Alaska and provide regionally-specific communication and response strategies within a flexible and practicable framework to accommodate the myriad scenarios that may be encountered during a disaster response in these regions. Additionally, data collection protocols were developed to be congruent with the Natural Resource Damage Assessment (NRDA) process.

The NMFS Alaska Response Standards, along with regional disaster response guidelines, are intended to provide the framework needed for effective marine mammal disaster preparedness and response efforts in Alaska.

Relatively less preparation has occurred to respond to marine mammals affected by non-oil spill related disasters in Alaska, although much of the organization and protocols in place for spill events are equally applicable to non-spill incidents. Efforts at the national and state level have defined key principles, roles and structures enabling a unified and effective response, specifically, the development of the NRF led by the Federal Emergency Management Agency (FEMA), and the State of Alaska Emergency Operations Plan.

In preparation for potential response activities, NMFS recognized the critical importance of addressing local concerns and incorporating local people and their traditional knowledge from coastal Alaskan communities. The development of these Guidelines was informed through meetings with leadership organizations from Alaskan coastal communities of Cook Inlet and Kodiak Island. NMFS incorporated information from tribal governments, village and regional Native corporations, stranding network members, state and federal agencies, oil spill removal organizations, and other stakeholders.

A thorough understanding of the legal, political, geographical, and cultural proprieties in Alaska is integral to successful disaster response. No written guidelines, taken by themselves, provide the comprehensive, nuanced understanding needed to mount an effective and culturally sensitive disaster response in Alaska; indeed, only complete integration and collaboration with local communities can achieve this end. As such, the intent of these Guidelines, aside from providing technical protocols, is to provide responders with the necessary communication protocols and pathways to integrate local stakeholders into response efforts.

Authority

All response activities involving NMFS trust species must first be authorized by the Regional Stranding Coordinator (RSC¹) or Headquarters Marine Mammal Health and Stranding Response Program (MMHSRP) leads (or their designee), and carried out by members of the stranding network with stranding agreements (SA), MMPA 109(h) authority, and/or by their authorized designees. The

¹ In the Area Contingency Plans, RSC means Regional Stakeholder Committee; in this document, RSC means Regional Stranding Coordinator.

regional SA permit holder will often serve as the local lead for response activities. Marine mammals under USFWS jurisdiction are addressed separately through species-specific response plans for sea otters, Pacific walrus, and polar bears.

Geographic Boundaries

The geographic planning boundaries of these Guidelines correspond with the waterbodies of Cook Inlet and Kodiak Island (Figure 1 and Figure 2). The Cook Inlet and Kodiak response boundaries are contained within the Arctic and Western Alaska Area Contingency Plans outlined in the Alaska Regional Contingency Plan.

The Cook Inlet region covered in these guidelines extend throughout all of the marine waters and nearby coastal areas of Cook Inlet, to just north of the Stevenson Strait Entrance. The Kodiak region covered in these guidelines roughly follows the Kodiak Island Borough demarcation—beginning to the north at the Stevenson Strait Entrance, extending into the west with the Shelikof Strait and adjoining waterways on the Alaska Peninsula, and south to the Semidi Islands.

Cultural Consideration

For thousands of years, Alaska Natives have harvested marine mammals for food, shelter, tools, and other survival necessities. Alaska Natives continue the legal harvest of marine mammals for subsistence purposes. Their subsistence hunting practices have resulted in often unparalleled local and traditional knowledge about their environment and marine mammal behavior and life history. During a disaster response, close collaboration with these local experts will help provide the best available knowledge to make response decisions and evaluate potential impacts to marine mammals and subsistence activities.

Traditional foods such as whale, seal, sea lion, and fish supply a large proportion of daily calories for most coastal Alaska Natives, and remain important to residents' health and well-being. A disaster event (and the ensuing response activities) has the potential to disrupt local seasonal use patterns and threaten the food sources – and cultural traditions – that Alaska Natives have relied on for millennia. Marine mammal contamination from oil, other hazardous substances, and/or the presence of infectious and non-infectious diseases may have serious adverse impacts on the health of the humans that consume them. In addition to disaster events potentially resulting in contaminated/diseased marine mammals becoming unfit for consumption, food security may be further compromised if response activities impact the ability of Alaska Natives to subsistence hunt.

To help mitigate the adverse impacts to local communities and marine mammals from disaster events, NMFS developed these guidelines with the following components:

- **The tissue sampling/necropsy protocols contained within these guidelines are congruent with food safety sampling protocols.** NMFS worked with state and tribal health agencies to ensure that the tissue sampling and necropsy protocols contained within these guidelines are consistent with sampling protocols for food safety analysis. Although NMFS is not a human health organization, and cannot make food safety determinations, NMFS is committed to working with the State of Alaska Environmental Public Health Manager to collect the appropriate samples from marine mammals consumed as food needed for their human health analysis.

- **Response efforts are regionally-specific and include local experts.** The guidelines outline response efforts that are regionally specific, and include local experts in the response roles and protocols. This locally based and stakeholder-inclusive framework will a) help provide the best available information to guide a safe, effective, response, and b) help mitigate adverse community and cultural impacts from response efforts.
- **Designed to be an interactive process for exchange of information.** Community members are on the front lines of every emergency affecting their region and are often at the most risk of adverse impacts from the disaster event and response efforts. These Guidelines outline a continuous, culturally appropriate communication pathway for notifications and updates during a disaster event.
- **Sets NMFS Alaska Response Standards** A disaster response in Cook Inlet or Kodiak Island, Alaska would present severe challenges to an effective response—remote conditions, vast areas to cover, few trained personnel, and limited to non-existent supplies and infrastructure. To help prepare for a response, the NMFS Alaska Response Standards set marine mammal response capacity requirements for the initial response. See Appendix 1: NMFS Alaska Response Standards; the standards and thresholds are briefly summarized below²:
 - Capacity to sample 50 live or dead pinnipeds in the first week of a response
 - Capacity to sample 5 live or dead cetaceans in the first week of a response
 - Capacity to necropsy 50 dead pinnipeds/cetaceans
 - Maintain level of readiness to store 1,000 marine mammal samples
 - Capacity to clean and rehabilitate 25 live pinnipeds
 - Capacity to clean and rehabilitate 2 live small cetaceans
- **Identifies existing and potential response infrastructure and equipment.** Existing and potential infrastructure for response activities has been identified in each region. Given the few primary response facilities for disaster-affected marine mammals in Alaska, these guidelines outline temporary facility considerations, including requirements for animal care and community resource sensitivity.
- **Develops strategies to address Unusual Mortality Events.** Alaska-specific communication pathways and protocols for large-scale marine mammal strandings or disease outbreaks that require investigation to identify likely causes are discussed in the Unusual Mortality Events section.

² See Appendix 1 for most recent updates to the NMFS Alaska Response Standards.

Chapter 1

Purpose and Background

Purpose

The Cook Inlet & Kodiak Marine Mammal Disaster Response Guidelines (CIKMMDRG) establishes a system for coordinating and preparing for the operational phases of the emergency management of NMFS trust species in Cook Inlet and Kodiak Island, Alaska. These guidelines specify how NMFS will organize in response to disaster emergencies, and is designed to:

- Ensure a coordinated effort by NMFS personnel with the Alaska Regional Stranding Network; local and tribal governments; co-management groups; other Alaska Native Organizations; State, Federal, volunteer, and private agencies in the management of disasters
- Identify resources and procedures for effective marine mammal disaster response

These Guidelines are intended to be viewed in conjunction with the National Guidelines.

The primary audience for these Guidelines are NMFS personnel and NMFS-authorized marine mammal responders from the AK Stranding Network (and potentially other Regional Stranding Networks if needed), as well as any other groups/individuals working with NMFS to respond to NMFS trust species (such as co-management groups; other Alaska Native Organizations; local, tribal, State, Federal, and non-profit agencies).

The CIKMMDRG is broadly organized into two sections: 1) Non-NMFS-Led disaster responses, and 2) NMFS-Led disaster responses. Non-NMFS-Led disasters are further divided into: 1) Oil Pollution Act of 1990 (OPA-90) (33 USC 2701-2761) disaster responses which are typically led by the U.S. Coast Guard (USCG) or the U.S. Environmental Protection Agency (EPA), and 2) Stafford Act disaster responses, led by FEMA. NMFS-led disaster responses include Unusual Mortality Events (UMEs) and other non-declared disaster events affecting NMFS trust species.

Background

Geographic Planning Boundaries

The geographic planning boundaries of these guidelines correspond with the waterbodies of Cook Inlet and Kodiak Island (Figure 1 and Figure 2). These areas are contained within the Arctic and Western Alaska Area Contingency Plans as outlined in the Alaska Regional Contingency Plan.

The Cook Inlet region covered in these guidelines extend throughout all of the marine waters of Cook Inlet and associated coastal areas, to just north of the Stevenson Strait Entrance. The Kodiak region covered in these guidelines roughly follows the Kodiak Island Borough demarcation—beginning to the north at the Stevenson Strait Entrance, extending west into the Shelikof Strait and adjoining waterways on the Alaska Peninsula, and south to the Semidi Islands.

Figure 1. Geographic Scope of the Cook Inlet & Kodiak Marine Mammal Disaster Response Guidelines: Cook Inlet

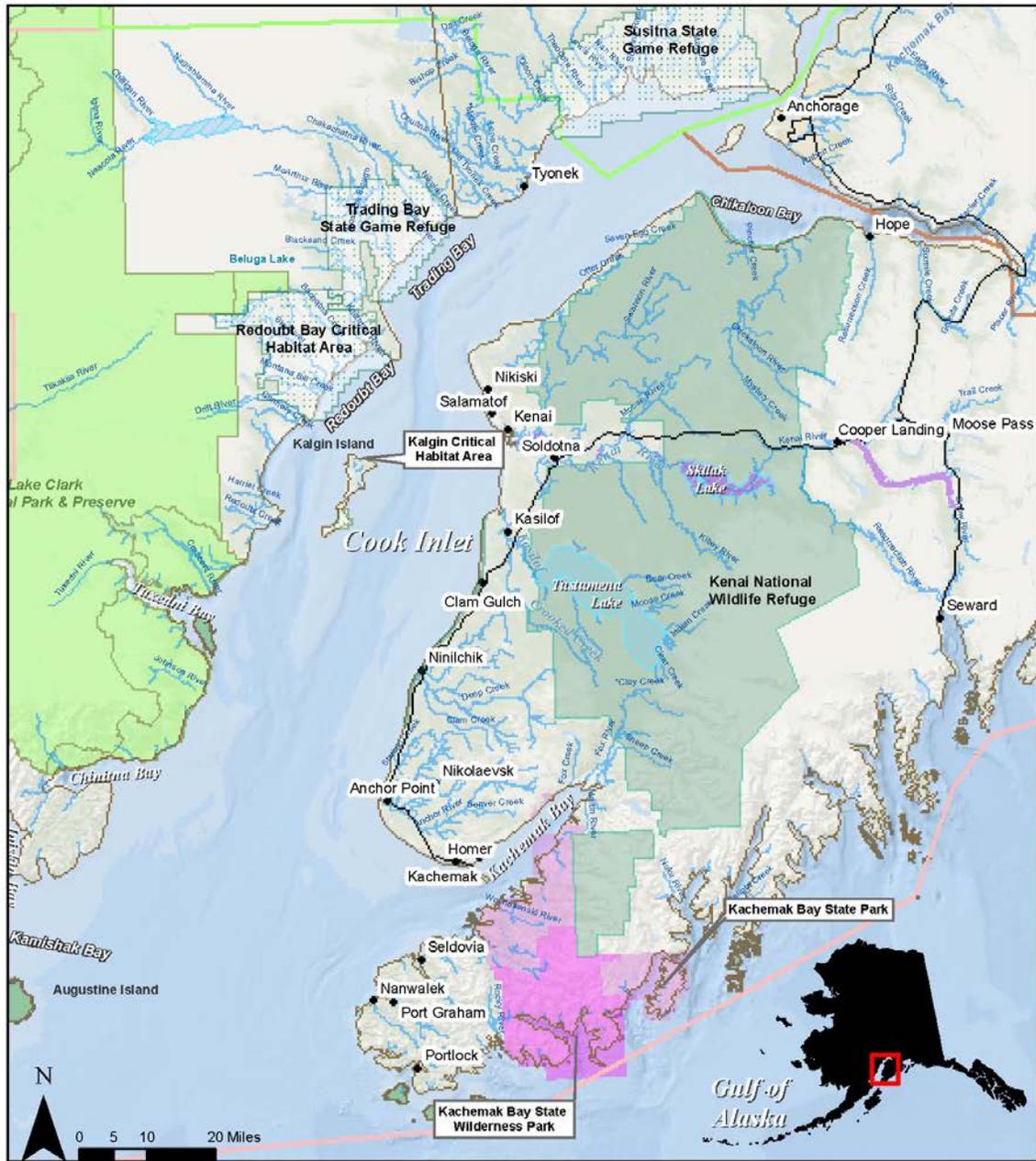
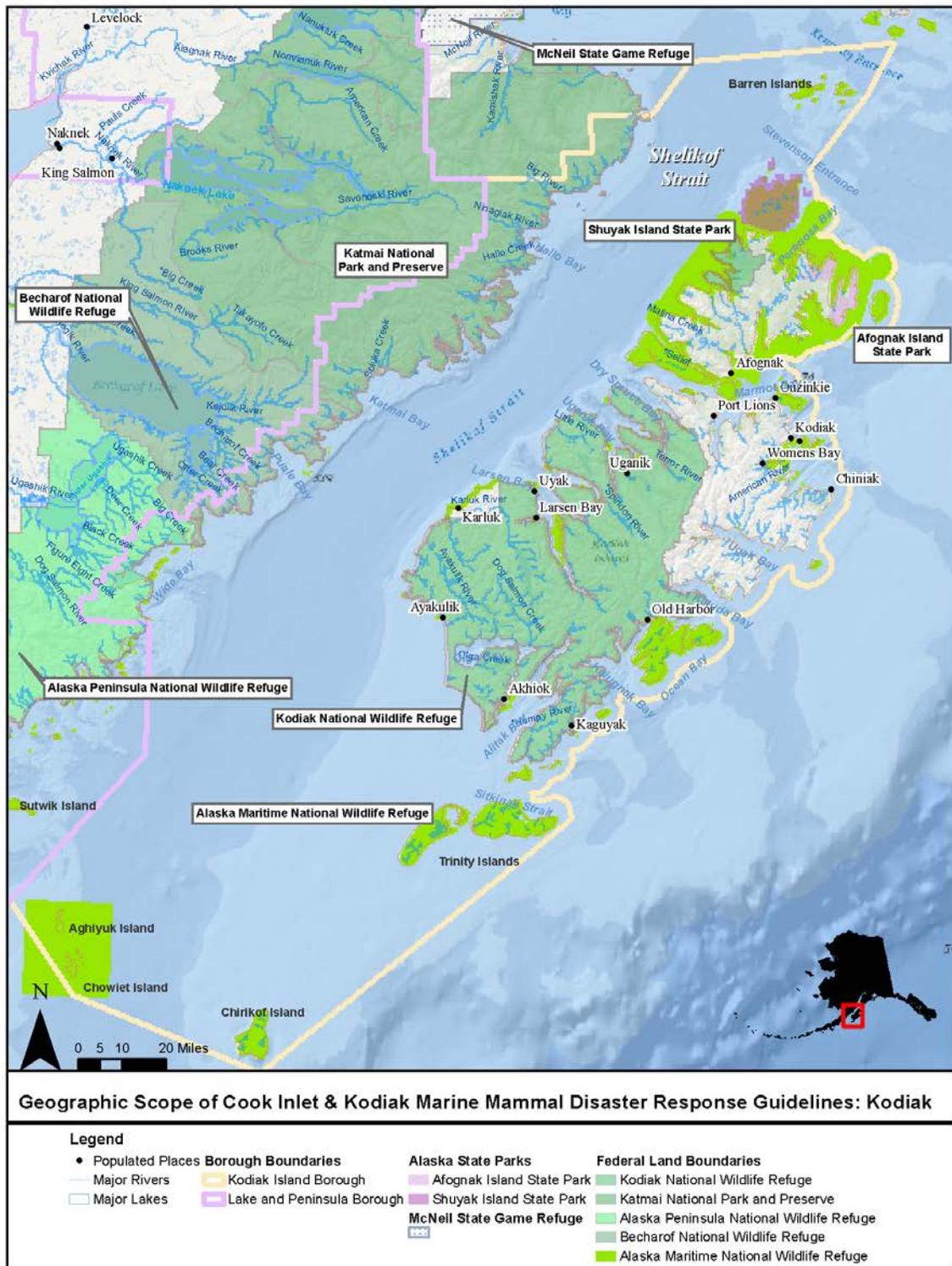


Figure 2. Geographic Scope of Cook Inlet & Kodiak Marine Mammal Disaster Response Guidelines: Kodiak



Laws Governing Marine Mammal Protection

There are two key pieces of legislation that govern interactions with marine mammals in the United States. These are:

- Marine Mammal Protection Act (MMPA) (16 USC Chapter 31): The MMPA, signed into law in 1972, prohibits the “take” of all marine mammals, which includes harassing or disturbing these animals as well as harming or killing unless such take is specifically exempted in the statute or authorized. The MMPA divides responsibility for marine mammal species between the Secretary of Commerce (overseeing NOAA Fisheries, or NMFS) for cetaceans and pinnipeds with the exception of walruses, and the Secretary of the Interior (overseeing the U.S. Fish and Wildlife Service, or USFWS) for walruses, polar bears, sea otters, and manatees. Title IV of the MMPA establishes the Marine Mammal Health and Stranding Response Program (MMHSRP) under NMFS, which is tasked with collecting and disseminating health data on wild marine mammals, as well as coordinating effective responses to their trust species’ marine mammal UMEs.
- Endangered Species Act (ESA) (16 USC 1531 et seq.): The ESA, enacted in 1973, provides for the conservation of species that are listed as endangered (in danger of extinction) or threatened (at risk of becoming endangered in the foreseeable future). The ESA also contains a prohibition on “take” including harassment and disturbance as well as injuring and killing.

Natural Resource/Wildlife Trustee Authority

NCP regulations at 40 CFR § 300.600 provide that the Secretaries of Commerce and Interior shall act as trustees on behalf of the public for those natural resources subject to their respective management or control. The Secretary of Commerce (Secretary) is trustee for natural resources managed by the Department of Commerce. NCP regulations provide examples of the Secretary’s trusteeship as including marine fisheries species, anadromous species, and most marine mammals.

Statutory Authorities Governing Response to Marine Mammals During Disasters

OPA-90 requires that the President consult with the affected Trustee on the appropriate removal action to be taken in connection with a discharge of oil. This responsibility has been designated in the NCP regulations to the Federal On-Scene Coordinator (FOSC). Thus, the FOSC (who is the lead federal representative on the UC) is required to consult with NMFS whenever a disaster and its subsequent response may affect species under the Secretary’s authority. The Endangered Species Act (ESA) and its implementing regulations provide special provisions for consultations during emergencies (such as oil spills) with NMFS for making recommendations to the FOSC to minimize incidental take of listed species or to otherwise reduce response-related impacts. Emergency consultation in the context of an oil spill may authorize incidental take of ESA-listed species during response activities. NMFS’s primary objective is to provide recommendations for minimizing adverse effects to listed species during the disaster response. The emergency consultation should allow the FOSC/UC to complete critical response missions in a timely manner while still providing the protections afforded to ESA-listed species.

Similarly, Section 109(h) of the MMPA allows take by federal, state, or local governmental employees during their official duties, provided the take is for the welfare and protection of the animal or public health; therefore the FOSC/UC is authorized to take marine mammals during an oil-spill response to protect that animal. Section 112(c) of the MMPA allows NMFS and to enter into cooperative agreements with outside entities to further the purposes of the Act, including Title

IV. Stranding Agreements (SAs) are issued under 112(c) between NMFS and stranding network participants to allow these members of the national stranding network to take marine mammals in order to carry out the purposes of the MMPA. In some State statutes, management and protection of wildlife resources are joint responsibilities between NMFS, USFWS, and the State. Because of these shared trust responsibilities, both federal and state agencies are required to respond to disaster events that may impact wildlife. To facilitate efficient and effective coordination during a disaster response, federal and state agencies may consider developing Memorandums of Agreement (MOAs) or Memorandums of Understanding (MOUs) that pre-designate regional primary points of contact, establish lead representatives, and define roles for natural resource emergency situations.

Alaska Region Stranding Network Organization and Authority

Marine Mammal Health and Stranding Response Program (MMHSRP) Authority

All disaster response activities involving NMFS trust species must first be authorized under the MMPA/ESA permit issued to the NMFS MMHSRP. The Alaska RSC serves as a co-investigator on this permit, and as such, can authorize marine mammal disaster response activities, in collaboration with NMFS MMHSRP. NMFS expects that trained members of the stranding network, and/or their designees, would be granted authorization to carry out many of the marine mammal related roles in the Wildlife Branch under the Unified Command (UC).

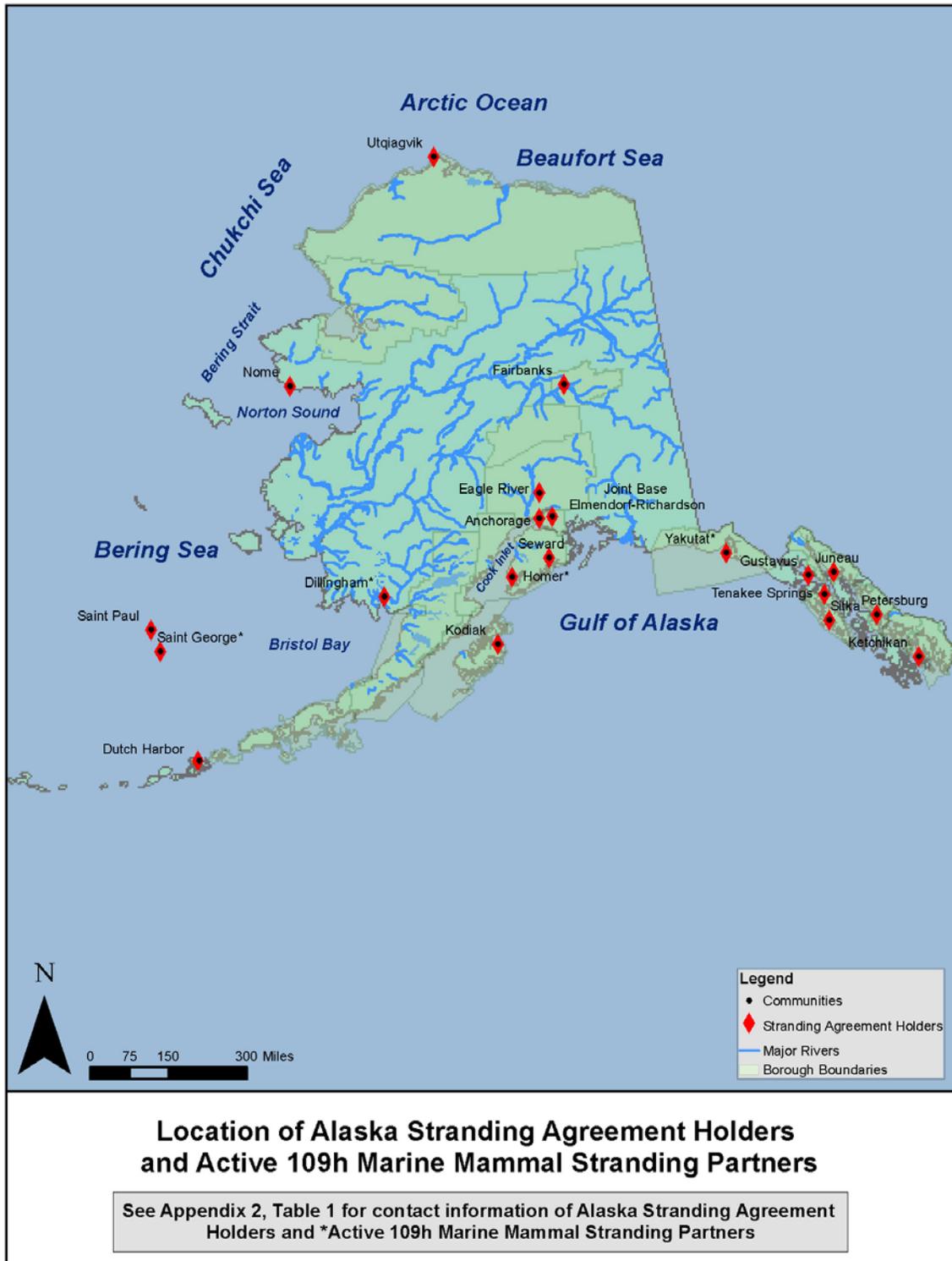
NOTE: Stranding Agreement holders alone do not authorize decision-making, handling, sampling, transport, or treatment of oil-affected NMFS species.

NMFS Alaska Region Marine Mammal Stranding Network

The Alaska Region Marine Mammal Stranding Network (AK Stranding Network) was created to provide a consistent framework in which to collect and compile data about marine mammal strandings throughout the entire state. The network is composed of state and federal wildlife and fisheries agencies, local governments, veterinary clinics, wildlife response facilities, Alaska Native Organizations, academic institutions, and individuals who respond to or provide professional advice on handling strandings. Figure 3 displays the distribution of Alaska SA holders and active stranding network partners; their contact information is listed in Appendix 2: Table 1.

Contact information for all stranding network members are located in the Appendices, a separate document maintained by NMFS, and not included in this plan because membership/contact information is likely to change more quickly than these Guidelines are updated. Members of the AK Stranding Network should serve in leadership positions in the Incident Command System (ICS) organization, with additional response capacity brought in as needed. The SA holder in each region will serve as the primary local lead during an oil spill response along with NMFS staff; additional stranding network members, locally trained community members, and contractors can be brought in to assist as needed.

Figure 3. Locations of Alaska Stranding Agreement Holders



There are only a few organizations holding SAs in Cook Inlet and only one in Kodiak. SA holders include:

- Alaska SeaLife Center (ASLC)— Seward
- Alaska Veterinary Pathology Services— Eagle River
- AK Consortium of Zooarchaeologists— Anchorage
- Sun’aq Tribe of Kodiak— Kodiak

The Alaska SeaLife Center located in Seward, Alaska was funded through reparations from the Exxon Valdez oil spill of 1989. In the last eight years, the ASLC has increased its capacity to respond to oiled wildlife through the development and procurement of spill response equipment/facilities, spill-specific training for key personnel, and contracts with oil spill removal organizations (OSROs) in Alaska.

The ASLC will be the primary response facility for impacted marine mammals in the Cook Inlet Region. They are also the primary stranding agreement holder and main contact in this region for coordinating rehabilitation response efforts.

Excepting the ASLC, the rest of the stranding agreement holders have very limited personnel, equipment, and infrastructure dedicated to emergency response. These limitations, coupled with the massive geographic area of Cook Inlet and Kodiak Island, constrain their ability to respond to stranded, distressed, or deceased animals in this area during normal operations. In order to conduct a timely and effective response to a disaster, these organizations would need to be supplemented with additional personnel and resources. Each SA holder does have familiarity with the local area and regional logistics, including a good understanding of the life history and distribution of the regional marine mammal species.

Local community members and organizations in Cook Inlet and Kodiak contribute considerable time and resources to aiding the AK Stranding Network, and their observations often serve as the first alert of emerging events. Although these communities to date may not hold formal SAs for NMFS trust species, their efforts to report, monitor, and respond to events are indispensable.

These coastal communities create much of the structure for the stranding reporting and response that occurs in Cook Inlet and Kodiak. NMFS and other agencies have benefited from subsistence hunters’ observations, expertise, and the samples they have provided for various regulatory and scientific aims. Presently there is no framework for compensating community volunteers for their efforts, nor is it logistically possible for every community member to gain the Hazardous Waste Operations and Emergency Response (HAZWOPER) training required for an Incident Command System (ICS) response, or the wildlife-specific trainings needed for wildlife response.

Due to the limitations discussed above, the local members of the AK Stranding Network alone would only be able to mount a very limited disaster response in these regions, a spatially localized response involving few marine mammals. Response to a larger scale event will require considerably more assistance, including other participants from the AK Stranding Network, other regional stranding networks from outside Alaska, specialized contractors, other Alaska organizations, volunteers, and/or other authorized and qualified groups.

Alaska Marine Mammal Co-Management

Under Section 119 of the MMPA (16 USC 1388), the Secretary of Commerce and the Secretary of the Interior may enter into cooperative agreements with Alaska Native Organizations (ANOs), including, but not limited to, Alaska Native Tribes and tribally authorized co-management bodies. Individual co-management agreements should incorporate the spirit and intent of co-management through close cooperation and communication between Federal agencies and ANOs, hunters, and subsistence users. Agreements encourage the exchange of information regarding the conservation, management, and use of marine mammals in U.S. waters in and around Alaska.

Co-management agreements may involve: (1) developing marine mammal co-management structures and processes with Federal and State agencies, (2) monitoring the harvest of marine mammals for subsistence use, (3) participating in marine mammal research, and (4) collecting and analyzing data on marine mammal populations.

Since 1994, NMFS, USFWS, and various ANOs have negotiated a framework for co-management agreements. Although the agreements vary by species and ANO, they generally describe harvest monitoring methods; collaboration on research, education, and outreach projects; required funding; conflict resolution; and procedures for terminating agreements.

Alaska Natives have a long history of self-regulation, based on the need to ensure a sustainable take of marine mammals for food, shelter, tools, and other necessities germane to their survival. Co-management promotes full and equal participation by Alaska Natives in decisions affecting the subsistence management of marine mammals (to the maximum extent allowed by law) as a tool for conserving and managing marine mammal populations in Alaska. With often unparalleled local and traditional knowledge about their environment, the commissioners of the co-management groups are generally recognized as experts on marine mammal behavior and life history. During a disaster response, close collaboration with the co-management groups will provide valuable knowledge so that NMFS can understand potential impacts to marine mammals and subsistence harvest, and make the appropriate response decisions.

Efforts should be made to provide one point of contact locally (this and other measures discussed in later chapters), to facilitate the transfer of information received from community members, regardless of which federal trust marine mammal species is involved.

In addition to the commissioners of the co-management groups, NMFS recognizes that other local knowledge experts exist within potentially impacted communities. During a disaster response, NMFS will work with the tribal governments to identify people/organizations with the knowledge needed to mount an effective response.

NMFS Trust Species in Cook Inlet and Kodiak, Alaska

NMFS has fifteen trust marine mammal species that reside or migrate through the waters of Cook Inlet and Kodiak, Alaska: five mysticetes, seven odontocetes, and three pinniped species (Table 2). All marine mammals are protected by the MMPA; the species designated as Threatened or Endangered in this region are provided additional protection under the ESA.

Table 1. NMFS Trust Marine Mammal Species in Cook Inlet and Kodiak, Alaska

Common Name	Scientific Name	ESA Status (if listed)	Location
Mysticetes			
Gray Whale (western population)	<i>Eschrichtius robustus</i>	Endangered	Kodiak
Gray Whale (eastern population)	<i>Eschrichtius robustus</i>	Non-ESA listed	Kodiak
Humpback Whale (Western North Pacific)	<i>Megaptera novaeangliae</i>	Endangered	Kodiak/Cook Inlet
Humpback Whale (Mexico population)	<i>Megaptera novaeangliae</i>	Threatened	Kodiak/Cook Inlet
Humpback Whale (Hawaii population)	<i>Megaptera novaeangliae</i>	Non-ESA listed	Kodiak/Cook Inlet
Minke Whale	<i>Balaenoptera acutorostrata</i>	Non-ESA listed	Kodiak/Cook Inlet
Fin Whale	<i>Balaenoptera physalus</i>	Endangered	Kodiak
North Pacific Right Whale	<i>Eubalaena japonica</i>	Endangered	Kodiak
Odontocetes			
Sperm Whale	<i>Physeter macrocephalus</i>	Endangered	Kodiak
Beluga Whale (Cook Inlet population)	<i>Delphinapterus leucas</i>	Endangered	Cook Inlet
Killer Whale	<i>Orcinus orca</i>	Non-ESA listed	Kodiak/Cook Inlet
Harbor Porpoise	<i>Phocoena phocoena</i>	Non-ESA listed	Kodiak/Cook Inlet
Dall's Porpoise	<i>Phocoenoides dalli</i>	Non-ESA listed	Kodiak/Cook Inlet
Pacific White-Sided Dolphin	<i>Lagenorhynchus obliquidens</i>	Non-ESA listed	Kodiak/Cook Inlet
Cuvier's Beaked Whale	<i>Ziphius cavirostris</i>	Non-ESA listed	Kodiak
Pinnipeds			
Harbor Seal	<i>Phoca vitulina</i>	Non-ESA listed	Kodiak/Cook Inlet
Steller Sea Lion (western population)	<i>Eumetopias jubatus</i>	Endangered	Kodiak/Cook Inlet
Steller Sea Lion (eastern population)	<i>Eumetopias jubatus</i>	Non-ESA listed	Kodiak/Cook Inlet
Northern Fur Seal	<i>Callorhinus ursinus</i>	Non-ESA listed	Kodiak

Updated information about marine mammal distribution can be found at the NMFS Marine Mammal Species Range and Critical Habitat Interactive Map at the website <http://alaskafisheries.noaa.gov/mapping/esa/>, and stock assessments provided by National Marine Mammal Laboratory of the NMFS Alaska Fisheries Science Center at the website link: <https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments>.

Additional species information can be found at the NOAA Fisheries Find A Species page: <https://www.fisheries.noaa.gov/find-species>.

Regional Backgrounds

Alaska is the largest state of the United States, located in the northwest extremity of the North American continent, bordered on the east by the Yukon, a Canadian territory, the Arctic Ocean to the North, and Russia to the west. Alaska has more coastline than the entire continental United States, over 200 tribal governments, and diverse and abundant terrestrial and marine wildlife. Alaska's economy is dominated by oil, natural gas, and fishing industries, although many of the communities outside of the metropolitan areas rely heavily on subsistence activities for survival.

In 1971, the Alaska Native Claims Settlement Act (ANCSA) was signed into law as the largest land settlement claim in U.S. history. ANCSA resolved long-standing aboriginal land claims and transferred land titles over to 13 Alaska Native Regional Corporations, and over 200 village organizations, which maintain surface and sub-surface rights to the natural resources. In addition to the village and regional corporations with legal dominion in a given area in Alaska, additional local stakeholders include tribal governments, elder's councils, village and borough governments, and other ANOs.

Local and Traditional Knowledge

Local and traditional knowledge (LTK) is the system of experiential knowledge gained by continual observation and transmitted among members of a community (Huntington, 1998). Local and traditional knowledge can provide information and insight separate and often unique from other systems of knowledge, such as western science (Davis and Wagner, 2007). Over the last several decades, interest in LTK has increased rapidly for many reasons; including non-scientific perspectives have become more widely recognized as valid; the indigenous rights movement has grown; and "top-down" management and development paradigms have begun shifting to more collaborative, community-based, and co-management approaches.

For thousands of years, Alaska Natives have harvested marine mammals for food, materials, shelter, tools, and other cultural and survival necessities. The continued subsistence harvest and use practices have maintained an often unparalleled local and traditional knowledge about the environment. During a disaster response, close collaboration with local experts will provide the best available knowledge to make response decisions and evaluate potential impacts to marine mammals and maritime subsistence activities.

Marine Mammal Subsistence Use

Cook Inlet and Kodiak coastal communities have developed a rich maritime culture shaped by the dynamic environment in which they live, centered on the harvesting of regional flora and fauna. The socio-ecological relationship Alaska Natives have developed with the aquatic and terrestrial environment has been the foundation of their rich cultures. Native traditional foods such as caribou, moose, mountain goat, waterfowl, fish, marine mammals, seabirds, invertebrates, seaweeds, berries, and greens continue to provide nutrition, fiber, shelter, medicines, energy, nutrients, spirituality, materials, and much more.

While modern technology is nearly everywhere and many households no longer support themselves solely using local resources, tribal language, customs, and art and crafts continue to be rooted in landscape and wildlife. Local geography is described by the location of family fishing and hunting camps; the year is defined by wildlife harvest seasons. Traditional marine foods such as marine mammals, fish, seabirds, seaweeds, and invertebrates – and for inland communities, caribou and

moose – supply at least a third of daily calories for most Alaskan Natives, and remain important to residents' health and well-being.

An oil spill or other disaster event (and the ensuing response activities) has the potential to disrupt local seasonal use patterns and threaten the availability and safety of the food sources, cultural traditions, and the economic stability that coastal communities currently rely on.

Contamination of marine mammals from oil and other hazardous substances, and/or the presence of disease, may have serious adverse impacts on the health of the humans that harvest and consume them. In addition to disaster events in which contaminated/diseased marine mammals become unfit for consumption, local food security will be further compromised if response activities impact the ability of Alaska Natives to subsistence hunt both during a response and afterwards due to unknown long-term impacts from the disaster event.

To help mitigate potential impacts to local communities expected from disaster events, NMFS developed these Guidelines with the following components:

- **The tissue sampling/necropsy protocols contained within these Guidelines are congruent with food safety sampling protocols.** NMFS worked with state and tribal health agencies to ensure that the tissue sampling and necropsy protocols contained within these Guidelines are congruent with sampling protocols for food safety analysis. Although NMFS is not a human health organization, and cannot make food safety determinations, NMFS is committed to working with the State of Alaska Environmental Public Health Manager to collect the appropriate samples needed for their food safety analyses.
- **Response efforts are regionally-specific and include local experts.** The Guidelines outline response efforts that are regionally specific, and involve inclusion of local experts built into the response roles and protocols. This locally-based and stakeholder-inclusive framework will provide the best available information to guide a safe, effective response.
- **Designed to be an interactive process for exchange of information.** Community members are on the front lines of every emergency affecting their region and are at the most risk of adverse impacts from the disaster event and response efforts. These Guidelines outline a continuous, culturally appropriate communication pathway for notifications and updates to and from communities during a disaster event.

Notifications and Updates to Communities

Frequent and culturally appropriate communication with impacted communities is imperative during a disaster event. Community members often have an unparalleled depth of knowledge about the local environment, and their subsistence activities can 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, in some cases, communities provide the majority of observations and carcasses/samples to agencies during a response effort. Additionally, Alaska Natives largely rely on the environment for their nutritional, cultural, economic, and spiritual needs. Therefore, they are often also the most seriously impacted from disaster events, and potentially from the response activities.

All effective response efforts must be coordinated with the local tribal and city governments and

may also require the involvement of other leadership organizations, depending upon the community and the disaster event. Most communities have both city and tribal governments, and some have village corporations as well. The primary contact information for the communities and leadership organizations in the region covered by these Guidelines is provided in Appendix 3. NMFS should first coordinate response efforts with the local tribal government, who can provide guidance on other organizations to contact. Detailed notification and updating procedures for NMFS-led disaster response efforts are outlined in Appendix 13, and are visually represented in Chapter 2 (Response) and Chapter 3 (NMFS-led Disaster Response).

Kodiak

Kodiak Island is a large island on the southcentral coast of the state of Alaska, separated from the Alaska mainland by Shelikof Strait (Figure 2). The largest island in the Kodiak Archipelago, Kodiak Island is the second largest island in the United States and the 80th largest island in the world, with an area of 9,311 km² (3,595 mi²). It is 160 km (99 mi) long and ranges from 16 to 97 kilometers (10 to 60 mi) in width. The largest community on the island is the city of Kodiak, Alaska, with a population a little over 6,000 people.

Kodiak Island is mountainous and heavily forested in the north and east, but fairly treeless in the south. The island has many deep, ice-free bays that provide sheltered anchorages for boats. The southwestern two-thirds of the island, like much of the Kodiak Archipelago, is part of the Kodiak National Wildlife Refuge. Kodiak Island is part of the Kodiak Island Borough and Kodiak Archipelago of Alaska. The Alaska Maritime National Wildlife Refuge also manages extensive coastal, offshore island, and marine waters on and near Kodiak Island.

The Native regional health organization is the Kodiak Area Native Association; the Native Regional Corporation is Koniaq, Inc. The town of Kodiak is one of seven communities on Kodiak Island and is the island's urban center. All commercial transportation between the island and the outside world primarily goes through this city either via marine vessel or airline.

Other communities include the villages of Akhiok, Old Harbor, Karluk, Larsen Bay, Port Lions, and unorganized communities of Chiniak (near Cape Chiniak, Kodiak Island), Danger Bay (southeastern Afognak Island), and Aleneva (southern Afognak Island). The village of Ouzinkie on nearby Spruce Island is also part of the island community.

Kodiak is home to the largest U.S. Coast Guard base in the U.S., and includes Coast Guard Base Kodiak, Coast Guard Air Station Kodiak, Communication Station Kodiak, North Pacific Regional Fisheries Training Center, Armory Detachment Kodiak, Aids to Navigation Team Kodiak, and three USCG Cutters (*USCGC Alex Haley*, *USCGC Douglas Monro*, and *USCGC Spar*).

While cruise ship-based tourism contributes substantially to the Kodiak economy, the fishing industry is the most important economic activity on the island; fisheries include salmon, halibut, scallop, Pacific cod, pollock, rockfish, sablefish (black cod), sea cucumber, and crab. The Karluk River is famous for its historic sockeye salmon runs. Logging, ranching, numerous canneries, along with some aggregate mining (including historic minerals prospects and old placer gold operations) are also present.

Services, Infrastructure, and Communication

Services

Disaster response personnel who are unfamiliar with Kodiak Island may not realize that all of the communities in these regions (except Kodiak) are not connected to each other through road access, and have limited infrastructure and frequently unreliable communication systems. All communities can be accessed by aircraft (given favorable weather), and most communities can be accessed by boat.

Alaska Airlines services the hub of Kodiak daily from Anchorage, while smaller airlines service outlying communities. Transportation within villages consists of standard vehicles, as well as boats, four-wheelers, and snow-machines. Most communities outside of the hubs do not have rental cars and trucks, although vehicles, four-wheelers, and snow-machines may sometimes be hired from private individuals.

All Kodiak communities receive email, radio, internet (high speed only in the city of Kodiak), a local newspaper, and phone services, although weather and malfunctioning equipment can result in these services becoming unavailable or temporarily suspended. In addition, some community members may not use phone, internet, and email communication, even when these services are available.

Most communities do not have routine medical services, although they are within range of emergency medical services via airplanes; many have small volunteer fire departments, and some have village public safety officers. Most communities have schools (which often host non-resident overnight guests) and several have hotels and lodges for tourists. Electricity, sewer, and refuse management are usually available in each community.

Few communities have a small store that carries a limited selection and quantity of food and basic amenities, but most do not have restaurants. Some stores have very restricted hours or are seasonal. Given the lack of housing and food available for purchase (no large grocery stores or restaurants), even small-scale responses by outside parties would quickly overwhelm Kodiak Island communities' resources. As such, responders should determine before arrival in a small community or remote location, whether they need to bring their own lodging (e.g., tents), fresh water, food, medications, personal care items, and basic amenities.

Infrastructure— Existing and Potential

There are very few facilities in the Cook Inlet and Kodiak region that a large-scale marine mammal response could be staged out of (Appendix 2: Table 2 Primary Marine Mammal Response Facilities), and only one of these is a primary care facility with dedicated spill response equipment, infrastructure, and trained personnel (the Alaska SeaLife Center located in Seward).

The NMFS Kodiak Laboratory located in the Kodiak Island Borough-owned Kodiak Fisheries Research Center is the likely main staging area for a NMFS disaster response headquarters and potential rehabilitative/operations center. The marine mammal response capacity for this facility is unknown and is not currently set up with pools or any capacity to house live marine mammals.

Although the Kodiak Laboratory has key features needed for response, including sample collection and field stabilization (necropsy rooms, -80°C freezers, food preparation rooms, laboratories, etc.). Currently, very little of the space is allocated to marine mammal use and the facility lacks both

trained spill response personnel and essential response equipment/infrastructure needed for live rehabilitation. Depending on the size and location of the disaster, NMFS would likely still need the ASLC as the primary facility for rehabilitative efforts.

If the Kodiak Laboratory capacity is surpassed, the Alaska Department of Fish and Game building (next door) has similar capacity (i.e., necropsy rooms, freezers, laboratories, etc.), and may potentially be used as an overflow facility if ADF&G has space available and is amenable.

There are other facilities in Cook Inlet and Kodiak that could potentially be adapted for marine mammal response (Appendix 2: Table 3: Potential Facilities for Response Activities), however, these facilities are owned and managed for other uses, which would likely have priority over NMFS response activities.

Given that there are few facilities in Alaska with marine mammal facilities or that are NMFS owned/managed (located in Seward, Anchorage, and Kodiak), and the vast area potentially affected by a spill, responders will likely first need to stage out of an area closer to the spill for initial response activities.

Appendix 2: Table 3 contains a list of infrastructure options that could potentially be used during a spill or die-off affecting marine mammals near Kodiak and includes the marine mammal response activities it may be suited for. Potential facilities discussed herein are only potentially available for use; permission to use this infrastructure must be granted before assuming access. Appendix 2: Table 6 lists deployable equipment based at the ASLC in Seward, that could potentially be used during a spill.

The outlying communities (Karluk, Akhiok, Old Harbor, Larsen Bay, Port Lions, Ouzinkie, and historically on Afognak Island) generally have few buildings, most of which are allocated for community activities. Contact the tribal governments in these communities for potential infrastructure available to use during a response.

Kodiak has active commercial fishing with associated fish processing infrastructure. These fish processing/cannery facilities generally have large freezers, fresh water, electricity, and dormitory style housing which may potentially support some response activities. Most of the fish processing facilities are located in the city of Kodiak, with outlying plants in Larsen Bay and near Akhiok (see Appendix 3).

The Coast Guard Base may also offer response capacity with their many warehouses and buildings with electricity and fresh water, hotel, conexes, and open space where temporary response equipment could be set up.

Communication

Currently, Sun'aq Tribe of Kodiak is the stranding agreement holder in the Kodiak region and would serve as the primary contact and local advisor during a response. Additionally, it is imperative to communicate with the tribal/city/borough governments near affected areas, and potentially other ANOs and community-based organizations (see Appendix 3: Regional Contact Information).

Detailed notification and updating procedures for NMFS-led disaster response efforts are outlined in Appendix 13, and are visually represented in Chapter 2 (Non-NMFS Led Disaster Response) and Chapter 3 (NMFS-led Disaster Response).

Kodiak Island is home to the Alutiiq/Sugpiaq people. They have inhabited the coastal environments of southcentral Alaska for over 7,500 years. Their traditional homelands include Prince William Sound, the outer Kenai Peninsula, the Kodiak Archipelago, and the Alaska Peninsula (Alutiiq Museum 2018).

Alutiiq people share many cultural practices with other coastal peoples, particularly the Unangan/Aleut of the Aleutian Chain and the Yup'ik of the Bering Sea coast. Anthropologists believe these cultural similarities reflect a distant but common ancestry.

The Alutiiq people speak Sugt'stun, or simply Alutiiq. Some Alutiiq people also refer to the language as Alutiit'stun—which means “like an Alutiiq.” To ensure the most effective response and to minimize adverse impacts, NMFS should work with the local tribal governments in these communities.

Cook Inlet

Cook Inlet stretches 180 miles from the Gulf of Alaska to the north of Anchorage. The water body divides into two branches near Anchorage (Turnagain Arm and Knik Arm) and merges at its southern end just north of Shelikof Strait (Figure 1).

The Upper Cook Inlet region is characterized by huge tidal fluctuations (over 32-foot peak tidal fluctuations), with populated areas on the eastern side and large stretches of remote lands to the west. The city of Anchorage is at the confluence of Knik and Turnagain arms and is the most populated city in Alaska with an estimated population of 297,000 people (State of Alaska 2017).

Cook Inlet beluga whales are one of the most endangered marine mammal populations in the world with an abundance estimate of 312 (Muto et al. 2017), and they primarily reside in upper Cook Inlet. The effect an oil spill could have on Cook Inlet beluga whales is a major concern for NMFS.

In addition to the village and regional corporations with legal dominion in a given area in Alaska, additional local stakeholders include tribal governments, elder's councils, village and borough governments, other ANOs, non-profit organizations, and an active tourism base. Additionally, many residents of the town of Nikolaevsk and outlying settlements are “Russian Old Believers” with distinct culture and practices from other Cook Inlet communities (see Appendix 3 for regional organizations; see the Arctic and Western Alaska Area Contingency Plan for detailed community descriptions).

Cook Inlet Region, Inc., (CIRI) and the Chugach Alaska Corporation are regional Native corporations in Cook Inlet. ANCSA-designated villages include: Tyonek, Knik, Eklutna, Chickaloon, Salamatoof, Niniichik, Seldovia, Port Graham, and Nanwalek. In addition to these Cook Inlet communities, many other communities will also be concerned about the effects of an oil spill in Cook Inlet, including those directly adjacent to the inlet and associated waterways, such as Homer, Seward, Kenai, Soldotna, Anchor Point, Hope, Portage, Bird, Indian, Anchorage, Eagle River, Port Mackenzie, and JBER.

Major industry in Cook Inlet includes oil and gas, commercial fishing, and tourism. This region includes the municipalities of Anchorage, the Matanuska Susitna Borough, and the Kenai Peninsula Borough.

Services, Infrastructure, and Communication

Services

Disaster response personnel who are unfamiliar with Cook Inlet may not realize that much of western Cook Inlet is not accessible by road. Although Cook Inlet has comparatively more services than the rest of Alaska, vast regions are without roads or reliable communication systems.

Alaska Airlines and other major airlines service the hub of Anchorage daily, while smaller airlines service outlying communities. Transportation within communities consists of standard vehicles, as well as boats, four-wheelers, and snow-machines.

All Cook Inlet communities receive email, radio, internet, a local newspaper, and phone services, although weather and malfunctioning equipment can result in these services becoming unavailable or temporarily suspended. In addition, some community members may not use phone, internet, or email communication, even when these services are available.

Most communities do have routine medical services and are within range of emergency medical services; many have small volunteer fire departments, and some have village safety officers instead of police departments. Most communities have schools, which often host non-resident overnight guests, and lodging is generally available (except in the smallest communities). Electricity, sewer, and refuse management are usually available in each community.

Most communities have restaurants and grocery stores, although the smallest communities may only have a small store that carries a limited selection and quantity of food and basic amenities, and may have restricted hours of operation. Given the lack of housing and food available for purchase in smaller communities (no large grocery stores or restaurants), even small-scale responses by outside parties would quickly overwhelm smaller communities like Seldovia, Tyonek, Beluga, Port Graham, and Nanwalek. As such, responders should determine before arrival in a small community or remote location whether they need to bring their own lodging (e.g., tents), fresh water, food, and basic amenities.

Infrastructure— Existing and Potential

There are very few facilities in the Cook Inlet and Kodiak region that a large-scale marine mammal response could be staged out of (Appendix 2: Table 2 Primary Marine Mammal Response Facilities), and only one of these is a primary care facility with dedicated spill response equipment/infrastructure and trained personnel (the Alaska SeaLife Center located in Seward).

The Alaska SeaLife Center (ASLC) is located in Seward, Alaska. In the last eight years, the ASLC has increased its capacity to respond to oiled wildlife through the development and procurement of spill response equipment/facilities, spill-specific training for key personnel, and contracts with oil spill removal organizations (OSROs) in Alaska.

The ASLC will be the primary response facility for impacted marine mammals in the Cook Inlet Region. They are also the primary stranding agreement holder and main contact in this region for

coordinating rehabilitation response efforts. See Alaska Facilities for Marine Mammal Rehabilitation for ASLC response capacity.

Although the ASLC is the only dedicated oiled wildlife response facility for seals and cetaceans in the state of Alaska, there are other facilities we could potentially be adapted for use as listed in Appendix 2: Table 3 Potential Facilities for Response Activities.

Overflow response facility

The Alaska Zoo in Anchorage has marine mammal facilities and space that could be converted to potentially house pinnipeds temporarily, but is not currently equipped with the trained personnel or equipment to handle de-oiling wildlife.

There are other facilities in Cook Inlet and Kodiak that could potentially be adapted for marine mammal response (Appendix 2: Table 3: Potential Facilities for Response Activities), however, these facilities are owned and managed for other uses, which would likely have priority over NMFS response activities.

Given that there are few facilities in Alaska with marine mammal facilities or that are NMFS owned/managed (located in Seward, Anchorage, and Kodiak), and the vast area potentially affected by a spill, responders will likely first need to stage out of an area closer to the spill for initial response activities.

Appendix 2: Table 3 contains a list of infrastructure options that could potentially be used during a spill or die-off affecting marine mammals in Cook Inlet and includes the marine mammal response activities it may be suited for. Potential facilities discuss herein are only potentially available to use; permission to use this infrastructure must be granted before assuming access.

Western Cook Inlet infrastructure is largely owned/leased by industry and the community of Tyonek. Knik Arm infrastructure includes the Department of Defense, the Eklutna and Knik tribal communities, as well as a mix of city, borough, and state buildings.

The Port of Alaska in Anchorage may be a key staging area for operations during spill response given that it is the main Cook Inlet access port in Anchorage. The Alaska Zoo is another potential staging area.

There is more infrastructure and better access to Cook Inlet along the Kenai Peninsula and the western side of Kachemak Bay. The eastern side of Kachemak Bay is more remote than other areas along the Kenai Peninsula, with some infrastructure located in the communities of Seldovia, Nanwalek, and Port Graham.

Communication

The Alaska SeaLife Center, located in Seward, is the stranding agreement holder in this region and would serve as a primary contact during a response. Additionally, it is imperative to communicate with the tribal/city/borough governments near affected areas, and potentially other ANOs and community-based organizations (see Appendix 3: Regional Contact Information).

Detailed notification and updating procedures for NMFS led disaster response efforts are outlined in Appendix 13, and are visually represented in Chapter 2 (Non-NMFS Led Disaster Response) and Chapter 3 (NMFS-led Disaster Response).

People from all over the world call the communities of Cook Inlet their home. Traditionally, Cook Inlet was home to and utilized by the Athabascans, Alutiiq, and Yupik Native people, but today hosts a much greater diversity of Alaska Native cultures.

The Alutiiq people speak Sugt'stun, or simply Alutiiq. Some Alutiiq people also refer to the language as Alutiit'stun—which means like an Alutiiq. The Athabaskan's have eleven languages, with Dena'ina and Ahtna languages spoken most frequently in the Cook Inlet region. Central Yupik is spoken by the Yupik people living closest to the Cook Inlet region. To ensure the most effective response and minimize adverse impacts, NMFS should work with the local tribal governments in these communities.

Chapter 2

Non-NMFS Led Disaster Response

Disasters Governed by the Oil Pollution Act of 1990

Oil Spill Response Laws and National Oil Spill Planning Structure

There are a number of key pieces of legislation that govern how the planning and response to oil spill incidents will occur in the United States. While the National Guidelines (NOAA 2015) provide a detailed description of the statutory and regulatory foundation that governs oil spill disaster response, a brief summary of relevant statutory and regulatory authority is provided below.

Of particular relevance to the AMMDRG are the Oil Pollution Act of 1990 (OPA-90) (33 USC § 2701 et seq.); section 311(d) of the Clean Water Act (CWA), as amended by OPA-90 (33 USC § 1321 et seq.), section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act, and regularly obligations under the National Contingency Plan (NCP) (40 CFR § 300 et seq.). Pursuant to OPA-90 amendments to the CWA, NCP regulations require a fish and wildlife response plan, developed in consultation with the USFWS, NMFS, and other interested parties (including State fish and wildlife conservation officials), for the immediate and effective protection, rescue, rehabilitation of, and the minimization of damage to, fish and wildlife resources and their habitat that are harmed, or may be jeopardized by a discharge.

NCP regulations establish the organizational elements necessary for 1) preparedness planning and coordination of oil spill or release of hazardous substances, 2) notification and communication, and 3) response operation at the scene of a discharge or release. NCP regulation designate the USCG as providing the Federal On-Scene Coordinators (FOSCs) for oil discharges within or threatening the coastal zone, and for the removal of most hazardous waste substances, pollutants, or contaminants. NCP regulations designate the EPA as providing FOSCs for discharges or releases into or threatening inland zones.

Further, NCP regulations establish standard regional boundaries for 10 federal jurisdictional regions within the US. NCP regulations direct Area Committees within each of these areas to develop Area Contingency Plans for these designated regions. The NCP requires that Area Committees develop a detailed annex containing a Fish and Wildlife and Sensitive Environments Plan in consultation with the USFWS and NMFS. The Annex must provide the necessary information and procedures to immediately and effectively respond to discharges that may adversely affect fish and wildlife and their habitat/sensitive environment, including provisions to respond to a worst case scenario.

Finally, pursuant to NCP regulations, the Regional Response Team (RRT) provides the regional coordination of planning of preparedness and response actions. Thirteen RRTs cover the 10 standard federal jurisdictions of the US and the following three subregions; 1) Alaska, 2) Puerto Rico and the US Virgin Islands, and 3) Hawaii, Guam, Northern Mariana Island, Pacific Island Governments, and America Samoa. The RRT provides guidance to Area Committees to ensure inter-area consistency, coordination of assistance, and advice to the FOSCs.

The Alaska Regional Contingency Plan includes Wildlife Protection Guidelines as a separate document that informs each of the four Area Plans. The Wildlife Protection Guidelines were developed by the Alaska RRT (ARRT) Wildlife Protection Working Group in accordance with the regulatory requirements of the NCP. NMFS is a participant in this working group, and, in collaboration with other participating agencies, has developed the CI&KMMDRG. The CI&KMMDRG address disaster response activities specific to marine mammals under NMFS's authority in the Cook Inlet and Kodiak regions of Alaska (part of the Arctic and Western Alaska Area Plan).

A number of statutes, regulations, and executive orders provide the basis for Area Contingency Plans. Disaster management is led by the Department of Homeland Security–Federal Emergency Management Agency (FEMA) following the National Response Framework (NRF), a structure mandated by the Homeland Security Act of 2002 and Homeland Security Presidential Directive-5. The NRF “presents the guiding principles that enable all response partners to prepare for and provide a unified national response to disasters and emergencies,” “defin(ing) the key principles, roles, and structures,” and “describes how communities, tribes, States, the Federal Government, and private-sector and nongovernmental partners apply these principles for a coordinated, effective national response (NRF 2013).” The NRF is based on a series of Emergency Support Functions, each of which direct one or more federal agencies to provide assistance, when necessary, to national disasters. Further, the management structure defined within the NRF is built on the template of the National Incident Management System (NIMS), a command-and-control system that defines a unified approach to incident management, a standard command and management structure [the Incident Command System (ICS)], and an emphasis on preparedness, mutual aid, and resource management.

The ICS allows individuals, teams, and the federal government to “share expertise and resources to ensure that oil spill control and cleanup activities are timely, efficient, and minimize threats to human and environmental health” that are beyond the capabilities of local and state responders. If events are serious enough to be considered “Spills of National Significance” (SONS), the NRF can be activated, and works in conjunction with the National Response System and NCP.

Alaska’s Oil Spill Planning Structure

Managing Legislation/Plans

Federal:

- National Oil and Hazardous Substances Pollution Contingency Plan (NCP)
- Oil Pollution Act of 1990 (OPA-90)

State:

- Oil Discharge Contingency Plans AS 46.04.030
- State Master Plan AS 46.04.200
- Regional Master Plans AS 46.04.210
- Oil Discharge Contingency Plans 18 AAC 75.400-425
- Discharge Exercises 18 AAC 75.485
- Regional Master Plan Boundaries 18 AAC 75.495

Pursuant to the above listed authorities, and in the interest of protecting Alaska's resources during an oil spill, the Alaska Regional Response Team (ARRT) developed the Alaska Regional Contingency Plan (2018). The Alaska Regional Contingency Plan contains information applicable to pollution response within the entire state of Alaska. This document was written jointly by the USCG, EPA, and the Alaska Department of Environmental Conservation (ADEC). The Alaska Regional Contingency Plan describes Alaska's oil spill planning structure and response strategies in great detail, and should be referred to in the event of an oil spill; a brief overview of those components most germane to NMFS spill response efforts are discussed below.

The Unified Command (UC) operates with the Federal On-Scene Coordinator (FOSC) having ultimate authority for incidents under federal jurisdiction and the State On-Scene Coordinator (SOSC) having ultimate authority for incidents not involving federal jurisdiction (or if the FOSC designates the State to act as the FOSC's representative). Also, as long as there is an immediate threat to public safety, a Local On-Scene Coordinator (LOSC) will serve as the ultimate command authority if the FOSC or SOSC does not assume the lead role for response, or the LOSC requests a higher authority to assume that responsibility. The Responsible Party (RP) has the authority as long as the RP is adequately responding to the incident (and there is no immediate threat to public health and safety). The UC will respect all governmental agencies' and private jurisdictional authorities. Most of the time, the UC will be able to agree upon a single incident action plan (IAP). In cases where there are disputes or differences, the OSC having ultimate authority described above will settle the disputes (Alaska Regional Contingency Plan 2018).

If the Federal Government is the agency in charge, the FOSC will be a USCG official if the spill occurs in the coastal zone or an EPA official if the spill occurs in the inland zone. The Department of Defense (DOD) will provide the FOSC if a hazardous substance release involves military resources and occurs on military facilities (Alaska Regional Contingency Plan 2018). Per the NCP; ACP; 2001 MOA between the USCG, EPA, NMFS, DOI, and others; and the May 2014 USCG Incident Management Handbook, the FOSC will coordinate with NOAA/NMFS for emergency ESA Section 7 consultation and wildlife response during response events that could overlap in time and space with ESA-listed species under NMFS's jurisdiction.

State government has broad statutory authority to oversee spill response in order to protect the human and physical environment. Furthermore, the State is required to maintain an independent response capability for those incidents where the RP is unknown, requests assistance, or fails to respond adequately. 18 AAC 75.320 contains the criteria by which the State determines the adequacy of response. State law pre-designates ADEC as the SOSC for all Alaskan spill responses. The State uses ICS for spill response, and also clarifies the roles of all parties involved to ensure a coordinated approach to spill containment and cleanup. The ADEC has authority to assume control of containment and cleanup on behalf of the State when the SOSC determines that the RP is unknown, or is not performing adequately (Alaska Regional Contingency Plan 2018).

To address wildlife-specific spill response strategies, the ARRT Wildlife Protection Working Group developed the "Wildlife Protection Guidelines for Alaska" of the Alaska Regional Contingency Plan. These guidelines focus on tiered response strategies to protect migratory birds, marine mammals, and terrestrial mammals following an oil discharge in Alaska (including offshore waters), when that wildlife may be, or have been, oiled. The ARRT Wildlife Protection Working Group is composed of federal and state entities with statutory mandates to manage and/or protect the wildlife resources found in Alaska. The group includes representatives from the local government; ADF&G; U.S.

Department of Commerce, NOAA and NMFS; USCG; DOI, USFWS; Office of Environmental Policy and Compliance; oil industry; and OSRO.

The Wildlife Protection Guidelines provides basic potential response strategies; the Cook Inlet and Kodiak Marine Mammal Disaster Response Guidelines serve as a more in-depth guide for NMFS employees and their response designees while conducting response activities that could affect their trust species. The CI&KMMDRG provides a foundation for coordination and communication between the National MMHSRP participants and other State and Federal government agencies. The CI&KMMDRG builds upon the Wildlife Protection Guidelines by providing an outline of appropriate standardized data collection techniques for response activities and damage assessment; defining chain-of-custody protocols for animal collection, necropsy, and sampling; providing recommendations for protection of human health and oil spill safety training for responders; and presenting guidelines for best achievable care of oiled marine mammals.

Readiness

An effective response to a marine mammal disaster resulting from an oil spill in Cook Inlet and Kodiak Alaska would be significantly challenged by the distances to transportation hubs and/or urban cities, expansive coverage areas, few trained marine mammal personnel, and limited to non-existent marine mammal supplies and infrastructure (depending on location). The following paragraphs outline the current response framework, existing and potential facilities, and veterinarians and other personnel with marine mammal experience. Detailed personnel and facility resource information is available in the Regional Annex, a separate document maintained by NMFS, and Appendix 2: Cook Inlet and Kodiak Marine Mammal Resources for Disaster Response which contains the following tables:

Table 1	Alaska Marine Mammal Stranding Network
Table 2	Primary Response Facilities
Table 3	Potential Facilities for Response Activities
Table 4	Groups that Have Cook Inlet/Kodiak Marine Mammal Species Handling and Behavior Experience
Table 5	Veterinarians with Marine Mammal Experience

To help prepare for a response, NMFS established NMFS Alaska Response Standards, which set marine mammal response capacity requirements. See Appendix 1: NMFS Alaska Response Standards; the standards and thresholds are briefly summarized below:

- Capacity to sample 50 live or dead pinnipeds in the first week of a response
- Capacity to sample 5 live or dead cetaceans in the first week of a response
- Capacity to necropsy 50 dead pinnipeds/cetaceans
- Maintain level of readiness to store 1,000 marine mammal samples
- Capacity to clean and rehabilitate 25 live pinnipeds
- Capacity to clean and rehabilitate 2 live small cetaceans

Equipment lists were developed to meet the preparedness criteria set by the NMFS response standards. Appendix 4 is a comprehensive equipment list developed to meet the response standards in the first weeks of a response, and Appendix 5 has equipment lists organized by response activity for ease of use during a response.

Primary facilities and some additional potential facilities for response activities have been identified (Appendix 2: Tables 2 and 3), and conditions for establishing temporary facilities in the outlying communities presented in the Temporary Facilities section of these Guidelines.

Personnel

There are different levels of personnel involved in spill response – each of which has different requirements for skills, training, knowledge, abilities, and responsibilities; these descriptions can be found in Chapter 3 of the National Guidelines (Ziccardi et al. 2015). Few members of the AK Stranding Network have all of the required and recommended training for oil spill response, nor do the community members who will likely be involved during an oil spill. The Regional Annex, and Appendix 2: Tables 1, 4, and 5 outline contact information for potential personnel.

In Alaska, local coastal community members often have a great depth of knowledge about the marine environment in their region. They are often very knowledgeable about environmental conditions, such as weather, sea ice, ocean currents, as well as the life history of local marine mammals including regional use and distribution patterns, and other important information relevant to marine mammal response.

In order to mount a safe, effective wildlife response based on the best available information, local experts need to be integrated into the Incident Command Structure (discussed in the next chapter). Qualified and authorized wildlife response personnel can be reimbursed for their time and expertise through the USCG/EPA-led ICS. Tribal governments can also suggest local experts to be involved in response efforts.

Training

Depending on the role that the individual will be filling, different levels of training will be necessary. Aside from Cultural Awareness described below, Chapter 2 of the National Guidelines (Ziccardi et al. 2015) defines the remaining training courses outlined in Table 3.

Some training requirements will directly relate to the tasks that the person will fill, including those directed at mastering specific marine mammal rescue and rehabilitation tasks. Others are mandated to ensure the safe accomplishment of activities, such as recognizing and minimizing the risk of injuries from oil-related and physical hazards associated with oil spill response operations.

Cultural Awareness: NMFS recommends that all non-local personnel who will be deployed to Kodiak or Cook Inlet receive cultural awareness training led by Alaska Natives from the region of the disaster event. The training should include an overview of the local Native culture(s), with a focus on their legal and cultural relationship to marine mammals (e.g., marine mammals are food, and part of Alaska Native spirituality), and clear instructions for those actions during a response that require specific legal/regulatory knowledge and cultural sensitivity (e.g., carcass collection, disposal etc.).

Table 2: Required and recommended training for oiled marine mammal personnel

	24-Hr HAZWOPER	4-Hr HAZCOM	ICS 100-200	Drill Participation	"Oil Spill 101"	First Aid	Boat Safety	Live Animal Handling	Rehabilitation	Processing	Crisis Management	Cultural Awareness	Media Relations
Regional Coordinator	R		R	R	R	H					R	H	R
Network Member Director	R		R	R	R	H					R	H	R
Response Management	R		R	H	R	H	R	R	R	R	R	H	R
Collection Area Lead/Staff	R		H	H	R	R	R	R				H	H
Field Processing Area Lead/Staff	R		H	H	R	R	H	H		R		H	H
Facility Processing Area Lead/Staff	H	R	H	H	R	H		H	H	R		H	H
Primary Care Area Lead/Staff	H	R	H	H	R	H		R	R			H	
Secondary Care Area Lead/Staff	H	R	H	H	R	H		R	R			H	
Field Volunteers	R					H	H	R				R ¹	
Facility Volunteers		R				H		R	H	H		R ¹	
R = Required training													
H = Highly recommended for establishing best practices													

*Adapted from the National Guidelines (Ziccardi et al. 2015). ¹Not-required for local volunteers.

Personal Protective Equipment

Personal protective equipment (PPE) must be used to protect wildlife response personnel from exposure to hazardous substances and dangers associated with animal care activities. To guard against injury from marine mammals, all workers should wear approved personal protective equipment appropriate to their task.

Recommended PPE

- ✓ Full eye protection, i.e., goggles or safety glasses, and face shield
- ✓ Oil resistant rain gear or oil protective clothing (coated Tyvek, Saranex, etc.)
- ✓ Gloves (neoprene or nitrile) that are oil resistant and waterproof
- ✓ Respiratory protection
- ✓ Non-skid shoes/boots that are oil resistant and waterproof
- ✓ Basic First-Aid kit

Potentially Needed PPE Depending on Assignment

- ✓ Ear protection (muff or ear plug type) when using pyrotechnic devices or operating machinery
- ✓ Personal flotation device when working on or near water
- ✓ Working communication device: VHF radio, satellite phone, some cellular carriers
- ✓ Extra fuel on vessels
- ✓ Bear guard, or person approved/trained to carry gun for bears when in field
- ✓ Bear spray

Respiratory protection from organic vapor hazards may also be required for some operations. If respirators are used, training and fit testing are required. All workers must be trained on the proper use and limitations of all PPE prior to using the equipment.

Facility Requirements

General Considerations

The size of the spill, its location, as well as the number and species of animals oiled will determine the type and location of a facility that can meet the required need. Temporary facilities that can support care for oiled marine mammals in the short or long-term can be established in local, fixed structures, or mobile units can be brought to a spill location to serve as temporary facilities. However, it is critical that spill planners and responders recognize the degree of effort, the unique requirements of oiled wildlife care, and the complexity required to implement and establish an adequate facility.

The decision process for rehabilitating and housing pinnipeds remote from a primary care center must consider prioritizing resources for the residents of each community above response activities (e.g., demand for fresh drinking water).

There are published standards for the design of facilities housing marine mammals in captivity; these are covered thoroughly in Chapter 2 of the National Guidelines (NOAA 2015) and recounted briefly below. There are published standards for the design of facilities housing marine mammals in captivity. In the United States, these standards are published by the Department of Agriculture, Animal and Plant Health Inspection Service (APHIS, www.aphis.usda.gov) and are a requirement for facilities that wish to display animals to the public. They include such items as haul out requirements, pool size and depth, water quality, number of animals kept in a particular environment, and strict standards for food preparation areas and medications.

In 2009, NMFS developed specific marine mammal rehabilitation facility guidelines (Policies and Best Practices for Marine Mammal Response, Rehabilitation, and Release, (available at <https://repository.library.noaa.gov/view/noaa/14917>), which set minimum facility, husbandry, and veterinary standards for rehabilitating marine mammals. It should be noted that there are some differences between the two documents in that the latter was developed for temporary care and all age groups, and thus is more appropriate for use during oil spill responses.

It should also be noted that temporary facilities that are established at the time of an oil spill response may not be able to follow every aspect outlined in these documents due to the emergent nature of the incident. Thus, oiled marine mammal temporary facilities should strive to follow these Policies and Best Practices as closely as possible, but to consult with the veterinary and husbandry staff to confirm necessary prioritization and receive approval from the Regional Stranding Coordinator (or his/her designee) where they differ.

Alaska Facilities for Marine Mammal Rehabilitation

Permanent Facilities

Currently, there are only two permanent marine mammal facilities in Alaska with existing capacity to house pinnipeds. The ASLC, located in Seward, and the Alaska Zoo, located in Anchorage (see Appendix 2: Table 2 Primary Response Facilities for contact information and capacity). The ASLC also has capacity to house small cetaceans.

The ASLC is Alaska’s only public aquarium and marine mammal rehabilitation facility. They are a private, non-profit corporation with approximately 105 full-time employees and dedicated staff of volunteers and interns. Their staff has knowledge of capture, field stabilization, rehabilitation, and release of live oiled pinnipeds as well as disease investigation. In the information about the ASLC provided below, they list capacity for small and large pinnipeds using the USDA Animal Welfare Act (AWA) numbers for harbor seals and Steller sea lions (which apply to any pinniped in the given size category). Actual capacity would depend on age, sex, size, species, health status, and other factors providing it is authorized by the attending veterinarian and/or the Regional Stranding Coordinator.

In summary, ASLC has 25 separate enclosures with pools of varying size available for wildlife care at the facility in Seward, Alaska. These enclosures are compliant with the NOAA Policies and Best Practices- Marine Mammal Stranding Response, Rehabilitation, and Release Guidelines to hold up to either 155 small pinnipeds (< 6’, such as a harbor seal), or 53 large pinnipeds (> 6’ such as a Steller sea lion), or varying numbers of different combinations of species or sexes.

Additional dry holding is available but is not included in this total as it would only be temporary. Specific capacities of each enclosure are listed in Table 4 and are based off of AWA regulations for harbor seals and Steller sea lions. Additional animals could be accommodated depending on the specific cases and with NOAA’s waiving of the standards (approving a variance).

Table 3: Maximum response capacity of the Alaska SeaLife Center

Location	Capacity ↓ 6 ft. (‘Harbor Seals’)		Capacity ↑ 6 ft. (‘Steller Sea Lions’)	
	Male	Female	Male	Female
I.Sea.U (MTRE)	5	7	2	2
154 Pool	4	5	1	2
ODL 8	44	58	15	22
ODL 7	4	5	--	2
ODL 6	10	13	3	5
ODL 5	10	13	3	5
ODL 1-4	4	4	--	--
Rooms 134	2	3	--	1
Room 135	2	3	--	1
136	1	2	--	--
138	2	3	--	1
139	1	2	--	--
South beach 16.5 ft. Pools (3)	20	26	7	10
South Beach 13 ft. Pool (1)	4	5	--	2
Condos (6)	6	6	--	--
Total	119	155	31	53

Note: If the ASLC had a larger rehab animal like a beluga calf or walrus, they would not be able to use the full capacity of ODL for other species.

Please keep in mind these are maximum capacity numbers – actual capacity depends on the current case load of the rehab department, the age/sex/species of animals being admitted, and staffing. See Appendix 2: Figures 1, 2, and 3 for maps of the ASLC facility.

The Alaska Zoo has provided a home for orphaned, injured, and captive-born animals for over four decades. They are a 501(c)3 nonprofit dedicated to promoting conservation of Arctic, sub-Arctic, and like climate species through education, research, and community enrichment (AK Zoo 2015). The Alaska Zoo in Anchorage has marine mammal facilities and space that could be converted to potentially house pinnipeds temporarily, but is not currently equipped to handle de-oiling wildlife either with trained personnel or equipment. As such, its likely role will be an overflow facility for rehabilitation of pinnipeds from the ASLC, and potential staging area for other response activities.

Temporary Facilities

There are many requirements and considerations for housing pinnipeds which are discussed in depth in Chapter 2 of the National Guidelines. Suitable temporary facilities could be established for field stabilization in most places where basic heat and light, fresh water, and an enclosure safe from predators is provided. In most of the communities in each region, there are warehouses and other enclosures (e.g., conex containers) that could be outfitted for this purpose on a short-term basis. These potential facilities are outlined in Appendix 2: Table 3: Potential Facilities for Response Activities. There are likely other facilities that could house pinnipeds in these communities; discussions with local SA holders and tribal/city governments can guide this selection.

There are generally fewer options for converting existing structures into temporary facilities in the outlying communities. Building construction in remote areas is extremely expensive, and as such, the buildings that do exist are usually in use, and many serve multiple functions to economize these spaces. Additionally, the fresh water supply is often very limited and expensive for the communities. The decision process for rehabilitating and housing animals in remote communities must involve prioritizing the resources, such as the water supply for the community residents. A wider variety of temporary facilities can likely be found or made for response activities such as necropsy and sample storage; the availability of power being the limiting factor and can be remedied with generators (see Appendix 2: Table 3: Potential Facilities for Response Activities).

Mobile Treatment and Rehabilitation Enclosures (MTREs) have been developed by the ASLC to remotely house pinnipeds in pools during a response effort. The MTREs require access to fresh or salt water, a power source, a flat surface, and fencing or an enclosed space for protection against predators. The MTREs can be deployed with trained staff to remote communities for field stabilization use in areas without other available infrastructure. Existing structures and MTREs could be used for field stabilization in conjunction with transporting impacted pinnipeds to permanent facilities (e.g., ASLC). Any large scale or long-term effort would also require additional personnel to care for the animals.

The ASLC has also developed Mobile Response Units (MRUs) to support mobile field stabilization and rehabilitation efforts. These units provide staff sleeping for four people, animal food preparation, a veterinary unit, and storage space. All units have been built with the option to plug into local infrastructure or run independently through the use of propane, gasoline, generators, water bladders, water catchment pools, and pumps should a remote response be necessary. See Appendix 2, Tables 2 and Table 3 for current MTRE and MRU numbers and capacity.

Equipment and Supplies

Oiled wildlife response is a specialized field and, as such, requires certain equipment and supplies to accomplish it effectively. The degree and specialization of the necessary materials is dependent on a number of factors including species at risk, location, number of animals at risk, specific tasks for response (e.g., field processing, live animal rehabilitation), remoteness of operation/ease of acquiring needed supplies, and similar logistical concerns.

NMFS Alaska Response Standards (2017: Appendix 1) set marine mammal target readiness levels in Cook Inlet and Kodiak at:

- Capacity to sample 50 live or dead pinnipeds in the first week of a response
- Capacity to sample 5 live or dead cetaceans in the first week of a response
- Capacity to necropsy 50 dead pinnipeds/cetaceans
- Maintain level of readiness to store 1,000 marine mammal samples
- Capacity to clean and rehabilitate 25 live pinnipeds
- Capacity to clean and rehabilitate 2 live small cetaceans

While no equipment and supply list is complete and comprehensive, Appendix 5 lists equipment needed for specific response activities (e.g., collection of external oil samples, field rescue, necropsy, collection of carcasses, and rehabilitation). Appendix 4 includes the needed equipment to meet the target readiness for Cook Inlet and Kodiak.

Response

The following is a brief overview of how pinniped/cetacean response operations are expected to occur for spills in Cook Inlet and Kodiak. Please refer to Chapter 3 of the National Guidelines for in-depth descriptions of the ICS, Wildlife Branch— (Pinniped and Cetacean Operations), formal transitioning between tiered responses, and an overview of data management.

Incident Reporting and Resource Activation

As part of the initial oil spill response activation process, Federal and State wildlife trustees, tribal and city governments, local SA holders, and co-management groups should be notified about the potential impact to their trust resources. The NMFS RSC may receive the notification via NOAA's Scientific Support Coordinator (SSC), and the Stranding Network and their designees will be mobilized via coordination with them and the Wildlife Branch Director (WBD) (if the ICS is activated).

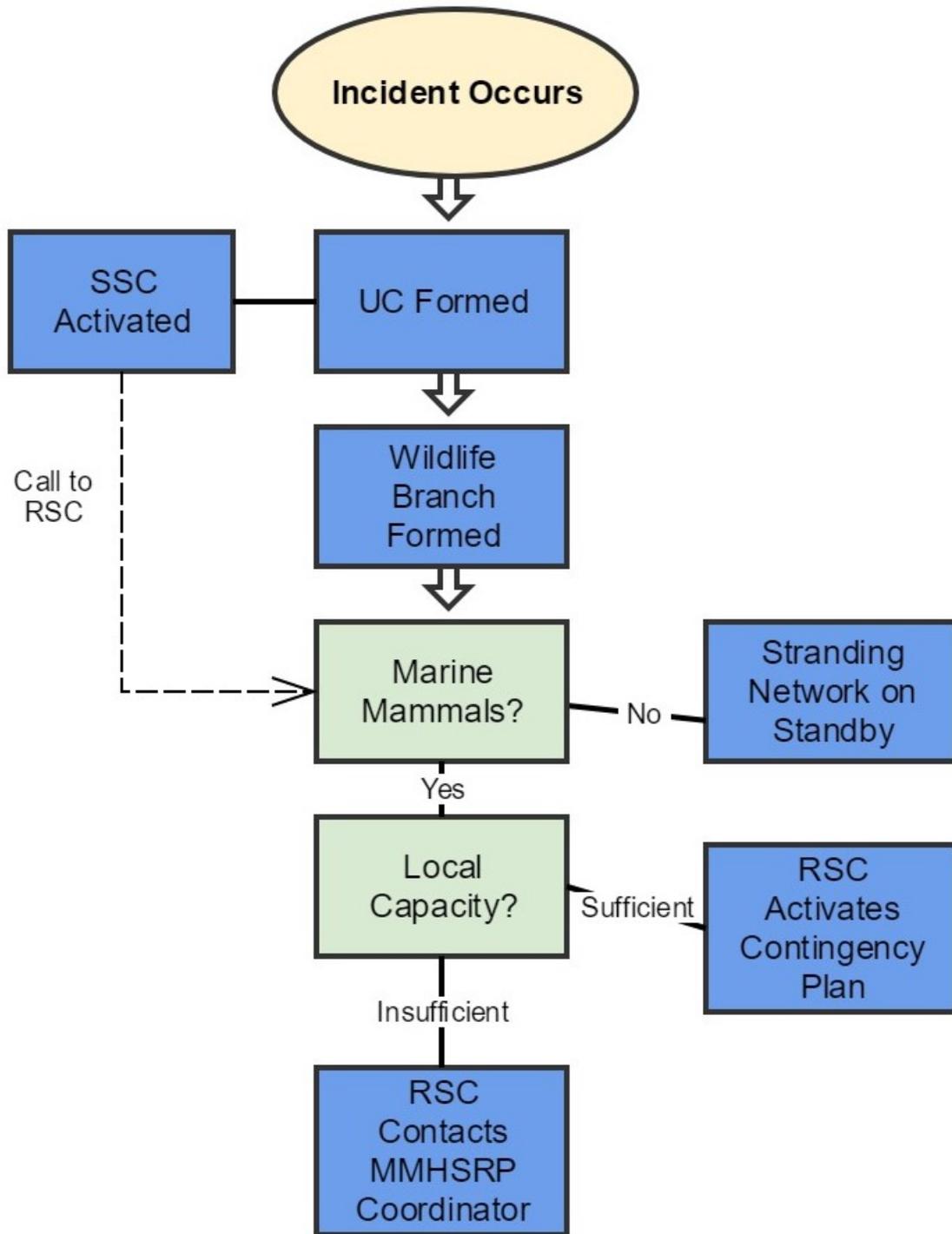
In the event of an oil spill or other Federalized disaster incident, ICS will provide the on-scene management structure that guides response efforts. This structure is led by a UC including designation of a FOOSC from the USCG (for spills occurring in marine waters) or the EPA (for spills occurring on land and inland navigable waters), a SOSOC, and a Responsible Party Incident Commander (RPIC). The ICS typically also includes four sections:

- **Planning section:** responsible for developing the Incident Action Plan (IAP) for each operational period (typically 12-24 hours for a major incident). The IAP is developed to accomplish response objectives, including collection and evaluation of information, tracking resources, and documenting response effort.
- **Operations section:** conducts tactical operations to carry out the IAP; directs resources

- **Logistics section:** provides the resources, support, and services to meet plan needs
- **Financial section:** monitors costs related to the incident.

Wildlife agencies provide recommendations to the UC if their trust resources may be affected. Depending on the size and nature of the spill, these recommendations may be provided directly to the UC, and/or through the Environmental Unit within the Planning Section. Recommendations to conduct wildlife response activities should be coordinated with the appropriate wildlife agencies (USFWS, NMFS, and/or ADF&G) and the UC before being initiated (Figure 4). In remote Alaska, community members are often the first to report that a disaster is occurring, and generally contact a trusted local organization who then contacts NMFS. In this community notification scenario, NMFS should then inform NOAA's SSC who will in turn provide the proper notifications outside of NMFS.

Figure 4: NOAA Marine Mammal Notifications



Acronyms: UC = Unified Command; SSC = Scientific Support Coordinator; RSC = Regional Stranding Coordinator

Wildlife Branch

Coordination of response activities directed at wildlife (including reconnaissance, hazing, capture, and care) usually occurs within the Wildlife Branch, which works under the Operations Section. Some actions that are related to wildlife or can help inform wildlife response efforts occur with the Environmental Unit of the Planning Section (e.g., identification and prioritization of resources at risk, consultation under Section 7 of the ESA for potential impacts from response activities, Geographic Information System (GIS) mapping, provision of trained wildlife observers on response craft, and collection of shoreline information). Guidance for responding to oiled wildlife is not specifically provided in the NCP; therefore, the Wildlife Branch operational plan is developed for each incident using foundational information in the Area Plans based on the specific resources present locally and agency involvement. The NMFS RSC may be the Director or Deputy Director of the Wildlife Branch. Under the direction of the WBD, the principal objectives of the Wildlife Branch are typically to:

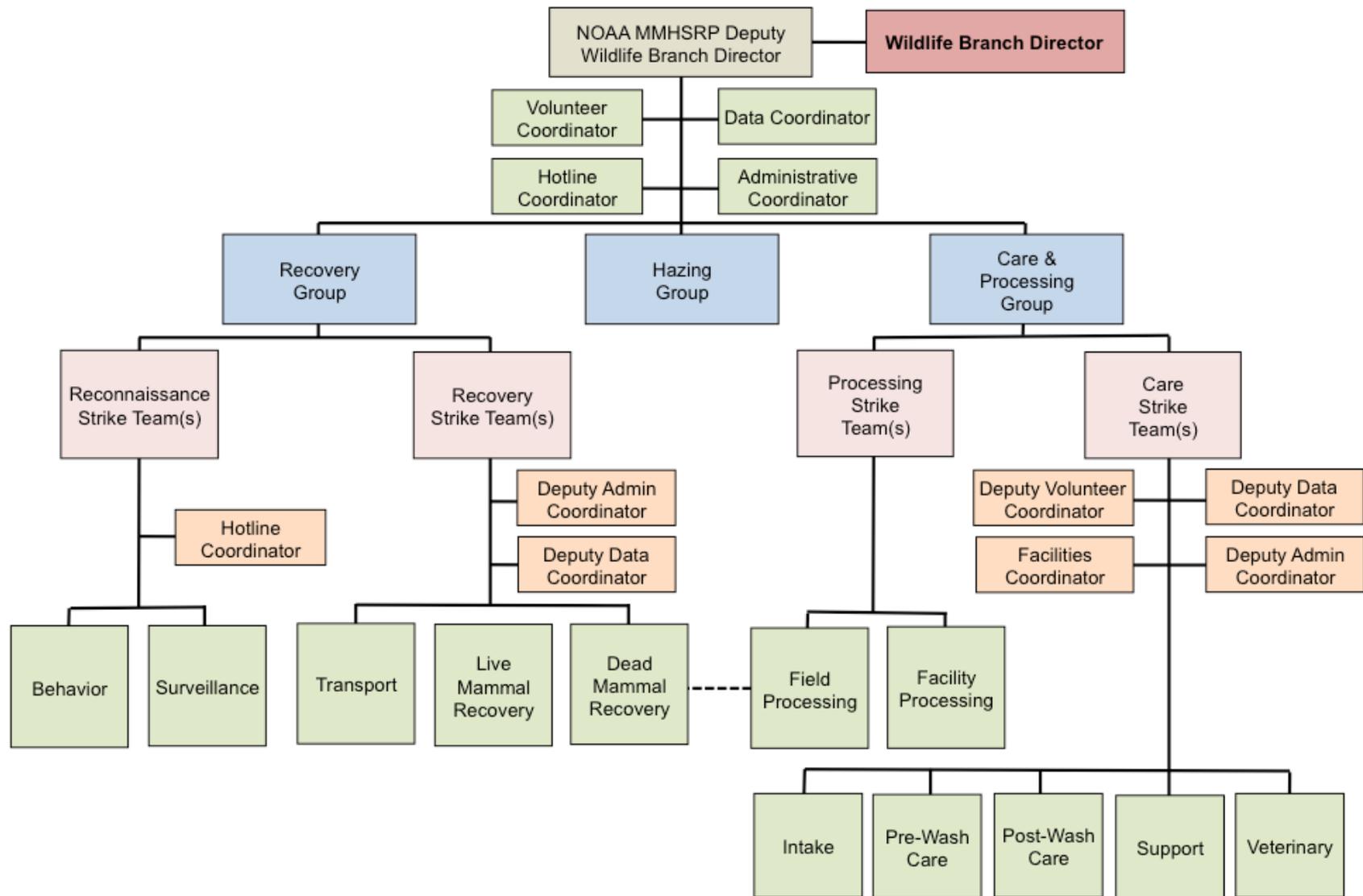
- Conduct all operations in a safe manner for people and animals;
- Minimize injuries to wildlife and habitats from the contamination;
- Minimize injuries to wildlife and habitats from the cleanup effort;
- Collect all data, samples and animals in a legally defensible manner;
- Document for the UC (and potentially other efforts) the immediate impacts to wildlife of the oil spill and cleanup; and
- Provide the best achievable care to impacted and/or threatened wildlife.

Each oil spill incident involving wildlife will be very different based on a number of factors, including (but not limited to) spill dynamics (e.g., product, volume), time of year, location of spill, and oceanographic/meteorological status. Because of this dynamic state, no “one size fits all” organizational structure for marine mammal response can be applied to each and every response. At an industry level, oil spill planners have addressed this same issue using a Tiered system concept, where differing levels of readiness are planned for based on extent of needed response. The National Guidelines covers the tiers in depth. Briefly, these tiers are defined in the following manner:

- Tier 1: Spills that only have a local impact and require only local resources;
- Tier 2: Spills that have regional significance, and require resources from across that region; and
- Tier 3: Spills that have national or international significance, and require resources from multiple regions or countries.

Figure 5 displays an organizational chart for the Wildlife Branch during a Tier 3 response; this structure can be scaled down for Tier 1 and 2 responses.

Figure 5. Tier 3 Pinniped/Cetacean Wildlife Branch Organizations



From: National Guidelines (Ziccardi et al. 2015)

Pinniped and Cetacean Operations During an Oil Spill

For effective coordination within the overall spill response structure (and the Wildlife Branch, in particular), the National Guidelines have established a working model of how pinniped and cetacean operations should be managed. For most spill situations, a small number of individuals can successfully fill all of the necessary responsibilities. However, the number of positions on the organizational chart is entirely dependent on the scope and complexity of the event, and can be expanded to address a larger event.

In an oil spill incident or other natural or anthropogenic disaster when response is managed under the ICS and where wildlife are at risk and/or known to be affected, a Wildlife Branch will likely be stood up. In areas where pinnipeds and/or cetaceans may be impacted, the WBD and/or the SSC should contact the RSC, as he/she will be most familiar with local assets that can be used when appropriate. Initial discussions between the WBD/SSC and RSC should include what species are at risk, what assets have been made available by the UC and/or the RP, the regional capacity of the AK Stranding Network, whether the UC has approved the development of a Pinniped/Cetacean Group within the Wildlife Branch (see Chapter 3 of the National Guidelines), and whether the response is large or complex enough to warrant the activation of a Deputy Wildlife Branch Director (DWBD) to focus on pinniped/cetacean issues. In most instances, the RSC should fill the DWBD role, but other marine mammal/response specialists from the MMHSRP and/or other professional wildlife organizations representing NMFS may also effectively fill this role. In particular, if USFWS trust species are impacted in addition to NMFS trust species, the USFWS will participate in the Wildlife Branch and Environmental Unit at appropriate levels. Once these initial discussions occur, the level, degree, and staging of activation of resources can take place (as well as contacting other RSCs and the MMHSRP personnel to request additional assistance, as needed).

Overview of Data Management

Systematic reconnaissance, deterrence/hazing, search and recovery, transportation, processing, and treatment of all oil-affected wildlife is critical for guiding response actions and gaining an understanding of the short-term and long-term consequences of oil spills to wildlife populations. In addition, these data can be used after the emergency response for Natural Resource Damage Assessment activities. In order to track the samples and collect data during oiled wildlife response, the trustee agencies and response organizations must adhere to pre-established chain-of-custody and animal identification procedures. During large-scale responses, pre-identified wildlife agency personnel or their agents may complete the necessary forms; however, field and rehabilitation responders should also be familiar with the documents and their completion for smaller-scale responses and for individual oiled animals that present to participating facilities independent of a spill response. In addition to the tracking of live animal data, all samples (carcasses, samples, photos, records) that may be used in legal cases must be tracked and secured at all times. For an overview of these forms, refer to Chapter 3 of the National Guidelines (NOAA 2015).

Non-declared Oil Spill Events

The above reporting structure only details instances where oil spills are officially observed and declared by the local, state, and/or federal agencies in charge of spill response (declared event). In many instances, individual oiled animals may be observed by the public and/or wildlife professionals as oiled without a spill being officially declared (e.g., from natural seeps, animals entering waste facilities, non-petroleum oils from fishing activities, unreported spills): these are referred to as non-declared events. The presence of these oiled animals does not normally necessitate activation of the

entire response structure, yet the wildlife response community is often placed in a situation where recovery and rehabilitation is warranted. Additionally, these animals may be the first evidence that a spill is occurring, so these data will be important for subsequent response.

In a non-declared event, NMFS will likely be communicating directly with stakeholders, SA holders, and communities regarding their trust species; **refer to the NMFS-Led Disaster Response Non-declared Oil Spill Events section for protocols to follow during a non-declared event.**

Deterrence/Hazing

Introduction and Goals

The most effective means to protect pinnipeds and cetaceans from damage associated with oil spills is preventing them from being exposed to oil in the first place. After a spill happens, much of the effort by which this can occur is directly related to oil clean up (“primary” response efforts), such as booming, skimming, dispersing oil, and *in situ* burning, which reduces the amount of the oil product in the environment, which can reduce the risk of animals being oiled. “Secondary” response efforts, including minimizing injuries to wildlife by attempting to keep animals away from oil and/or cleanup operations, can be effective in preventing animals from being exposed to oil and requiring rehabilitation. Deterrence is a secondary response tactic that can be effective at keeping animals away from oil. However, deterrence activities do not come without risks, as many techniques use potentially dangerous and regulated materials (e.g., pyrotechnics, sound generators, propane cannons), as well as there being a dearth of significant knowledge on how effective each method is on specific species. Additionally, deterrence actions only are effective when there are safe locations to drive animals to. Marine mammal deterrence requires experienced personnel and significant lead time for preparation, particularly in situations where equipment has not been cached, and therefore may not be able to be implemented on the time scale of a spill response (within hours to the first few days following a release). Deterrence must take place only under the authority and oversight of trustee agencies, or their designees, in coordination with the UC, as such actions are designated as “harassment” or “take” by the MMPA and ESA, and NMFS holds the permit authorizing deterrence take.

Chapter 4 of the National Guidelines (NOAA 2015) contains detailed descriptions of the hazing/deterrence group personnel and organization, safety, documentation, and available procedures (see Figure 7). Only Alaska-specific information will be presented in this chapter. NMFS does not have official protocols for deterring cetaceans and pinnipeds in Alaska from spilled oil to avoid exposure. The only species-specific deterrence plan that exists for NMFS-managed marine mammals is for Southern Resident killer whales in Puget Sound, WA. The development of deterrence protocols is an iterative process requiring extensive collaboration within NMFS, other scientific agencies, and Alaskan stakeholders such as the co-management groups and coastal communities. To facilitate this process, NMFS has begun discussions with the several co-management groups, regional entities, and also held a deterrence workshop to identify possible hazing/deterrence techniques for bowhead and beluga whales (NMFS 2014).

Deterrence Authority

During an incident response, deterrence of species under NMFS’s jurisdiction may proceed only with proper authorization from the NMFS RSC. For non-ESA-listed species, Federal, State, or local government employees acting within their official job duties have the authority to deter marine

mammals during an oil spill to protect the welfare of the animal under Section 109(h) of the MMPA. However, Section 109(h) does not apply to volunteers, non-government contractors, or volunteer groups. Certain groups can be pre-authorized to deter animals using approved techniques and authorized under an MMPA/ESA permit, but will need a trained marine mammal observer to insure deterrence is effective. For ESA species, the MMHSRP has deterrence authorization.

Personnel

If deterrence was authorized via the MMHSRP, experienced personnel should exclusively staff the Deterrence/Hazing Group who have proper training in the use of required deterrence equipment as well as significant experience using such techniques on the species at risk. Deterrence activities, observations, and results are to be reported to the WBD, who will then pass this information on to the Planning Section's Environmental Unit and to the UC as needed. Appendix 2: Table 4 Groups that Have Cook Inlet/Kodiak Marine Mammal Species Handling and Behavior Experience lists potential personnel/organizations that may contribute knowledge or experience with deterrence activities. In addition to personnel listed below, many Alaska Native subsistence community members have developed techniques to influence the direction of cetaceans and pinnipeds. Marine mammal co-management groups can often identify local experts who should be paired with non-local Deterrence Staff and form an integral part of the Deterrence/Hazing Group.

The following list of local personnel may also be incorporated into the Deterrence/Hazing Group to contribute marine mammal knowledge valuable to hazing considerations and actions:

- Subsistence Director (or designee) from a Regional Organization
- Commissioners from co-management group(s) of the potentially affected species
- Local tribal representative (appointed by tribal government), as well as other local/tribal representation

Deterrence/Hazing Procedures

Decision-Making

If pinnipeds or cetaceans are observed, or are likely to be in the vicinity of a spill event at the start of an oil spill, the Deterrence/Hazing Group should be assembled to evaluate whether to develop a deterrence plan for those species.

Several different factors must be considered 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 to be deterred to?
- ✓ 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 deterring 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?

Monitoring and data collection for all deterrence activities is essential for understanding the outcome and applying lessons learned to future responses. In some situations, deterrence and monitoring activities may be the only mitigation measures possible for marine mammals during an oil spill, as capture and rehabilitation of large cetaceans may not be possible.

Deterrence Method Practicality Analysis— a tool to help decision makers

The Deterrence Method Practicality Analysis is a systematic method for evaluating various deterrence methods (Appendix 6: Deterrence Method Practicality Analysis). This methodology builds on the methodology developed for the Killer Whale – Monitoring and Hazing Plan for Oil Spill Response with additional criteria to capture Cook Inlet and Kodiak conditions (Oil Spill Emergency Response Killer Whale— Hazing Implementation Plan 2012).

A practicality analysis of the various deterrence methods enumerates values for the efficacy, feasibility, speed of deployment, risk of injury to the whales, training requirements for crews using the method, number of people required to implement the method, and equipment availability. There is no single technique that will work to deter marine mammals 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 marine mammals are expected to be attracted to an area.

Deterrence/Hazing Techniques

There are a number of potential deterrent options that can be used on marine mammals – each of which have associated positive and negative benefits; these are outlined in Chapter 4 of the National Guidelines (NOAA 2015). The deterrence methods recommended (if any) would be those that have the greatest chance of success depending on current conditions and information. A deterrence plan should explicitly evaluate how deterrence measures might contribute to additional risk to marine mammals and to subsistence uses of those marine mammals and should outline mechanisms for avoiding additional risk. In addition to the techniques listed in Chapter 4 of the National Guidelines, Alaska Native subsistence hunters have developed techniques to influence the direction of beluga, large whales, and seals during their hunts; these techniques should be similarly evaluated, and only performed by, or under the guidance of these local experts.

Cook Inlet Beluga Whale Monitoring and Deterrence Plan

The Cook Inlet beluga whale population is listed as endangered under the U.S. Endangered Species Act (ESA) and is also protected under 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 CI belugas, including strategies to deter CI belugas from entering oiled areas” (NMFS 2016). Appendix 7: Cook Inlet Beluga Whale Monitoring and Deterrence Plan provides guidance for Cook Inlet beluga whale monitoring and deterrence planning once management has been notified of an oil spill.

Deterrence of marine mammals under NMFS’s jurisdiction during emergency oil spill response is 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.

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 deterring whales should be carefully considered relative to the potential impacts from the both the deterrence activity as well as the risk of oil exposure.

Reconnaissance, Recovery, and Field Processing

Introduction and Goals

The wildlife reconnaissance, recovery, and field processing section focuses on the discovery, collection, and field processing of dead and live oiled wildlife. Chapters 5-7 of the National Guidelines (NOAA 2015) contain detailed information on roles and responsibilities, document descriptions, and detailed protocols that will be pertinent during larger events (see above Figure 5 Tier 3 Wildlife Branch Organization). These Guidelines combine those protocols into one chapter to fit the scenario most commonly expected to occur in Cook Inlet and Kodiak, Alaska (limited personnel, little to no infrastructure, and smaller events spread out over time and space). Should a larger event occur, the National Guidelines should be referred to in order to scale-up the response effort.

The priorities of marine mammal reconnaissance, recovery, and field processing during an oil spill response are the recovery and immediate transport to care facilities for live affected animals (if rehabilitation capacity exists), and/or the discovery and the collection of appropriate data/samples following established Chain of Custody (CoC) procedures for dead animals. In addition to evaluating efforts for risks to marine mammals and humans, these efforts should also be evaluated for cultural sensitivity and/or impact to subsistence practices. The most effective decisions will be achieved through inclusion of local stakeholders within the leadership structure and decision-making processes.

Live animal response will be prioritized when local conditions and response capacity allow. Due to the remote conditions and lack of infrastructure and personnel, response efforts may at times be limited to the collection of dead marine mammals for shipping and processing at NMFS-affiliated facilities or field processing of animals either too large for shipping, too remote to effectively move carcasses, or if animals are in such an advanced state of decomposition that remote sampling is the extent of the possible investigation.

Reconnaissance, Recovery, and Field Processing Authority

All response activities involving NMFS trust species must first be authorized by the RSC, and carried out by members of the AK Stranding Network with SAs, MMPA 109(h) authority (government employees), and/or by their authorized designees. In addition to a structured plan to collect wildlife observations by professional biologists, any responders or member of the public can document the location and status of a dead or oiled marine mammals, and should report that information to the Environmental Unit or Wildlife Branch as soon as possible.

Personnel

Reconnaissance, recovery, and field processing staff may include personnel from State and Federal trustee agencies, NMFS-approved contractors, AK Stranding Network members and their designees (includes authorized community members), NMFS-approved rehabilitation organizations (see the

Regional Annex and Appendix 2), and other authorized and qualified groups. In rural Alaska, community members are often the first people to see evidence of an oil spill, including impacts to wildlife. Community members should coordinate directly with the RSC to safely bring samples, carcasses, and other information to local organizations or Federal agencies.

Members of the AK Stranding Network, specifically the local SA holder, will serve as the local lead (under direction from the RSC), with additional help coming from other Regional Networks as needed. As discussed previously, local experts from the communities should also be involved, as a matter of safety, as they understand the complex and sometimes dangerous environmental conditions, and they often have the best available local information to inform response operations. If available, the following team of locals should be considered for incorporation into the Recovery and Reconnaissance teams:

- Subsistence staff (or designee) from a Regional Health Organization
- Commissioners from co-management group(s) of the potentially affected species;
- Local tribal representative (appointed by tribal government); additionally, the tribal government can suggest other appropriate knowledgeable local/regional members

Documentation

This section provides lists of needed documents per response activity: detailed descriptions of the documents themselves are provided in Chapters 5-7 of the National Guidelines (Ziccardi et al. 2015).

Reconnaissance Procedures

If an ICS is set up during a response, systematic surveys for oiled marine mammals will likely be undertaken as described in the detailed reconnaissance procedures outlined in Chapter 6 of the National Guidelines and under the ICS Reconnaissance Strike Team Organizational Chart outlined in Figure 6 of these Guidelines.

For smaller oiling events (ICS may or may not be initiated), reconnaissance teams will be organized more simply via small teams of personnel deployed for short periods of time, authorized and directed by the Group Supervisor, the DWBD, the WBD, or the RSC. The decision to deploy for reconnaissance surveys depends on a variety of factors; available staff, funding, transportation, and whether the affected community can allocate resources to support response activities (e.g., housing, fresh water, etc.). In situations where deployment of NMFS staff and/or AK Stranding Network members may not be possible, NMFS will rely on opportunistic reconnaissance by community members. A flow diagram for reconnaissance procedures is displayed in Figure 7.

Reconnaissance activities will be combined with recovery activities for many response efforts in Cook Inlet and Kodiak. In these situations, in addition to the procedures and needed resources listed in Figure 7, refer also to the “Live and Dead Processing” sections detailed later in this section, and specifically, the “Know Before You Go” boxes that list additional needed equipment, protocols, and permissions for those activities.

Personnel and Equipment Resources

Reconnaissance Personnel:

- ✓ Appendix 2: Cook Inlet & Kodiak Marine Mammal Disaster Response Resources, Tables 1 and 4.

Team with local area expert on all reconnaissance activities: ask the local tribal government for recommendation (see Appendix 3). See Figure 6 for ICS organization for reconnaissance activities.

The Cook Inlet and Kodiak regions have active commercial and recreational fishing, and private and commercial pilots using these areas. Collectively, these groups survey a large portion of these regions and may have quite a bit of information on stranded and oiled marine mammals from opportunistic sightings. Reconnaissance personnel should contact these groups (see Appendix 1: Regional Contacts), and provide a phone number to call with requested information bulleted (number of animals, species if known, location, time, date).

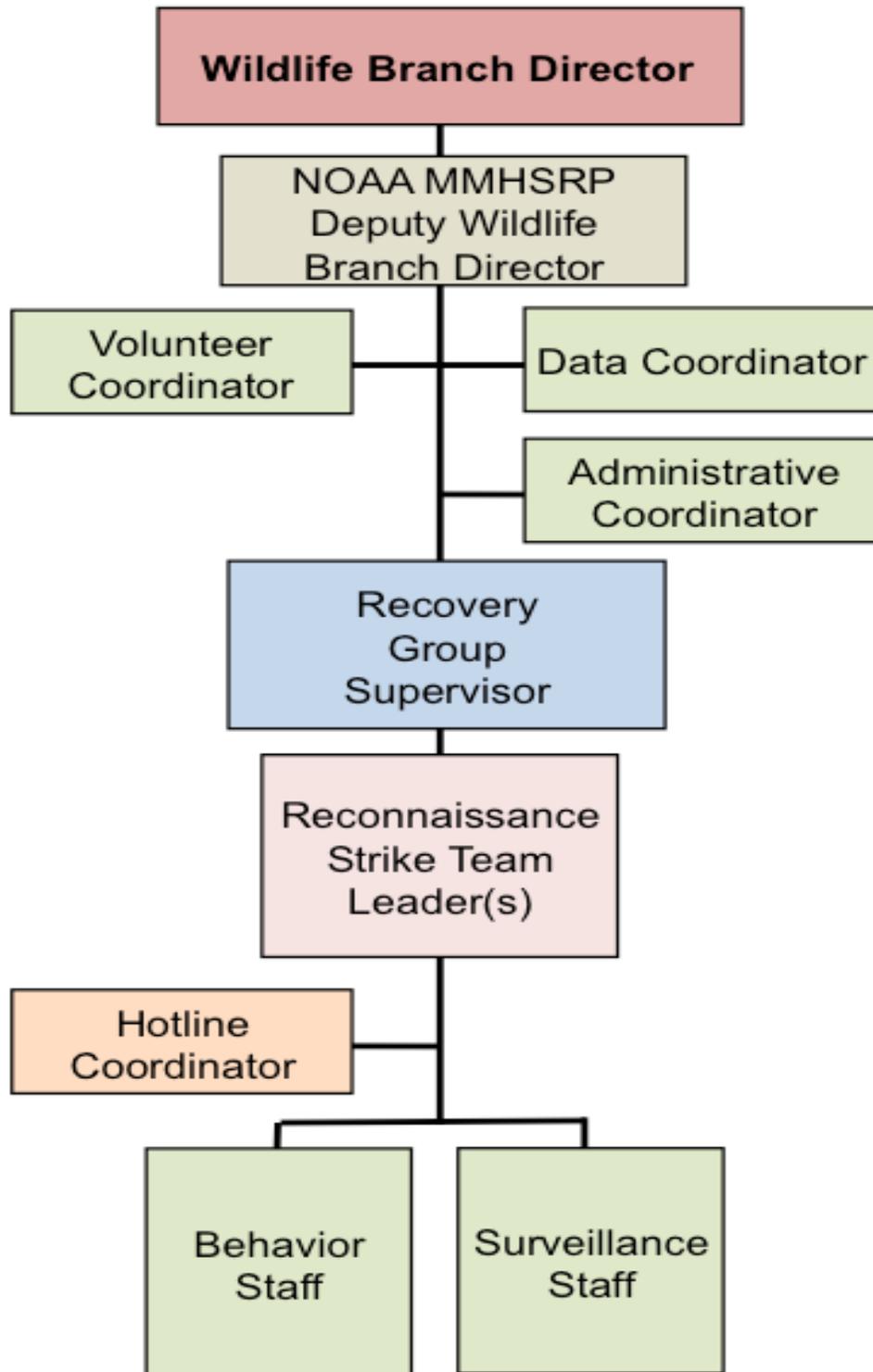
Equipment:

- ✓ Appendix 5: Equipment, Supply List for Reconnaissance

Documentation:

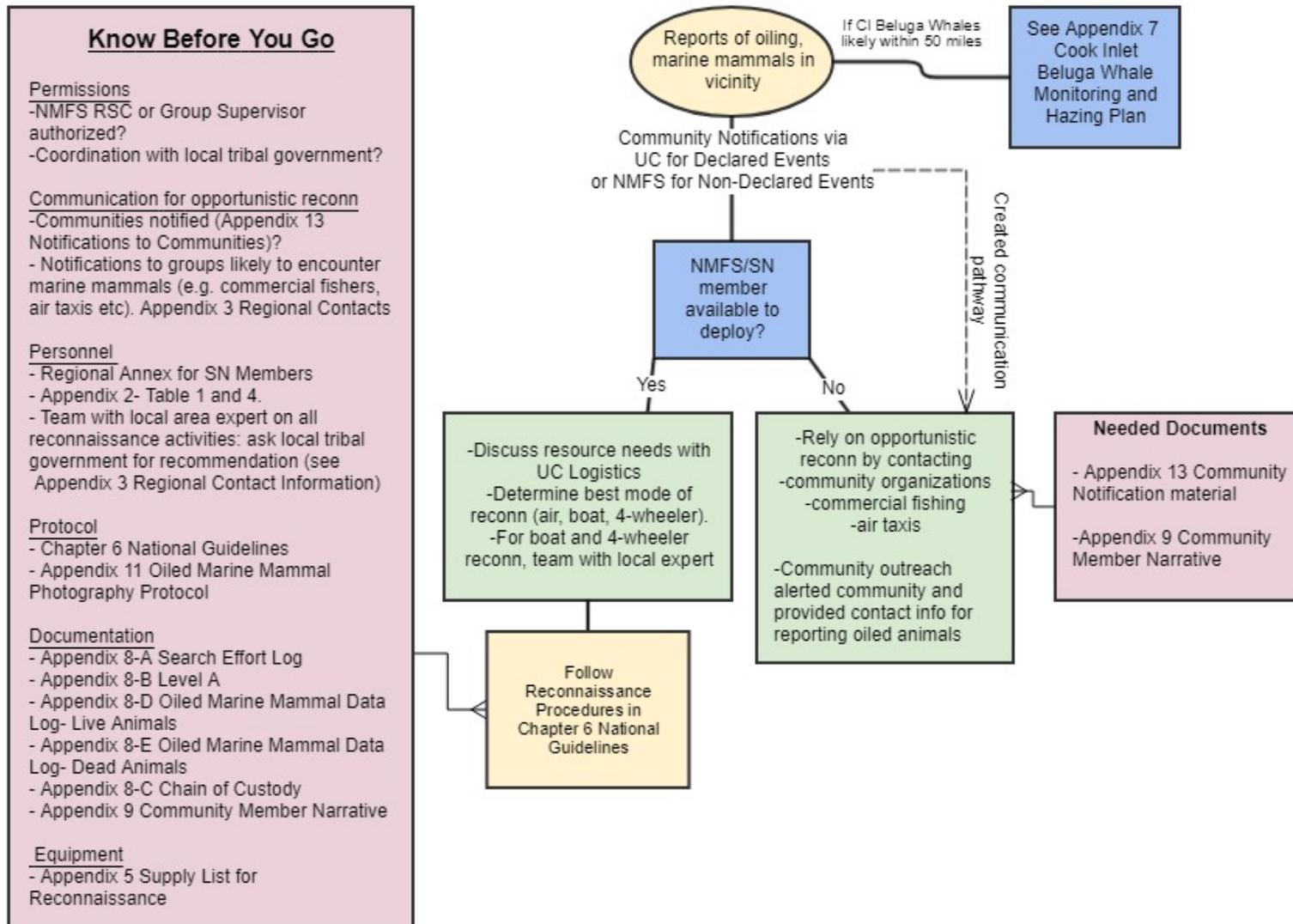
- ✓ Search Effort Log: Appendix 8-A
- ✓ Level A Data Form— if combined with Recovery: Appendix 8-B
- ✓ Oiled Marine Mammal Evidence Log— if combined with Field Processing: Appendix 8-G
- ✓ Chain of Custody— if combined with Field Processing: Appendix 8-C
- ✓ Community Member Narrative: Appendix 9.

Figure 6. Reconnaissance Strike Team Organizational Chart



From: National Guidelines (Ziccardi et al. 2015)

Figure 7. Reconnaissance Procedures



Dead Marine Mammal Recovery and Field Processing Procedures

Recovery Procedures

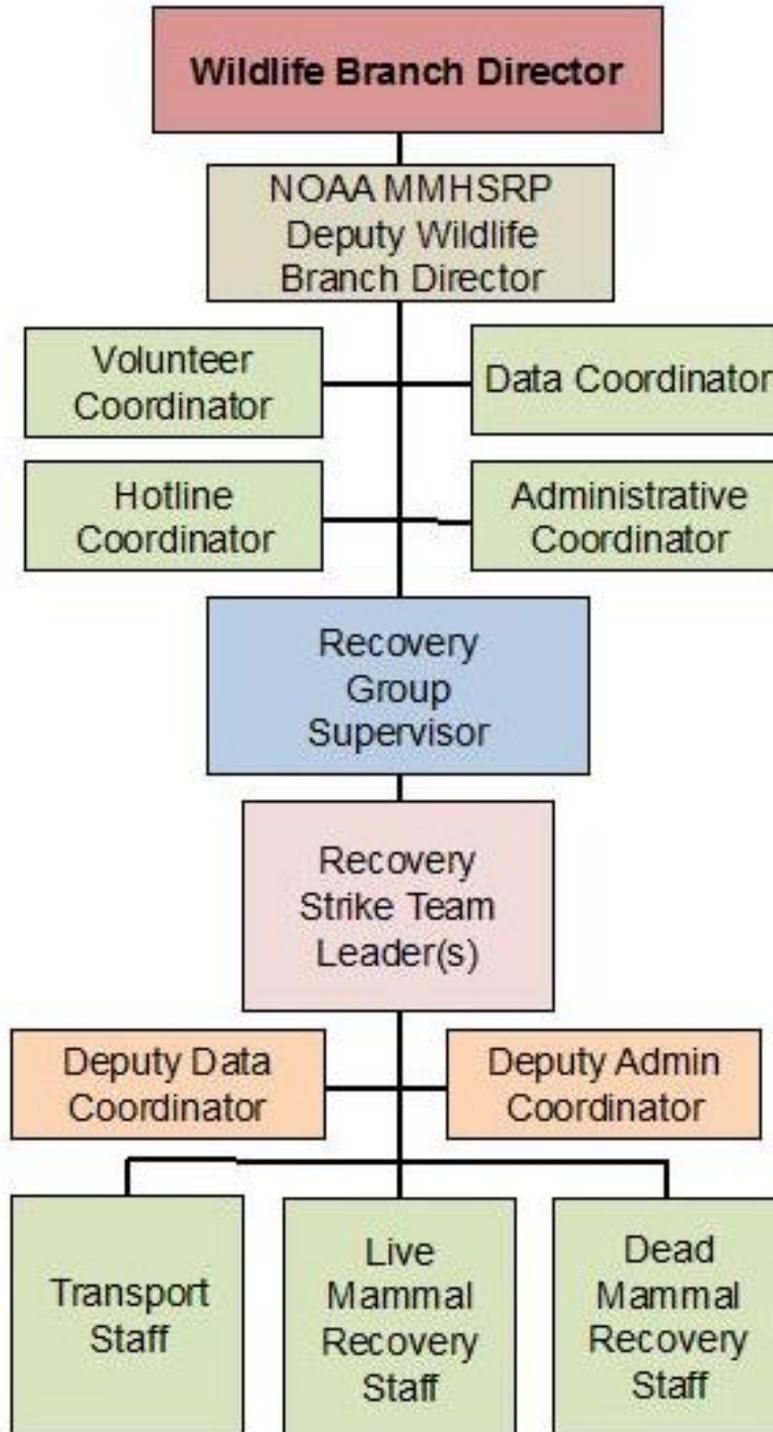
The collection or processing of all dead marine mammals, oiled or un-oiled, is important for an effective wildlife response and for damage assessment. Therefore, measures must be taken to ensure that **every marine mammal carcass, regardless of condition code**, is appropriately identified and documented (and ideally collected and not disposed of until approved by the trustees). Refer to Chapter 5 of the National Guidelines (NOAA 2015) for detailed ICS roles and responsibilities, document descriptions, and recovery techniques. Figure 8 outlines a division of labor for larger, ICS-led responses; smaller and non-declared events will likely not require this level of division of labor.

Whenever possible, wildlife responders should collect preliminary data/samples from each carcass (i.e., Level A data, photo-documentation, and external oil sampling) in the field, then transport the carcass from the field and sent to an equipped primary response facility to be processed (i.e., necropsied) by a veterinarian or experienced marine mammal necropsy personnel. Considering that there are very few facilities that are already equipped to handle marine mammal necropsies in these regions, this recovery strategy is likely to be most feasible for small numbers (less than 10) of dead pinnipeds that weigh less than 300 lbs. For large marine mammals (mysticetes, odontocetes, and Steller sea lions), or large numbers of small pinnipeds (greater than 10), collection will likely be logistically challenging, and field processing (i.e., necropsy) should be undertaken as outlined in the Dead Marine Mammal Processing Section below. If established facilities lack capacity to store large numbers of carcasses and sub-samples, with consent and collaboration from local communities regarding resource usage, facilities in the local communities may potentially be erected/adapted to necropsy and store samples (see Chapter 2 Facilities, Appendix 2: Cook Inlet and Kodiak Marine Mammal Disaster Response Resources, Table 2 Primary Response Facilities, and Table 4 Potential Facilities for Response Activities).

Alaska Veterinary Pathology Services (AVPS) (led by Dr. Kathy Burek-Huntington) is the main SA holder in this region who would lead dead marine mammal response activities. If AVPS, NMFS staff, or AK Stranding Network members are unable to collect or sample oiled marine mammals, consenting, paid community members (with HAZWOPER training) may be approved and guided (by NMFS authorized personnel) to assist in external oil sampling only (see Appendix 12: Community Member Dead Marine Mammal Oil Sampling Protocol). Leaving oiled carcasses after sampling allows for post-secondary oiling via scavenging and should be avoided. The Group Supervisor (or RSC if non-declared spill event) will consult the local government for appropriate disposal options (see Appendix 3). In some cases, animals in advanced decomposition (Code 4-5) found above the waterline with no signs of oil and are clearly older than the spill can be left; however, all data must still be collected and carcasses should be clearly marked to reduce re-examination and duplicate reporting.

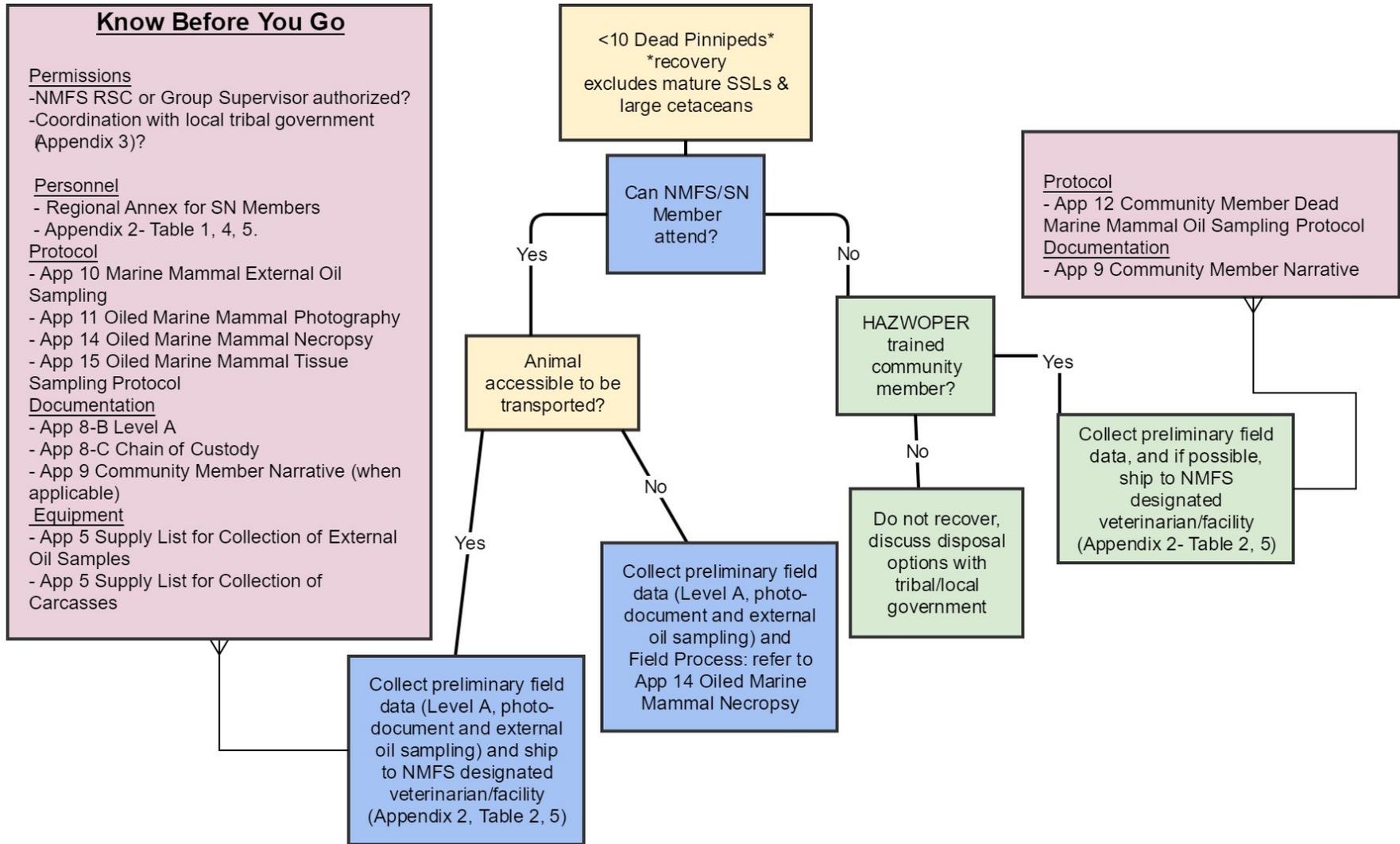
Whenever subsistence animals are potentially affected by oil, food safety may be a concern to the local community. Although NMFS is not a public health agency, and cannot make public health determinations, NMFS may have the marine mammal tissue samples needed by state health agencies to make such determinations. NMFS will work with the State of Alaska, Environmental Public Health Manager and the Tribal Health Consortium to determine which marine mammal samples need to be collected, and by what protocol (see Appendix 3 Regional Contact Information- Food Safety for contacts).

Figure 8. Recovery Strike Team Organizational Chart



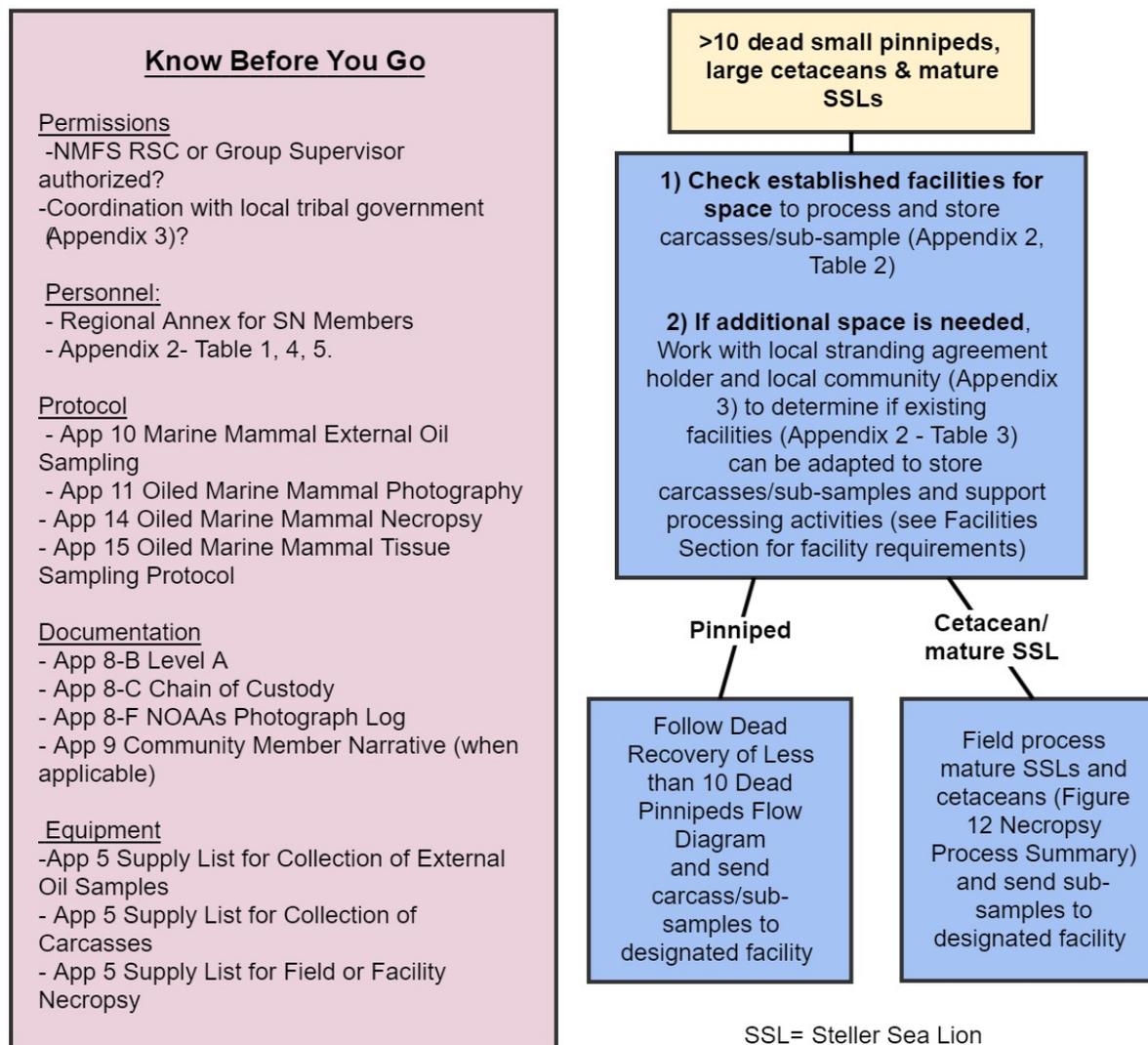
From: National Guidelines (Ziccardi et al. 2015)

Figure 9. Dead Recovery & Field Processing of Less Than 10 Dead Pinnipeds



SSL=Steller Sea Lion

Figure 10. Dead Recovery & Field Processing of More than 10 Dead Pinnipeds or Large Marine Mammals



Decision Making: The decisions and processes involved in recovering dead pinnipeds and small cetaceans will need to consider the number and size of animals involved, who is available to attend, where the animals are located (and subsequent transportation options), and available resources for recovery efforts. Figure 9 and Figure 10 outline decision pathways that incorporate these considerations.

Personnel:

- ✓ Stranding Network Agreement Holders: Appendix 2: Table 1
- ✓ Stranding Network Members: Regional Annex
- ✓ Professionals with relevant experience: Appendix 2: Table 1, 4, 5.

Protocol:

- ✓ Marine Mammal External Oil Sampling: Appendix 10
- ✓ Oiled Marine Mammal Photography: Appendix 11
- ✓ Community Member Dead Marine Mammal Oil Sampling: Appendix 12

Documentation:

- ✓ Level A Data Form: Appendix 8-B.
- ✓ Chain-of-Custody (CoC) Form: Appendix 8-C.
- ✓ NOAA Photograph Log: Appendix 8-F
- ✓ Community Member Narrative (when applicable): Appendix 9

Equipment:

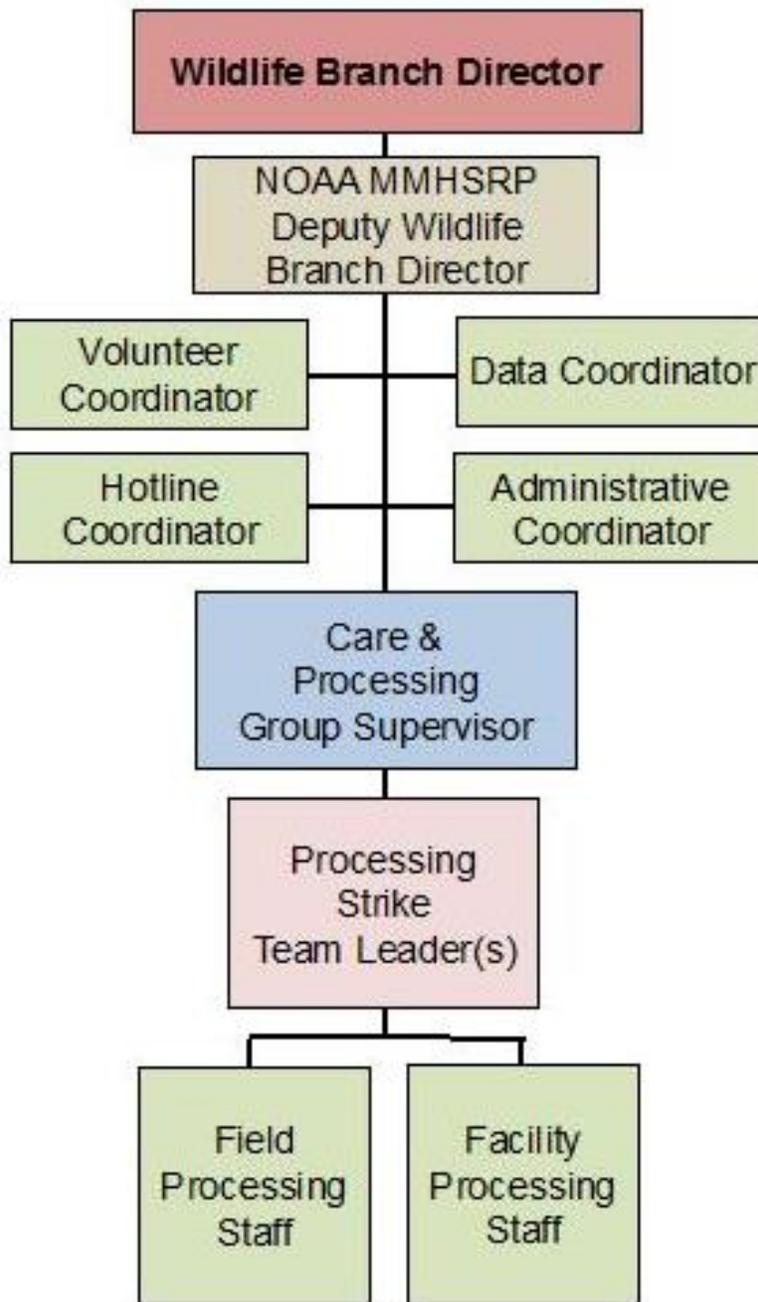
- ✓ Supply List for Collection of External Oil Samples: Appendix 5
- ✓ Supply List for Collection of Carcasses: Appendix 5

Dead Marine Mammal Processing

The response to all dead stranded marine mammals (as well as live mammals that die in care) during oil spill events will involve focused sampling and, in many instances with dead mammals, complete necropsies. Chapter 7 of the National Guidelines (NOAA 2015) outlines the importance of necropsy for documenting an oil spill and refers responders to general necropsy methods, document descriptions, and ICS roles and responsibilities. Figure 11 outlines a division of labor for processing animals in a larger response; smaller and non-declared events will likely not require this level of division of labor.

The capability of the overall response effort to conduct processing is important during the oil spill to ensure that samples are collected in the timeliest manner possible. Ideally, all marine mammals will be necropsied at an equipped facility by a veterinary pathologist, veterinarian, or experienced marine mammal biologist. However, under circumstances described in the recovery section above, it may not be possible to transport certain dead marine mammals to a facility for processing. This can be due to the size of the mammal, condition of the carcass, or other logistical challenge. In these situations, it may be more practical to send a team to conduct field processing (e.g., sampling and necropsy). The ability to conduct a successful field processing, however, is dependent upon several factors, including accessibility (e.g., location of animal, weather conditions, tide, and time of day) and the condition code of the animal. Field processing teams should be composed of trained AK Stranding Network responders and/or veterinarians, safety personnel, plus additional personnel to assist with the necropsy, removal, or burial of the carcass.

Figure 11. Processing Strike Team Organizational Chart



From: National Guidelines (Ziccardi et al. 2015)

Personnel:

Ideally, a spill response veterinarian-of-record will conduct or supervise all necropsies, in consultation with the designated NMFS enforcement officer (either via telephone or with the officer present). In most cases, a veterinary pathologist with specialized training on marine mammals will be asked to perform the necropsy. This will likely mean that at least two veterinary pathologists will be needed during a response with live and dead marine mammals. In situations where a veterinarian is not available to conduct the necropsy, a biologist and/or stranding network member with extensive necropsy experience may be approved to lead the effort.

- ✓ Veterinarians with marine mammal experience: Appendix 2: Table 5
- ✓ Stranding Agreement Holders: Appendix 2: Table 1
- ✓ Stranding Network Members: see Regional Annex

Documentation:

- ✓ Level A Data Form: Appendix 8-B
- ✓ CoC Form: Appendix 8-C
- ✓ Oiled Marine Mammal Data Log- Dead Animals: Appendix 8-E
- ✓ NOAA's Photo Log: Appendix 8-F
- ✓ Community Member Narrative: Appendix 9
- ✓ Marine Mammal External Oil Sampling Protocol: Appendix 10
- ✓ Oiled Marine Mammal Photography Protocol: Appendix 11
- ✓ Oiled Marine Mammal Necropsy: Appendix 14
- ✓ Oiled Marine Mammal Tissue Sampling: Appendix 15

Equipment:

- ✓ Supply List for Collection of External Oil Samples: Appendix 5
- ✓ Supply List for Collection of Carcasses: Appendix 5
- ✓ Supply List for Field or Facility Necropsy: Appendix 5

Necropsy Procedures

Depending on carcass condition and accessibility, three different levels of necropsies can be undertaken: full, limited, and minimal necropsies. These different necropsy types are necessary to ensure that field responses under varying conditions yield the most information possible. Although not preferable, based upon the situation encountered, limited and minimal necropsies may be necessary for Code 2 and 3 animals. Note that no necropsy is conducted on Condition Code 5 carcasses.

- **Full Necropsy** –A full necropsy examines all organ systems possible under field or facility conditions. This includes extraction of the brain and examination of the ears and eyes, which may be challenging in the field.
- **Limited Necropsy** – In a limited necropsy, an examination of internal organs is conducted with all major organs (heart, lungs, kidney, liver, thoracic and/or abdominal lymph nodes, spleen) examined and samples collected. Examination and collection of other organs is conducted as possible. In a field situation, the head may need to be removed and brought back to a facility for extraction of the brain, and examination of ears and eyes. Method of transport and size of the animal may make this impractical.

- Minimal Necropsy, Code 3 Carcasses -A minimal necropsy involves opening the body cavities, a cursory examination of organs, and strategic sampling of abnormal organs; plus collection of samples of heart, lung, kidney, liver, and spleen, if possible.
- Minimal Necropsy, Code 4 Carcasses -A minimal necropsy involves opening the body cavity and a cursory examination of organs. Samples may be collected of abnormal organs if carcass condition warrants.

Sampling Procedures

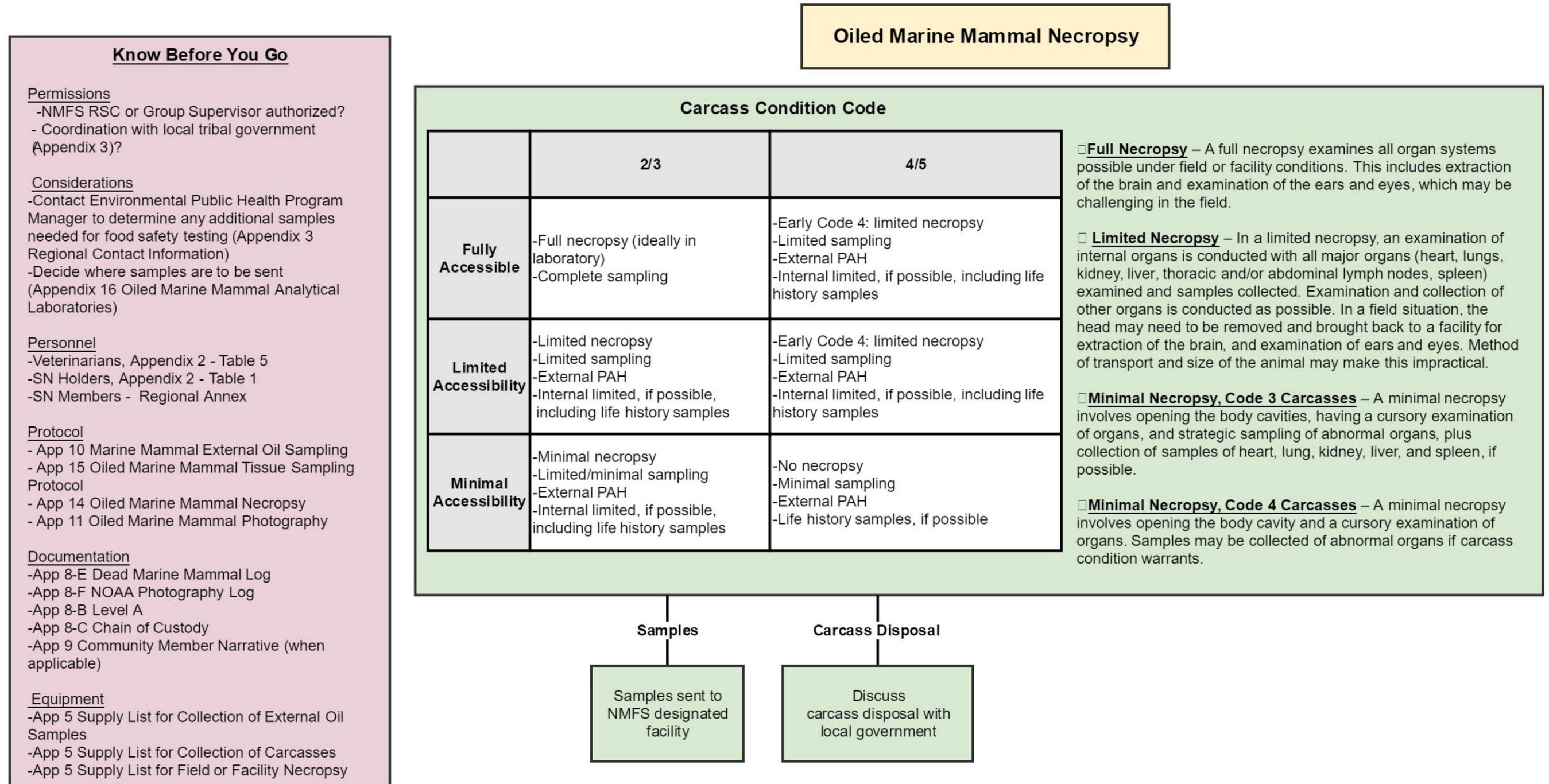
Tissue samples for standard histopathology, disease profiling, and petroleum hydrocarbon analysis should be collected during all necropsies, although field conditions may not always allow for the collection of these samples. Extensive photographs must be taken (see Appendix 11: Oiled Marine Mammal Photography Protocol). While sampling is a component of any necropsy, it is given special priority due to the need for focused sampling for polycyclic aromatic hydrocarbons (PAHs) in an oil spill incident. Depending on the condition of the carcass, sampling should include:

- ✓ Protocol for PAH Analyses
 - External: Skin swabs or scraping (if tar present) (Appendix 10: Marine Mammal External Oil Sampling Protocol)
 - Internal: Organs and body fluids, focusing on bile collection for code 2 and early code 3 animals (see Appendix 15: Tissue Sampling Protocols)
- ✓ Biotoxins/Pathogens
 - Biotoxins: Feces, liver, urine, gastric/intestinal contents
 - Pathogens: Lung, spleen, lymph node plus additional samples if possible
 - Histopathology
 - All organs
- ✓ Life History
 - Skin
 - Gastric contents
 - Teeth (lower left mandible)
 - Reproductive organs (testes/ovaries)
 - Muscle
 - Sampling for oil exposure must be performed under specific conditions detailed in Appendices 10 and 15 in order to prevent contamination of the sample. Laboratories performing the petroleum analysis must be contacted as soon as possible in order to verify that sampling protocols and sample sizes are consistent with that specific laboratory requirement. Considerations in choosing the lab should include details of forensic capabilities (ability to produce legally defensible results), quality assurance and quality control (QA/QC), and consistency with the analyses of other materials from the spill. In any spill event involving marine mammals, NMFS must be consulted about choice of laboratory to ensure consistency and accuracy. Results can vary between labs and data must be comparable between the environmental and tissues of the different species sampled. The Oiled Marine Mammal Analytical Laboratories listed in the National Guidelines (NOAA 2015) includes NMFS-recommended laboratories with expertise in petroleum hydrocarbon chemistry that can be contacted for oil spill sample collection and analysis information (see Appendix 16). In an oil spill response, this information should be established and included as part of the Incident Sampling Plan.

The process, resources, and procedures needed for conducting necropsies on dead marine mammals are summarized in Figure 12, including:

- ✓ Decision-making based on accessibility to the stranded animal and the condition of the carcass; and
- ✓ Permissions, general considerations, and reference to the appropriate appendices for needed protocol, documentation, and equipment

Figure 12. Necropsy Process Summary



Live Marine Mammal Recovery and Processing Procedures

Live Pinniped and Cetacean Recovery

The recovery and rehabilitation of live pinnipeds in Alaska poses significant challenges and considerations. Much of the Cook Inlet and Kodiak regions are remote, off of the road system, and not in close proximity to a primary care facility. As discussed in Chapter 2, the ASLC, located in Seward, is the only primary care facility equipped to process oiled marine mammals (not including sea otters) in Alaska (see Appendix 2: Table 3). The ASLC marine mammal response capacity is discussed in section Alaska Facilities for Marine Mammal Rehabilitation.

Alaska has limited existing and portable infrastructure to rehabilitate captured pinnipeds, few mobile units for *in situ* rehabilitation (see MTRE capacity in Appendix 2 Table 3), and many of the temporary facilities that could be adapted/created to house pinnipeds will likely have other prioritized usage by communities/organizations. The Alaska Zoo in Anchorage has marine mammal facilities and space that could be converted to potentially house pinnipeds temporarily, but is not currently equipped to handle de-oiling wildlife either with trained personnel or equipment.

Kodiak does not have a primary care facility for marine mammals; all animals in need of rehabilitation would need to flown to the ASLC, or rehabilitated *in situ* with MTRE's or in temporary facilities adapted for rehabilitation (when available: see Appendix 2: Table 3). The Kodiak Laboratory, located in Kodiak, is a likely staging area for response activities, but is not currently equipped to house or de-oil pinnipeds.

As such, these regions are not presently prepared with equipment, infrastructure, or trained personnel to respond to a medium to large-scale rehabilitative effort. An oil spill affecting more than the current rehabilitative capacity will require oiled animal care professionals from out of state, the construction of additional MTREs, and the adaption or construction of additional facilities for processing live oiled pinnipeds.

NMFS and SA holders will work with local stakeholders regarding potential subsistence concerns to determine best release locations and potential marking of rehabilitated/released individuals.

Personnel: All field staff involved in the capture of live marine mammals should have extensive previous experience. Individuals with wildlife experience (i.e., natural resource agency biologists, independent contractors, animal control officers, professional wildlife rehabilitators) who may not have sufficient experience specifically in capturing marine mammals may be teamed with a more knowledgeable individual to acquire first-hand experience with useful techniques for approaching and catching these species. Groups/individuals with marine mammal handling experience are listed in Appendix 2: Table 4, 5. All response activities involving NMFS trust species must first be authorized by the RSC, and carried out by members of the AK Stranding Network with SAs, MMPA 109(h) authority, and/or by their designees.

Decision-Making: Prior to the capture of an oiled marine mammal, a defined decision-making process should be followed (Figure 13, Flow Diagram for Live Pinniped Capture During an Oil Spill) and the decision to capture marine mammals must be approved by NMFS (under the agency's Health and Stranding Permit 932-1905) and the appropriate level within the ICS (through the Wildlife Branch) prior to initiation. First and foremost, captures should only be considered if they

can be performed in a safe manner for personnel as well as the animals to be recovered (Figure 13). The potential benefits of capture of oil-affected mammals must outweigh potential negative consequences before the capture effort is initiated. In many instances, a small amount of oil on the fur (e.g., tarball on the external hair, small 20 cm patch of fresh oil on non-sensitive tissues) of most pinnipeds, in itself, will not warrant the capture of that animal. In general, no rescue should be initiated on free-swimming or beached pinnipeds in the vicinity of an oil spill unless the animal in question is in obvious distress (e.g., behaving abnormally, signs of respiratory distress).

Additionally, as described above, both subsistence food concerns and resource limitation in coastal Cook Inlet and Kodiak communities have bearing on the decision processes for rehabilitating seals. Given these considerations, and with current levels of equipment/infrastructure, on-site rehabilitation is the preferred action: current on-site capacity for locations outside of Seward is between 2-7 pinniped per MTRE (i.e., MTRE capacity); if additional temporary facilities can be allocated in the region, more pinnipeds can be rehabilitated on-site (see Appendix 2: Table 3). If on-site capacity is exceeded, the next preferred option is to rehabilitate pinnipeds at the Alaska SeaLife Center (see Table 4: Maximum Response Capacity of the Alaska SeaLife Center). Figure 14 outlines a pathway to incorporate these considerations into the decision-making process for recovering seals.

Capture of live, free-swimming cetaceans is not currently envisioned to be undertaken, however this may change at the discretion of NMFS. Live, beached cetaceans should be considered for response. The ASLC has capacity to rehabilitate 2-3 small cetaceans. Capture of free-swimming pinnipeds will likely not be undertaken either, due to lack of equipment and trained personnel. Unless specifically authorized by NMFS, no non-debilitated/non-stranded live animals will be collected during spill incidents (with “debilitated” in this context meaning “oiled” for those species where oiling can cause significant injury and/or are medically unfit and requiring capture and rehabilitation were there not an oil spill present).

Preemptive captures to prevent the oiling of sensitive species may be considered only under dire circumstances (e.g., endangered marine mammal species where other response options are limited or unable to be successful, or high likely of mortality if oiled, such as fur seals) at the direction of the UC and NMFS and when adequate transport and holding facilities exist. A decision to capture should consider such factors as sex, age, reproductive status, size, and proximity to other marine mammals.

Personnel, Facilities, and Equipment Resources:

- ✓ Recovery/rehabilitation personnel, led by ASLC. Refer to Appendix 2: Table 1, 4, 5.
- ✓ Established rehabilitation facilities, refer to Appendix 2: Table 2
- ✓ Potential Facilities for Response Activities, refer to Appendix 2: Table 3
- ✓ Equipment— Appendix 5: Equipment, Supply List for Field Rescue

Field Sampling/Documentation:

- ✓ Oiled Marine Mammal Data Log, Live Animals— Appendix 8-E
- ✓ Oiled Marine Mammal Photography Protocol— Appendix 11
- ✓ NOAA Photography Log— Appendix 8-F
- ✓ Level A— Appendix 8-B
- ✓ Search Effort Log— Appendix 8-A
- ✓ Chain of Custody— Appendix 8-C

Capture techniques and euthanasia procedures: Many excellent resources are available for effective capture techniques for the species in question. See the *CRC Handbook of Marine Mammal Medicine* (Gulland et al., 2018), chapters on Marine Mammal Transport (Yip and Dold 2018), Cetacean Medicine (Nollens et al. 2018), and Seal and Sea Lion Medicine (Field et al. 2018) for more specific information. Chapter 5 of the National Guidelines (NOAA 2015) provides a general overview of capture techniques and those specific aspects related to oil spill recovery.

During oil spill responses, the euthanasia of marine mammals in the field may be the most humane option for a severely oiled or injured animal. Written criteria and protocols for the humane euthanasia of oiled marine mammals must be developed at the start of a response and approved by the relevant natural resource trustee (NMFS), the WBD, and the UC. Criteria used by the Northwest Marine Mammal Stranding Network can be found in Appendix 17, and criteria and details may also be found in Geraci and Lounsbury (2005). In short, chemical euthanasia via intravenous administration of anesthetic agents and euthanasia preparations (with subsequent removal of the carcass to the facility for processing and necropsy and carcass disposal following appropriate methods) is generally the preferred method for stranded marine mammal euthanasia. Due to subsistence food concerns from post-secondary scavenging of subsistence animals, chemical euthanasia would not be an acceptable action for those animals that need to be buried near the community (e.g., those that cannot be burned/removed to an outside disposal facility). Rather, humane euthanasia via ballistics by experienced personnel will be considered to prevent the contamination of the food supply for community members.

Figure 13. Flow diagram for live seal capture during an oil spill

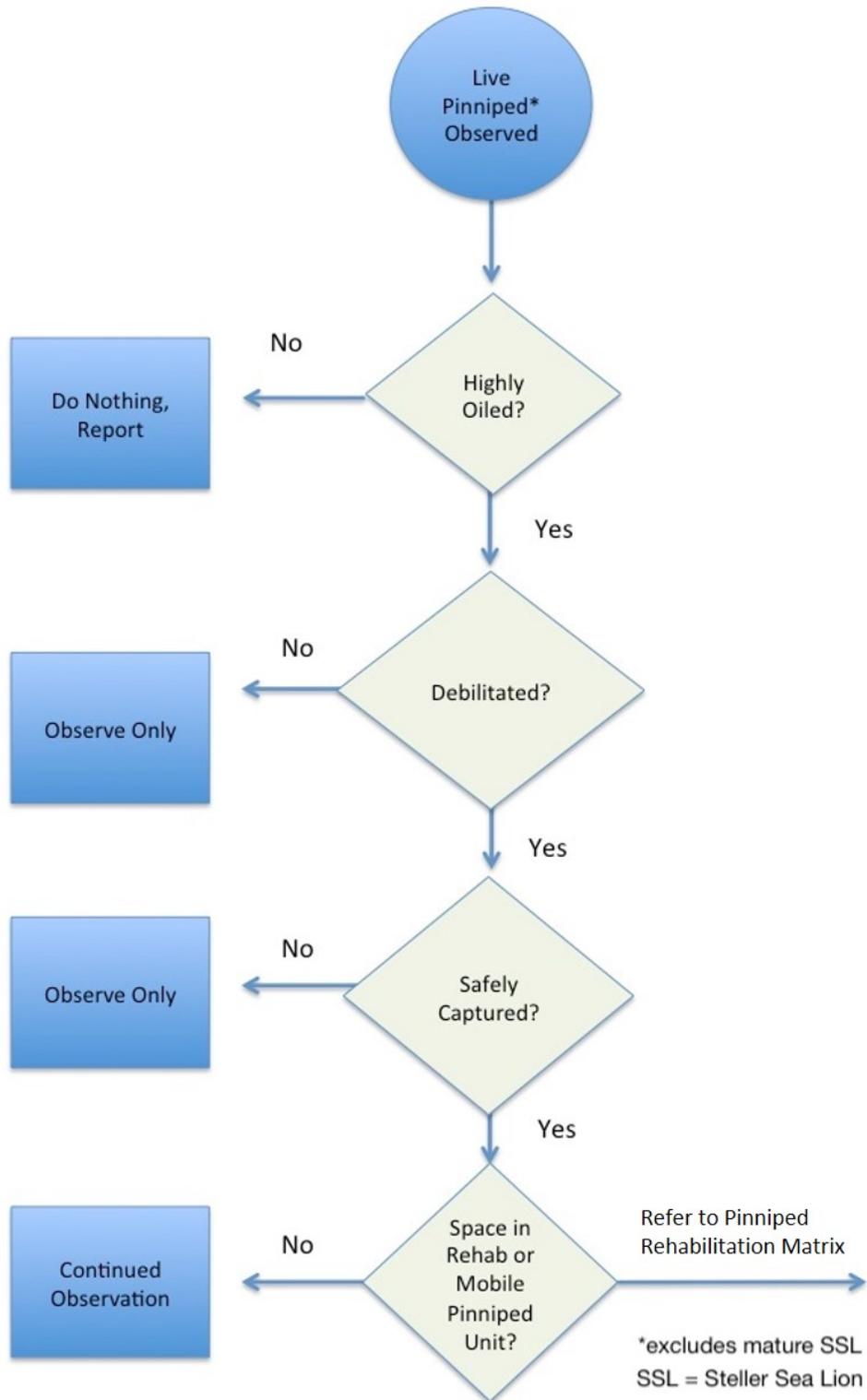
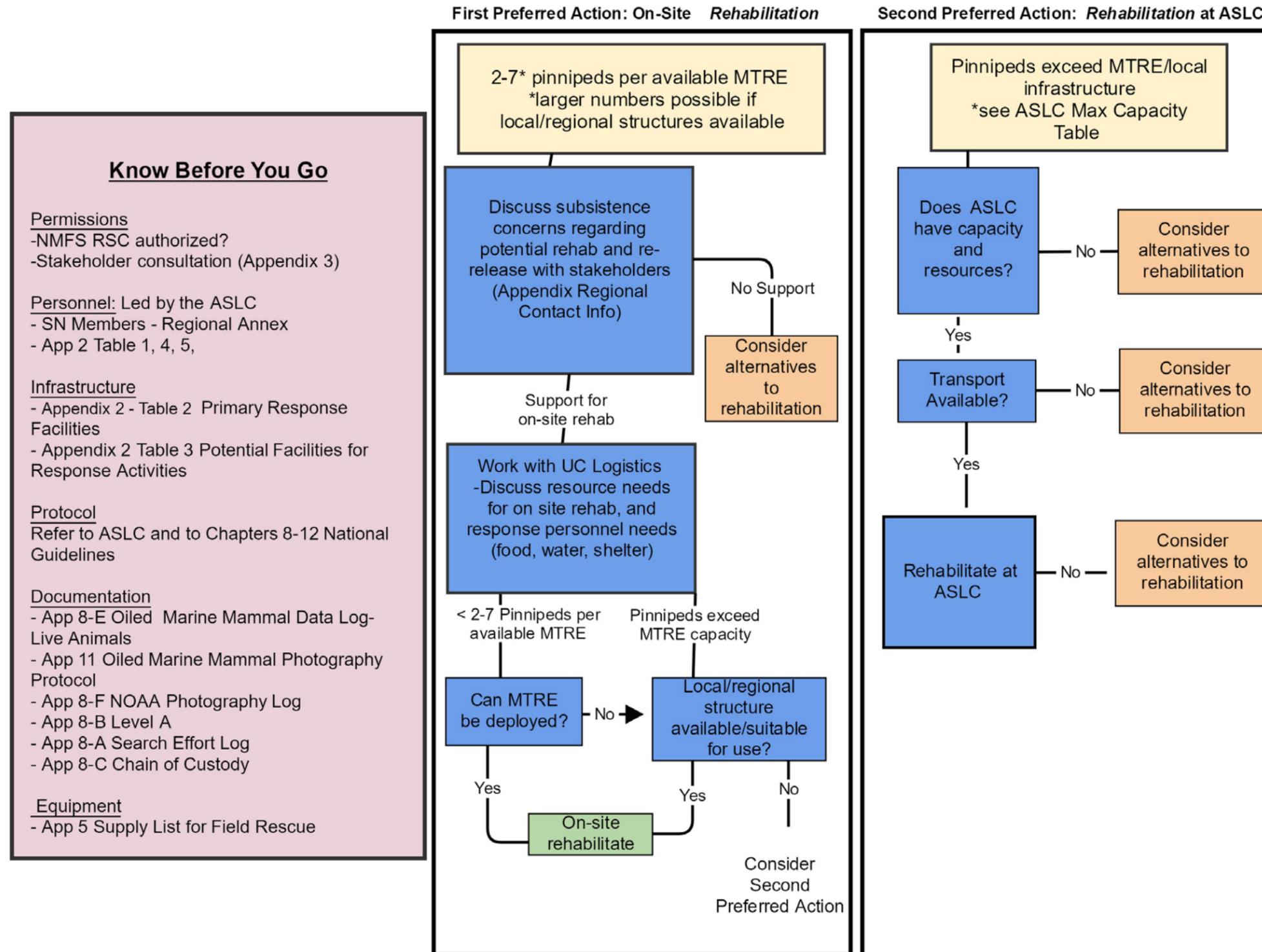


Figure 14. Pinniped Rehabilitation Matrix



Care & Processing Group: Care Strike Team

Live animals that are significantly affected by petroleum must usually go through an extensive rehabilitation process to allow them to return to normal function. Typically, this involves capture from the environment and transport to a specially-prepared facility where they can be examined, stabilized, cleaned of oil, provided medical attention, given time and support to allow them to return to normal health, and then eventually released back into a clean environment. This rehabilitative care process, for the purposes of oil spill response, is labeled as “Care”.

As discussed earlier, large-scale rehabilitation (i.e., hundreds of animals) of oiled pinnipeds in Cook Inlet and Kodiak, Alaska is not feasible with currently available equipment, facilities, and personnel. The ASLC is the only primary response facility in Alaska that can rehabilitate oiled marine mammals under NMFS’s jurisdiction. Responders should refer to their protocols and Chapters 8-12 of the National Guidelines (NOAA 2015) for detailed information regarding rehabilitative care of pinnipeds and associated personnel qualifications, necessary documentation, procedures.

Stafford Act Disaster Response

National Emergency Planning Structure

The Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law 93-288, as amended, 42 U.S.C. 5121 et seq was “created by Congress to provide an orderly and continuing means of assistance by the Federal government to State and local governments in carrying out their responsibilities to alleviate the suffering and damage” which results from major disasters. Major disasters are defined as:

“... any natural catastrophe (including any hurricane, tornado, storm, high water, wind driven water, tidal wave, tsunami, earthquake, volcanic eruption, landslide, mudslide, snowstorm, or drought), or, regardless of cause, any fire, flood, or explosion, in any part of the United States, which in the determination of the President causes damage of sufficient severity and magnitude to warrant major disaster assistance under this Act to supplement the efforts and available resources of States, local governments, and disaster relief organizations in alleviating the damage, loss, hardship, or suffering caused thereby (Stafford Act 42 USC 5121 et seq).

Many, if not all, of these disaster types have the potential to adversely affect NMFS trust species and may warrant a response effort by NMFS and NMFS-designated responders. The following section outlines protocols for responding to Stafford Act disasters. As both the Stafford Act and OPA-90 disaster responses follow NIMS (outlined in previous sections) the structure of a Stafford Act disaster response will be nearly identical to an OPA-90 disaster response with the same UC system, incident reporting protocols, and resource management procedures. Major differences from the OPA-90 disasters are that the Stafford Act responses will be led by FEMA (rather than EPA or USCG), the Federal government will serve as the RP, and the potential for loss of essential infrastructure, resources, and life may be higher.

Much of the response information applicable to Stafford Act disasters has already been presented in the OPA-90 Disaster Response Section; rather than repeating information, where necessary throughout this section, readers will be referred back to the previous section.

Readiness

Wildlife Trustee Authority

Although FEMA has jurisdiction over Stafford Act disasters, as discussed in the previous Authority section, the UC has responsibility to immediately consult with NMFS whenever a disaster and its subsequent response may affect their trust species.

MMHSRP Authority

All disaster response activities involving NMFS trust species must first be authorized under the MMPA/ESA permit issued to the NMFS MMHSRP. The Alaska RSC serves as a co-investigator on this permit and as such can authorize marine mammal disaster response activities, in collaboration with NMFS MMHSRP. NMFS expects that trained members of the AK Stranding Network, and/or their designees, would be granted authorization to carry out many of the marine mammal related roles in the Wildlife Branch under the UC. **NOTE: SAs alone do not authorize decision-making, handling, sampling, transport, or treatment of disaster-affected NMFS species.**

Personnel, Training, PPE

The general marine mammal personnel and training requirements described in the OPA-90 Readiness section will also be required to respond to Stafford Act disasters; the UC Safety Officer may require additional safety training and PPE to protect human life during some of these disasters.

Facilities

The available Alaska and temporary facilities for marine mammal response described in the OPA-90 Readiness section will serve the same roles during a Stafford Act disaster response, barring destruction of these facilities from the disaster itself. Temporary facilities will only be assembled for marine mammals if human health and safety is assured.

Equipment and Supplies

Much of the equipment and supplies listed in the OPA-90 Readiness section are general to marine mammal response in any disaster and are equally applicable to Stafford Act disasters; those items specific to oil spill response will likely not be necessary for Stafford Act disasters.

Response

The incident reporting and resource activation, and UC organization during a Stafford Act disaster is identical to an OPA-90 disaster response (refer to OPA-90 Response section).

Deterrence/Hazing

See OPA-90 Deterrence/Hazing chapter

Recovery, Reconnaissance and Processing

Refer to OPA-90 Recovery, Reconnaissance, and Processing section; oil spill documentation procedures are not applicable.

Care and Processing: Care Strike Team

Refer to OPA-90 Care and Processing Group: Care Strike Team section; oil spill documentation procedures are not applicable.

Chapter 3

NMFS-Led Disaster Response

Introduction

The previous sections of these guidelines outlined established procedures for non-NMFS-led disaster response events—that is, disasters that are led by other state and federal agencies in which NMFS and their designees work under the ICS. During Unusual Mortality Events (UMEs), non-declared oil spill events, and other undeclared disasters affecting NMFS trust species, NMFS may need to lead the disaster response effort. Similar to a non-NMFS-led disaster, NMFS-led disaster response will follow the division of labor and reporting processes outlined in the previous ICS section, with all positions staffed by NMFS designees. The largest difference between the two response types is that NMFS will be directly communicating with stakeholders, instead of through the Joint Information Center (JIC) of the ICS. The following sections detail the protocols for non-declared oil spill events and UMEs; other undeclared disaster events will follow the same or very similar communication and response protocols and so are not separately discussed.

Non-declared Oil Spills

Oiled Wildlife Responses - Communication and Response

The UC structure outlined in the OPA-90 Response section only details instances where oil spills are officially observed and declared by the local, state, and/or federal agencies in charge of spill response. In some instances, individual oiled animals may be observed by the public and/or wildlife professionals as oiled without a spill being reported (e.g., from natural seeps, animals entering waste facilities, non-petroleum oils from fishing activities, unreported spills) or without a federal ICS set up: these are referred to as non-declared events. The presence of these oiled animals does not normally necessitate activation of the entire response structure, yet the wildlife response community is often placed in a situation where recovery and rehabilitation is warranted. Additionally, these animals may be the first evidence that a spill is occurring, so these data may be important for subsequent response efforts.

Communities are often the main source of information regarding the event, and may be the most seriously affected from the impacts of the event itself, as well as the ensuing response effort. Rural community members often have an unparalleled depth of knowledge about the local environment, and their subsistence 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.

In a declared oil spill, an ICS will be set up and notifications are to follow the incident reporting and resource activation process outlined in the OPA-90 Disaster Response section, with all communication going through the Joint Incident Command and/or community liaison. In a non-declared event, NMFS will likely be communicating directly with stakeholders, SA holders, and communities regarding their trust species. The following section outlines a model for effective

communication between NMFS and stakeholders, and a response process during a non-declared spill event.

Upon notification of an oil spill, NMFS personnel should work with the local SA holder and community point of contact (such as the tribal government) to develop a communication plan for stakeholders in affected communities (Figure 15-Communication with Stakeholders during an Non-declared Oil Spill Event). In conjunction with the local SA holder, discussions with local government should include

- Notification of disaster response occurring
- Information on local conditions, sightings of marine mammals
- A discussion regarding planned or desired activities (and associated resource requirements) with communities to determine how to best help the community accommodate response
- Create a clear feedback loop of information regarding the event to/from community (see Appendix 13: Notifications to Communities).

Figure 16, Non-declared Oil Spill Response Flowchart outlines a response flowchart for Undeclared events; these response efforts allow for reporting and sampling of these individually oiled animals ensuring that critical information is shared in a time- and cost-sensitive manner.

Figure 15. Communication with stakeholders during a non-declared oil spill event

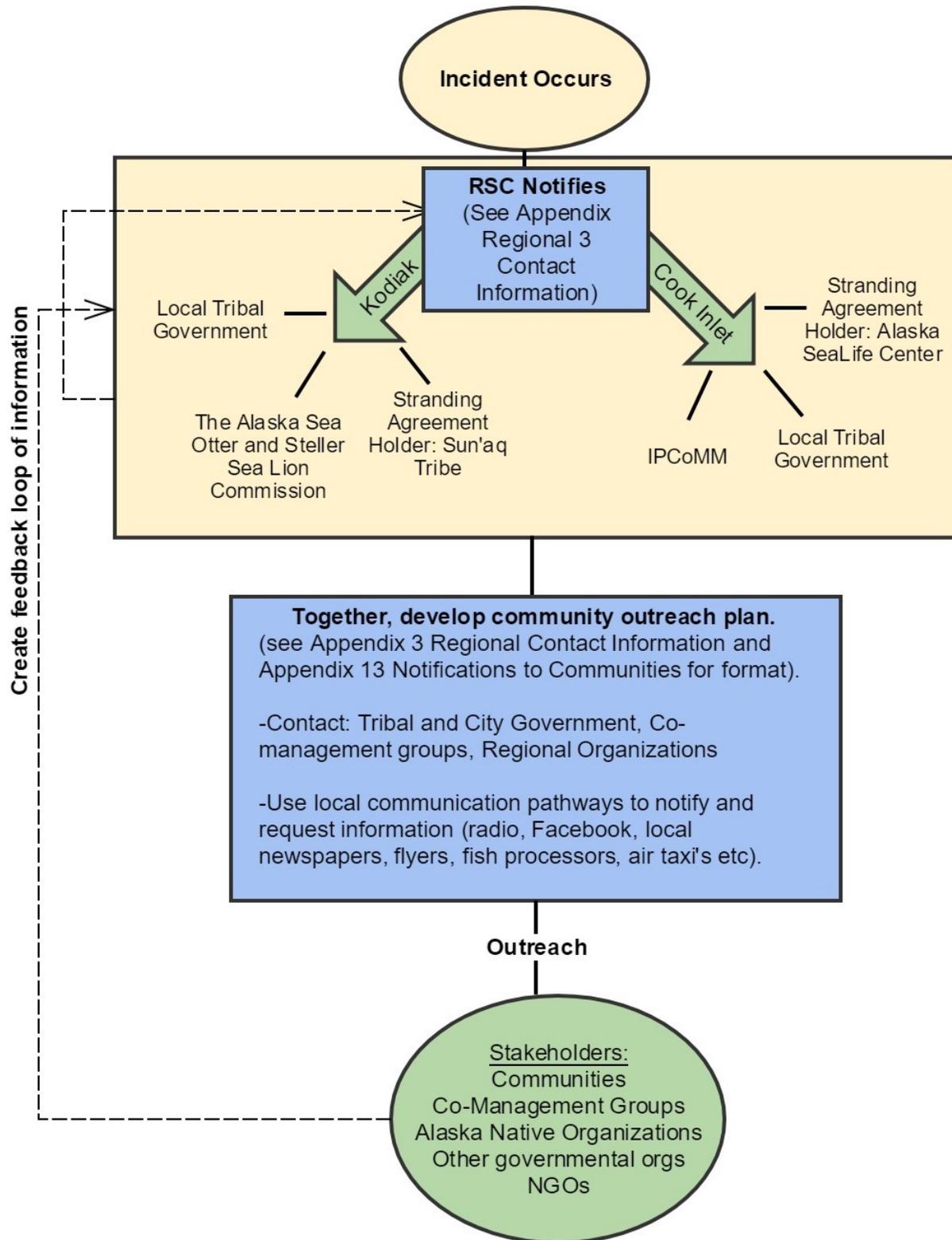
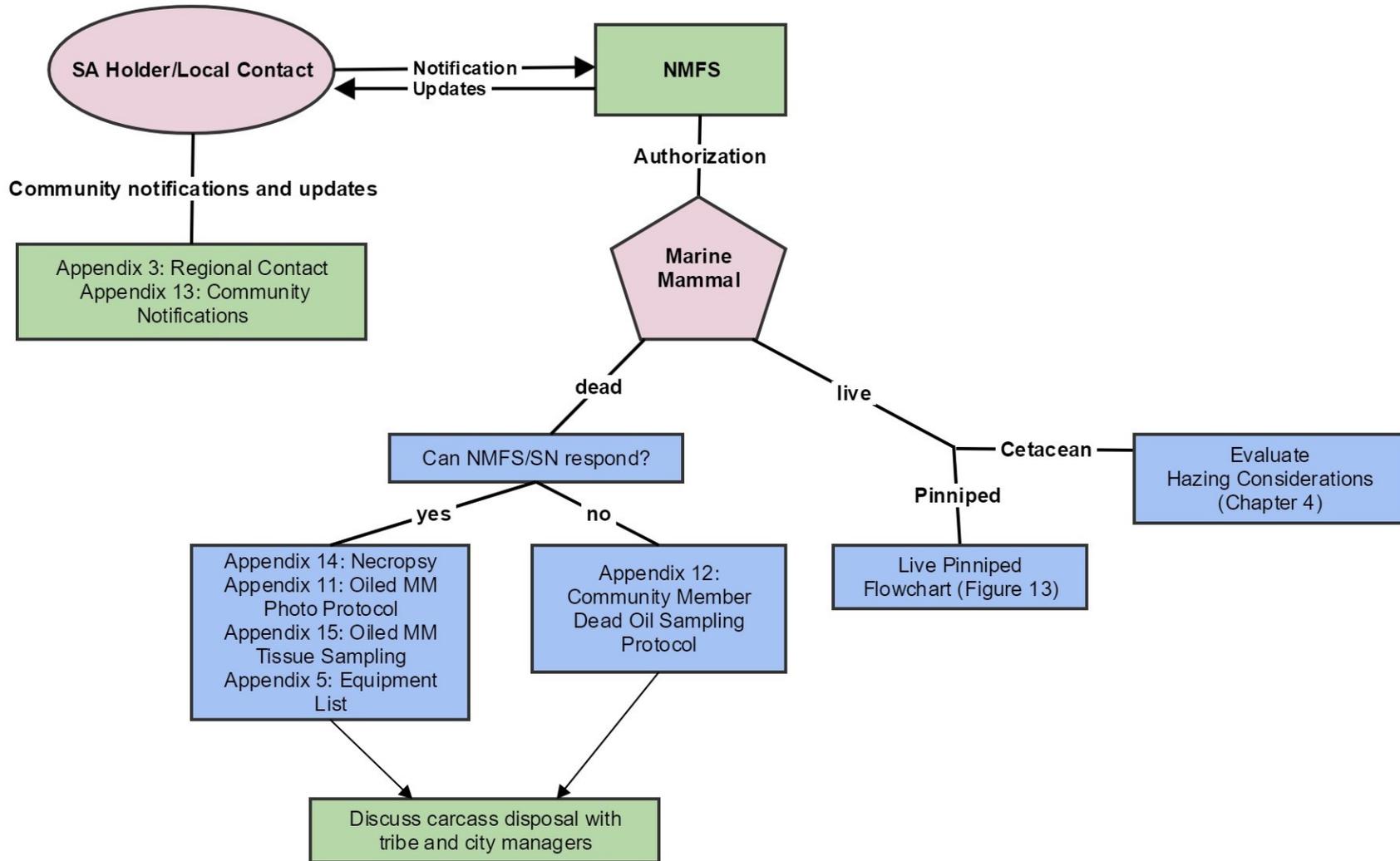


Figure 16. Non-declared oil spill response flowchart



Unusual Mortality Events

Title IV of the MMPA requires the preparation of a contingency plan for response to marine mammal Unusual Mortality Event (UME). Such an event may be caused by a variety of factors including oil discharges and releases of anthropogenic chemicals, naturally occurring biotoxins, changes in environmental conditions, and infectious agents. UMEs may also vary in their characteristics. The cause may be known or not known. There may be live marine mammals requiring care or only dead animals observed.

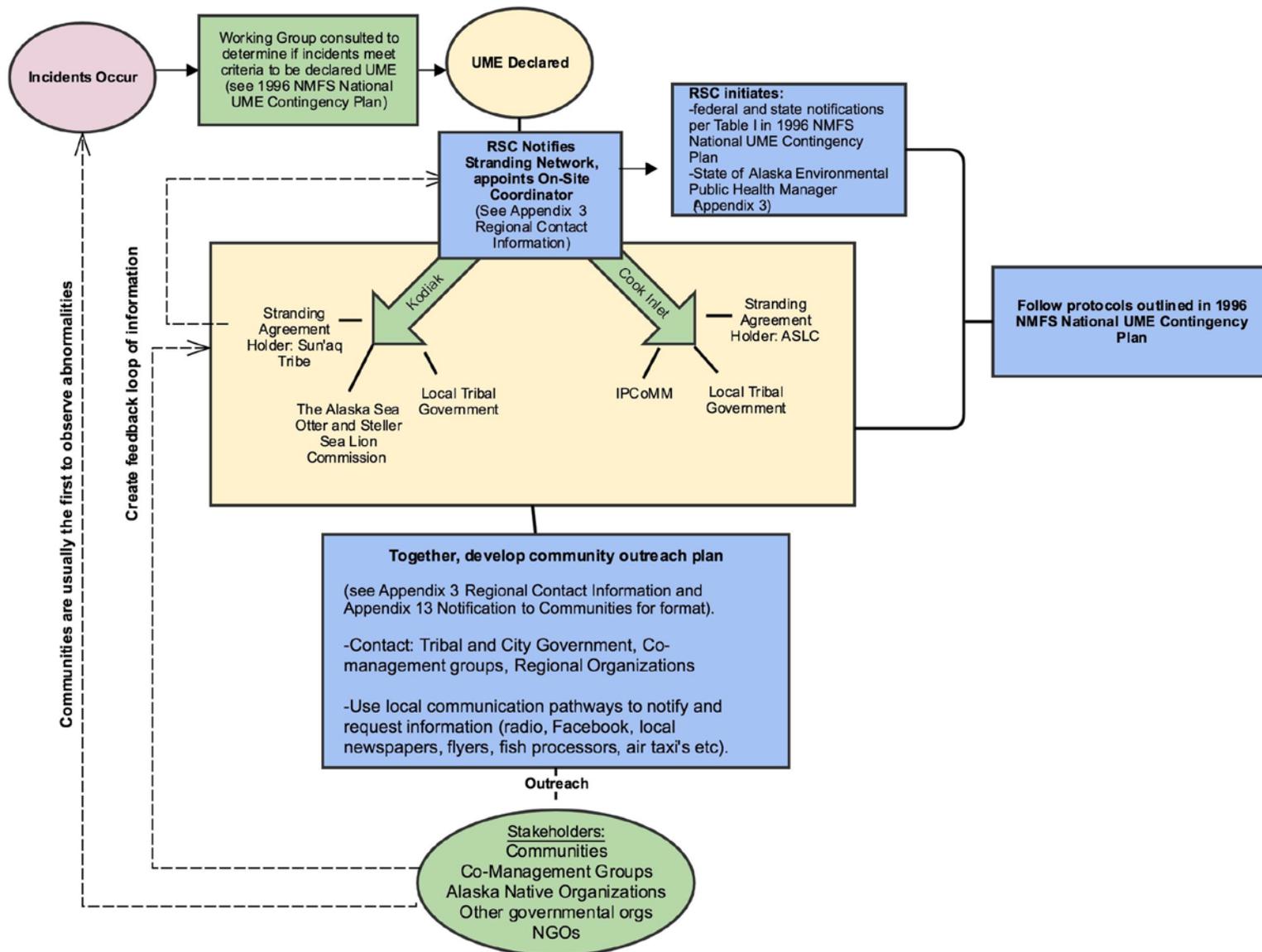
A UME is defined under the MMPA as: "a stranding that is unexpected; involves a significant die-off of any marine mammal population; and demands immediate response." There are seven criteria that are used by an expert panel, the Working Group on Unusual Marine Mammal Mortality Events, to determine if a stranding event qualifies as a UME. In addition to an increase in the magnitude or nature of morbidity or mortality, some other UME characteristics include changes in marine mammal spatial or temporal patterns, the demographics or presentation of the stranded animals, and the status of the species (i.e., endangered or threatened, or in decline) involved. The complete list of criteria can be found at <http://www.nmfs.noaa.gov/pr/health/mmume/criteria.htm>. Readers should refer to the 1996 National UME Contingency Plan (Wilkinson 1996) for UME history, authorities, public health and welfare considerations, advance planning guides, live and dead animal protocols, and post-event activities.

The geographic planning boundaries, potentially affected marine mammal species, and regional backgrounds of this UME response plan are the same as those discussed in the Introduction to the Cook Inlet and Kodiak Marine Mammal Disaster Response Plan (Figure 1 and Figure 2). In responding to a declared UME, much of the structure detailed in the CIKMMDRG related to disaster response can be used to conduct a thorough and organized effort. The main difference in a UME response when compared to other types of disaster responses discussed in this plan is the relative role of NMFS and AK Stranding Network personnel. For a UME involving NMFS species, NMFS will be the lead agency for the response and investigation. The following sections attempt to clarify the required differences in response efforts.

Notification of Personnel and Agencies

Unlike a declared oil spill event, a UME will have an On-Site Coordinator (OSC) designated by NMFS once the UME is declared. The OSC will notify and mobilize federal, state, tribal, and other authorized response personnel (Figure 17). The OSC will notify and continuously update the tribal and city governments of potentially affected communities, Native Health Organizations, co-management groups, and regional stranding agreement holders (Appendix 2 and Appendix 3), using the culturally appropriate notification protocol outlined in Appendix 13. The OSC will also notify other federal agencies (e.g., USCG, USFWS), State of Alaska wildlife resource agencies (e.g., ADF&G), and AK Stranding Network members as needed or required. A list of federal and state agencies and individuals to be notified is included in Appendix 2 and Appendix 3. The Department of Public Health must also be notified as a UME poses a potentially serious human health hazard (e.g., if a serious zoonotic disease is identified or suspected) given that marine mammals are a food source of coastal communities in Cook Inlet and Kodiak, Alaska (Appendix 3).

Figure 17. UME Communication



Public Health Concerns

Public health and welfare are the first priorities in responding to a UME (Wilkinson 1996). The OSC will ensure compliance with safety guidelines. Depending upon the potential causes of the event, specific guidelines for PPE or modification of procedures may be developed by NMFS in coordination with the OSC, the WGMMUME, and outside experts as needed. Only properly trained and equipped personnel will participate in a UME response. Carcasses may be left on the beach following field necropsy to decompose naturally unless a transmissible pathogen or serious toxin is suspected. In this case, the carcass may be buried, taken to a sanitary landfill, or incinerated.

As discussed previously, marine mammals are a main source of food for many coastal communities and thus all UMEs are a serious public health concern. The OSC must work with the Food Safety contact listed in Appendix 3 to identify needed samples for food safety testing, and also notify and continuously update communities about the event as described in Appendix 14 protocol. Although NMFS is not a human health organization, NMFS staff should stay informed about the food safety status, and help facilitate communication to and from communities and the State Public Health Department.

Resources: Location and Utilization

The Cook Inlet and Kodiak regions and their associated waterways covered by these Guidelines span thousands of square miles, and have very small human populations with limited to non-existent infrastructure and other resources for marine mammal response. The Regional Background section outlines available resources (and the lack thereof). Responding in these remote regions requires considerable logistical planning, expense, and knowledge of the local cultures living in and governing these communities.

Equipment and Logistics

Few supplies and equipment needed for a UME response are located within these regions. The supply caches that exist (outside of the ASLC) are maintained by the local SA holders and are likely only adequate for a limited response (<5 pinnipeds). The logistics of accessing the communities in these regions are discussed in the Facilities, Communication, and Services section. Grants may be available for possible funding to acquire supplies for caching.

Response and Investigation Protocols

Rescue and rehabilitation of live cetaceans affected by a UME is not likely to be undertaken in Cook Inlet and Kodiak due to logistical challenges and animal survival issues. UME affected pinnipeds will likely not be released back into the wild as they pose a potential food safety (from human consumption) and food security concern (from the potential to affect the health of the wild marine mammal population). In 2009, NMFS developed specific marine mammal rehabilitation facility guidelines (Policies and Best Practices for Marine Mammal Response, Rehabilitation, and Release, available at www.nmfs.noaa.gov/pr/pdfs/health/rehab_standards.pdf) which set minimum facility, husbandry, and veterinary standards for rehabilitating marine mammals. These standards will be followed by the specialized rehabilitative staff at the rehabilitation facilities listed in Appendix 2: Table 2, and potential facilities may be adapted for use (Appendix 2: Table 3). Veterinarians with marine mammal experience are listed in Appendix 2: Table 5. Necropsy and tissue sampling protocols and checklists for seals and whales affected by an UME are listed in, Appendix 19 and Appendix 20. Equipment and supply lists are found in Appendix 21: Equipment and Supply for a Single Necropsy, and Appendix 22: Epidemiology Supply List.