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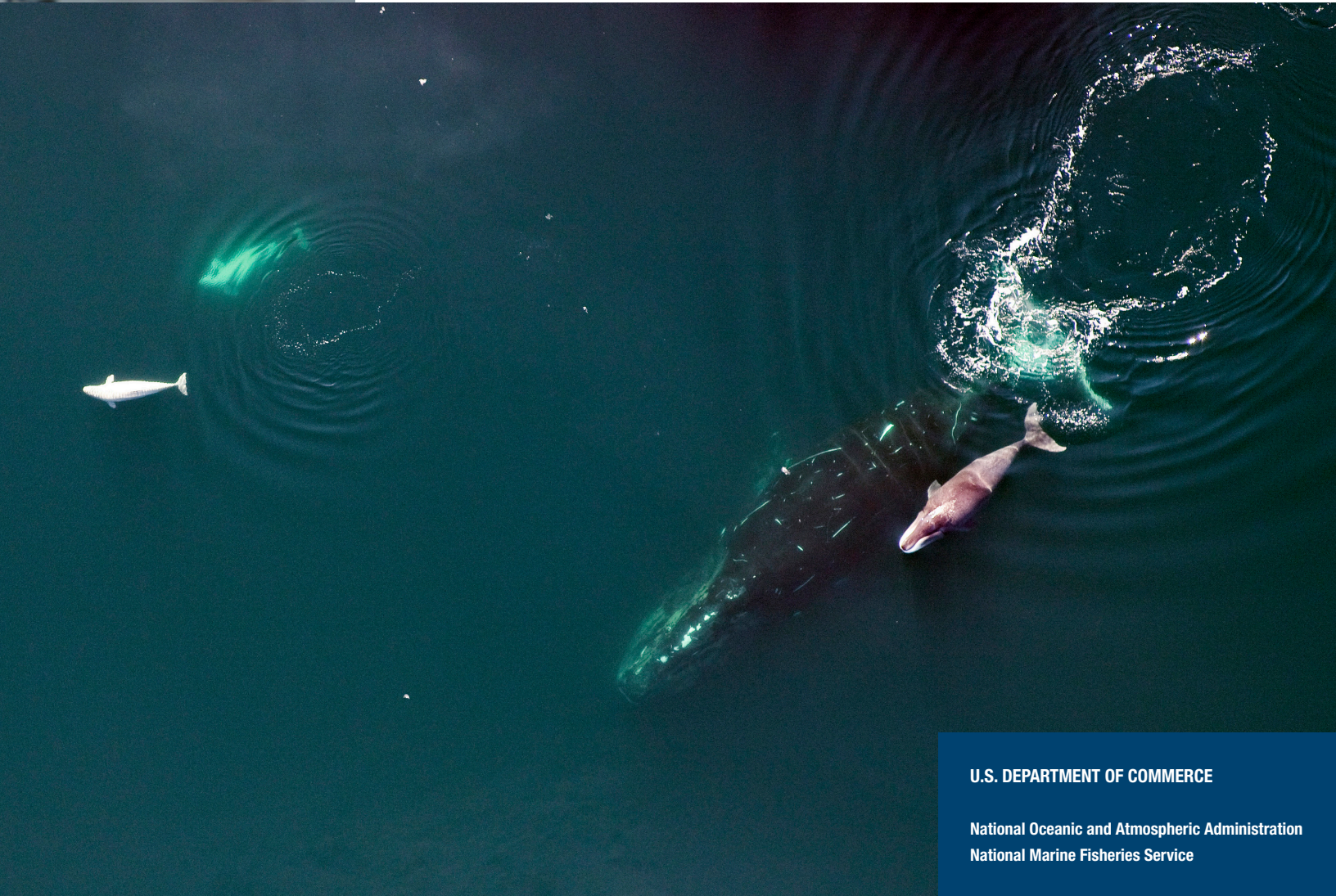
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NMFS Marine Mammal Health and Stranding Response Program

Arctic Marine Mammal Disaster Response Guidelines

National Marine Fisheries Service Guidance Report

November 2017



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Acronyms Used in Guidelines

AAC	Alaska Administrative Code
ACS	Alaska Clean Seas
ADEC	Alaska Department of Environmental Conservation
ADF&G	Alaska Department of Fish and Game
AES	ASRC Energy Services
AEWC	Alaska Eskimo Whaling Commission
AKEOP	State of Alaska Emergency Operations Plan
ANCSA	Alaska Native Claims Settlement Act
ANO	Alaska Native Organization
ARRT	Alaska Regional Response Team
AS	Alaska Statute
ASLC	Alaska SeaLife Center
ASRC	Arctic Slope Regional Corporation
BSNA	Bering Strait Native Association
BSNC	Bering Straits Native Corporation
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CoC	Chain of Custody
CWA	Clean Water Act
DOD	Department of Defense
DWBD	Deputy Wildlife Branch Director
DWH	Deepwater Horizon
EPA	US Environmental Protection Agency
ESA	Endangered Species Act
ESF	Emergency Support Function
EWI	Eskimo Walrus Commission
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
ICAS	Iñupiat Community of the Arctic Slope
ICS	Incident Command System
ISC	Ice Seal Committee
IWC	International Whaling Commission
JIC	Joint Information Center
KIC	Kikiktagruk Iñupiat Corporation
LOSC	Local On-Scene Coordinator
LTK	Local and Traditional Knowledge
MLLW	Mean Lower Low Water
MMHSRP	Marine Mammal Health and Stranding Response Program
MMPA	Marine Mammal Protection Act
MRTE	Mobile Rehabilitation and Treatment Enclosure

NANA	NANA Regional Corporation (formerly Northwest Alaska Native Assoc.)
NCP	National Contingency Plan
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
NSB	North Slope Borough
NSBDWM	North Slope Borough Department of Wildlife Management
NVB	Native Village of Barrow
NWAB	Northwest Arctic Borough
OPA 90	Oil Pollution Act of 1990
OSC	On-Site Coordinator
OWCN	Oiled Wildlife Care Network
PPE	Personal Protective Equipment
PAH	Polycyclic Aromatic Hydrocarbon
QA/QC	Quality Assurance/Quality Control
RCP	Regional Contingency Plan
RP	Responsible Party
RPIC	Responsible Party Incident Commander
RSC	Regional Stranding Coordinator
SA	Stranding Agreement
SONS	Spills of National Significance
SOSC	State On-Scene Coordinator
SSC	Scientific Support Coordinator
SSL	Steller Sea Lion
UAF	University of Alaska Fairbanks
UC	Unified Command
UIC	Ukpeagvik Iñupiat Corporation
UME	Unusual Mortality Event
US	United States
USC	United States Code
USCG	United States Coast Guard
USFWS	United States 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. Moreover, these species include important subsistence resources for Alaska Native communities. The National Marine Fisheries Service (NMFS) manages whales and most seals. The U.S. Fish and Wildlife Service (USFWS) manages Pacific walruses, northern sea otters, and polar bears. There are many similarities between NMFS and USFWS in disaster responses, but there are also some differences. Questions about USFWS species should be directed to the USFWS' Marine Mammals Management Office.

The Arctic Marine Mammal Disaster Response Guidelines (AMMDRG) were developed pursuant to statutory obligations under the Oil Pollution Act of 1990 (OPA 90) (33 USC 2701 et seq.); section 311(d) of the Clean Water Act, as amended by the Oil Pollution Act of 1990 (33 USC § 1321 et seq.), section 105 of CERCLA, as amended by the Superfund Amendments and Reauthorization Act, and regulatory obligations under the National Contingency Plan (40 CFR § 300 et seq.) Pursuant to OPA 90 amendments to the Clean Water Act, NCP regulations require a fish and wildlife response plan, developed in consultation with the USFWS, the National Oceanic and Atmospheric Administration (NOAA), and other interested parties (including State fish and wildlife trustee agencies), 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 that may be jeopardized by a discharge (33 USC § 1321(d)(2)(M)).

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 discharge or release (40 CFR 300.105 (b)(1)). Further, NCP regulations establish standard regional boundaries for ten federal jurisdictional regions within the United States (40 C.F.R. 300.105(e)(2)). 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 FWS and NOAA. 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 and sensitive environment including provisions to respond to a worst case scenario.

Finally, pursuant to NCP regulations, the Regional Response Team (RRT) provides the regional planning and coordination of preparedness and response actions. Thirteen RRTs cover the ten standard federal jurisdictions of the United States territory and the following three subregions: 1) Alaska; 2) Puerto Rico and the U.S. Virgin Islands; and 3) Hawaii, Guam, Northern Mariana Islands, Pacific Island Governments, and American Samoa. To this end, the RRT provides guidance to Area Committees to ensure inter-area consistency, coordination of assistance and advice to the On-Scene Coordinator (OSC) and the Remedial Project Manager.

In Alaska, the Area Contingency Plan is called the Alaska Federal/State Preparedness Plan for Response to Oil and Hazardous Substance Discharges/Releases (Unified Plan). The Unified Plan includes Wildlife Protection Guidelines in Annex G. The Wildlife Protection Guidelines were developed by the Alaska RRT Wildlife Protection Working Group in accordance with the regulatory

requirements of the NCP. NMFS is a participant in this working group and has developed the AMMDRG. The AMMDRG address disaster response activities specific to marine mammals in Arctic Alaska, defined in this document as the Bering Strait, northern, and northwestern regions Alaska and provide regionally-specific communication and response strategies. The AMMDRG are intended to supplement Annex G of the Unified Plan by providing information to address disaster response activities specific to marine mammals in Arctic Alaska. Consistent with NCP regulations, the information within the AMMDRG will facilitate preparedness planning, coordination, communication, and response operations in the event of an oil spill or release of hazardous substance in the Arctic.

In 2004, NMFS began the development of national guidelines for oil spill response for its trust species. Those guidelines were finalized in 2006 and most stranding networks were trained using them from 2006-2009. Since the Deepwater Horizon (DWH) oil spill response in 2010, these Pinniped and Cetacean Oil Spill Response Guidelines (hereafter National Guidelines), have been under revision to incorporate lessons learned during DWH and subsequent spills (NOAA 2015). 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 disaster response. For example, the National Response Framework (NRF) led by the Federal Emergency Management Agency (FEMA), is a guide for National response efforts in disasters and emergencies. The State of Alaska Emergency Operations Plan (AKEOP) addresses operational response activities and will facilitate response and short-term recovery activities in a scalable manner.

The AMMDRG build upon the National Guidelines, incorporate information from the NCP, NRF, AKEOP, and expand upon the Unified Plan Wildlife Protection Guidelines. The AMMDRG 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 Arctic Alaska. Additionally, data collection protocols were developed to assist with the Natural Resource Damage Assessment (NRDA) process.

In preparation for these 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 the AMMDRG was informed through meetings with leadership organizations from Alaskan coastal communities of the Bering Strait Region, Northwest Arctic Borough, and the North Slope Borough. Additionally, NMFS incorporated information from co-management partners, AK Stranding Network members, state and federal agencies, oil spill response 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 stakeholders 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 in response efforts.

Authority for Response Activities Involving NMFS Trust Species When human lives are no longer in immediate risk, all response activities involving NMFS trust species must first be authorized by the Regional Stranding Coordinator (RSC) or Headquarters Marine Mammal Health and Stranding Response Program (MMHSRP) staff (or their designee), and carried out by members of the stranding network with stranding agreements (SA), MMPA 109(h) authority, and/or by their designees. The regional SA holder may 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 walruses, and polar bears.

Geographic Boundaries The geographic planning boundaries of these guidelines correspond with the Bering Strait, Northwest Arctic Borough, and North Slope Borough ([Figure 1](#)). These boundaries largely correspond to the Northwest Arctic and North Slope subareas designated by State regulation (18AAC 75.495), and outlined in the Unified Plan. Differences between the geographic boundaries of the Unified Plan's subareas and the Bering Strait region outlined in these guidelines precluded the use of the subarea names in this plan. Norton Sound marks the southern planning boundary.

Cultural Consideration For thousands of years, Alaska Natives have been harvesting 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 unparalleled local and traditional knowledge about their environment, and they are generally recognized as experts on marine mammal behavior and life history. During a disaster response, close collaboration with these local experts will provide the best available knowledge to make response decisions and evaluate potential impacts to marine mammals and subsistence activities.

Traditional foods such as walrus, whale, seal, 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. Contamination of marine mammals 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 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 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 needed for food safety testing from marine mammals consumed as food.
- **Response efforts are regionally-specific and include local experts.** The AMMDRG 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 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 during a disaster event.
- **Sets effective preparedness parameters and identifies preparedness challenges.** A disaster response in Arctic 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. NMFS has set response standards for responsible parties (specific to oil and gas related disasters) to have enough equipment cached to be able to immediately sample or necropsy 50 dead pinnipeds, 50 live pinnipeds, five dead cetaceans, and five live cetaceans, in a central (or “hub”) community. In addition, the responsible party should be prepared to store 1,000 marine mammal samples in appropriate freezer or refrigeration conditions (NMFS 2017). Additional resources, if needed to support an effort, could be cascaded in from adjoining hubs/communities, or brought in from outside of the Alaskan Arctic if needed. NMFS is in the process of providing 24-hr Hazardous Waste Operations and Emergency Response (HAZWOPER) training to all critical AK Stranding Network members and providing opportunities for network members to drill on response protocols. In recognition that community members will be default first responders, NMFS is considering development of a community member training that can be deployed to remote Alaskan communities. Existing and potential infrastructure for response activities has been identified in each region. Lastly, given the few primary care facilities for disaster-affected marine mammals in Alaska, these Guidelines outline temporary facility considerations, including requirements for animal care and community resource sensitivity.
- **Establishes appropriate response structure.** Pathways are outlined for communication and resource initiation at the federal, state, and local level. Response activities will focus on sampling all accessible dead oiled marine mammals. Recovery and *ex-situ* rehabilitation of oiled pinnipeds that require permanent placement in facilities will likely only be feasible on a small scale (less than 20 pinnipeds at 2-3 holding week intervals), and conducted at an offsite Stranding Network rehabilitation facility. Given the correct conditions for *in situ* rehabilitation (i.e., support from local stakeholders, availability of mobile pinniped response units, or existing facilities for adaption); larger numbers of pinnipeds may be possible.
- **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.

Chapter 1: Purpose and Background

Purpose

The Arctic Marine Mammal Disaster Response Guidelines (AMMDRG) were developed to facilitate efficient preparedness planning, coordination, communication, and response operations to minimize adverse impacts from oil discharges, hazardous substance releases, and other disasters on marine mammals in Arctic Alaska. The AMMDRG address disaster response activities specific to marine mammals, and identify resources necessary to immediately and effectively respond to discharges that may adversely affect fish and wildlife and their habitats. The AMMDRG are intended to supplement the Wildlife Protection Guidelines in Annex G of the Alaska Federal/State Preparedness Plan for Response to Oil and Hazardous Substance Discharges/Releases (Unified Plan) by providing information on protocols specific to marine mammal in Arctic Alaska.

The AMMDRG establishes a system for coordinating and preparing for the operational phases of emergency management of National Marine Fisheries Services' (NMFS) trust species in Alaska. This plan needs to be viewed in conjunction with the National Guidelines. This plan specifies how NMFS will organize in response to disaster emergencies, and is designed to:

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

The primary audience for these Guidelines is NMFS personnel and NMFS-authorized marine mammal responders from the AK Stranding Network (and potentially other Regional Stranding Networks if needed); co-management partners and other Alaska Native Organizations; local, tribal, State, Federal, and volunteer agencies. Marine mammals managed by the USFWS (polar bears, Pacific walruses and sea otters) are addressed separately in individual species-specific response plans. There are many similarities between NMFS and USFWS in disaster responses, but there are also some differences. Questions about USFWS species should be directed to that agency's Marine Mammals Management Office in Anchorage, AK (907-786-3800; 800-362-5148).

The AMMDRG is broadly organized into two sections: 1) Non-NMFS-led disaster responses, and 2) NMFS-led disaster responses. Non-NMFS-led disaster responses are further divided into: 1) Oil Pollution Act of 1990 (OPA 90) (33 USC 2701-2761) disasters which are typically led by the U.S. Coast Guard (USCG) or the U.S. Environmental Protection Agency (EPA), and 2) Stafford Act disasters, led by the Federal Emergency Management Agency (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 Bering Strait region, Northwest Arctic Borough and North Slope Borough ([Figure 1](#)). These boundaries largely correspond to the Northwest Arctic, and North Slope subareas designated by State regulation (18AAC 75.495), and outlined in the Unified Plan. Differences between the geographic boundaries of the Unified Plan's Subareas and the region outlined in these guidelines precluded the use of the subarea names in this plan. Norton Sound marks the southern planning boundary.

Figure 1: Geographic Scope of the Arctic Marine Mammal Disaster Response Guidelines: Bering Strait, Northwest Arctic Borough, North Slope Borough



Geographic Scope of Arctic Marine Mammal Disaster Response Plan: Bering Strait, Northwest Arctic Borough, North Slope Borough

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 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. There are approximately 2,095 species listed under the ESA with 1,475 found within the United States. Of these, NMFS has jurisdiction over 94 marine and anadromous species, with the remainder of the species under the USFWS.

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) and the other members of the Unified Command (UC). 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 Regional Stranding Coordinator (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 oil-affected NMFS species.**

NMFS Alaska Regional Marine Mammal Stranding Network

The NMFS Alaska Regional 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, veterinary clinics, Alaska Native organizations, academic institutions, and individuals and groups who respond to or provide professional advice on handling strandings. Figure 2 displays the distribution of Alaska SA holders; their contact information is listed in Appendix 1 - Table 1. Contact information for additional AK Stranding Network members are located in the Regional Annex, 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. Information about current AK Stranding Network members can also be found at this website: <https://alaskafisheries.noaa.gov/pr/strandings>. Members of the AK Stranding Network will serve in leadership positions in the Wildlife Branch of the Incident Command System (ICS) organization, with additional response capacity hired 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 AK Stranding Network members, locally trained community members, contractors, and other authorized and qualified groups can be brought in to assist as needed.

Figure 2: Locations of Alaska Stranding Agreement Holders



*Active Stranding Network partner under MMPA 109(h)

There are only two organizations holding SAs in Arctic Alaska ([Figure 2](#)). In the Bering Strait region, the University of Alaska Fairbanks (UAF) Alaska Sea Grant's Marine Advisory Program is the stranding agreement holder. During NMFS meetings in this region, most of the participants indicated that in addition to the UAF Alaska Sea Grant Marine Advisory Program, Kawerak Inc., and their subsidiary, the Eskimo Walrus Commission (EWC), were the most appropriate regional point of contacts during a disaster event. In the North Slope region, the North Slope Borough Department of Wildlife Management (NSBDWM) located in Utqiagvik (formerly known as Barrow), also holds a SA, and is the appropriate regional point of contact.

Each of the organizations listed above have limited personnel, equipment, and infrastructure dedicated to emergency response; these limitations, coupled with the massive geographic area of Arctic Alaska, constrain their ability to respond to stranded, distressed, or deceased animals in this area. In order to conduct a timely and effective response to a disaster, these organizations would need to be supplemented with additional personnel and resources, as authorized and coordinated by NMFS and SA holders. Each SA holder is intimately familiar with the local area and regional logistics, including a good understanding of the life history and distribution of the regional marine mammal species, as well as good working relationships with their regional communities.

In the Northwest Arctic Borough, there are currently no organizations that hold SAs. During NMFS meetings in this region, most of the participants indicated that the Northwest Arctic Borough should be the primary NMFS contact during a disaster response, in addition to close collaboration with Maniilaq and the Native Village of Kotzebue; both located in Kotzebue.

Local community members and organizations in Arctic Alaska contribute considerable time and resources to aid the AK Stranding Network, and their observations often serve as the first sentinel of emerging events. Although these communities may not currently hold formal SAs for NMFS trust species, their efforts to report, monitor, and respond to events are indispensable. These communities create most of the structure for the stranding reporting and response that does occur in Arctic Alaska. NMFS and other agencies have benefited from subsistence hunters' observations, expertise, and the samples they have provided for various regulatory and scientific aims.

Authorized and qualified marine mammal responders would need to be compensated through the Incident Command Structure in a non-NMFS-led incident. Although many local community members do not have HAZWOPER training required for oil spill response field work, or the wildlife-specific trainings needed for wildlife response, there are several efforts underway to meet these challenges. These Guidelines outline protocols for involving community members in response efforts and NMFS is in the beginning stages of creating remote marine mammal-specific response trainings for rural community members.

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 the Arctic (e.g., a relatively small area 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 of 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). Individual co-management agreements should incorporate the spirit and intent of co-management through close cooperation and communication between Federal agencies and the ANOs, hunters and subsistence users. Co-management agreements encourage the exchange of information regarding the conservation, management, and utilization 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. To date, 14 agreements involving 12 species have been entered into between these entities ([Table 1](#)). Although the agreements vary by species and ANO, they generally describe harvest monitoring methods, collaboration on research and education and outreach projects, required funding, conflict resolution, and procedures for terminating agreements.

Table 1. Existing Alaska Native Organizations with Co-Management Agreements*

Species	Alaska Native Organization (ANO)	Agency	Initial Year
Beluga whale	Alaska Beluga Whale Committee	NMFS	1999
Bowhead whale	Alaska Eskimo Whaling Commission	NMFS	1981
Harbor seal	Alaska Native Harbor Seal Commission Aleut Marine Mammal Commission	NMFS	1999 2006
Ringed, Ribbon, Spotted, and Bearded seals (Ice seals)	Ice Seal Committee	NMFS	2006
Northern fur seal	Aleut Community of St. Paul Aleut Community of St. George	NMFS	2000 2001
Sea otter	Alaska Sea Otter and Steller Sea Lion Commission	USFWS	1994
Steller sea lion	Aleut Community of St. Paul Aleut Community of St. George Aleut Marine Mammal Commission	NMFS	2000 2001 2006
Walrus	Eskimo Walrus Commission Qayassiq (Round Island) Walrus Commission	USFWS	1987 1997

*Adapted from MMC, 2008 (an agreement with the Cook Inlet Marine Mammal Council terminated in 2012 when that organization disbanded).

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 agreements promote 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 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, communication with the co-management groups will provide a parsimonious strategy to efficiently gather exceedingly valuable knowledge, so that NMFS can understand potential impacts to marine mammals and the subsistence hunt, and make the appropriate response decisions.

In the Arctic, NMFS has entered into co-management agreements with the Alaska Beluga Whale Committee (ABWC), the Ice Seal Committee (ISC), and the Alaska Eskimo Whaling Commission (AEWC) (see Appendix 1 for contact information).

The ABWC was formed in 1988 and is comprised of hunters, scientists, and federal managers. The goals of the ABWC, among others, are to maintain a healthy beluga whale resource for subsistence use and public enjoyment for generations to come.

In 1977 the International Whaling Commission (IWC) banned aboriginal hunting of bowhead whales. Subsequently, the AEWK was formed to represent bowhead whaling communities and advocate to the US government and the IWC for the preservation of the bowhead hunt. Since 1981, the AEWK has managed the bowhead whale subsistence harvest locally through a Cooperative Agreement with the US Department of Commerce/NMFS. The AEWK works closely with NMFS throughout the year and reports to NMFS on the results of each spring and fall bowhead whaling season. AEWK is comprised of commissioners from the 11 bowhead whaling communities, along with a chairman and vice-chairman. Each bowhead whaling community has a Whaling Captain's Association; these organizations elect commissioners from their communities to sit on the AEWK. The AEWK conducts research in support of the harvest of bowhead whales, the development of more efficient, humane weaponry, and advocates among many interest groups for their continued ability to harvest bowhead whales. The headquarters for the AEWK are in Utqiagvik (formerly known as Barrow), Alaska.

The ISC (formed in 2004) entered into a co-management group with NMFS for the management of ice-associated seals (ringed, ribbon, bearded, and spotted seals). According to their by-laws, the purpose of the ISC is "to preserve and enhance the marine resources of ice seals including the habitat; to protect and enhance Alaska Native culture, traditions, and especially activities associated with subsistence uses of ice seals; to undertake education and research related to ice seals (NSB 2015)."

Although NMFS only has agreements with those organizations co-managing NMFS's trust species, disaster response efforts involving USFWS trust species will need to be authorized by the USFWS, and coordinated through the Eskimo Walrus Commission (EWC) and/or the Alaska Nanuq Commission (polar bears), particularly in the Bering Strait region. Although the government divides species management throughout several state and federal agencies, many hunters and other community members are not aware of these distinctions. These Guidelines make an effort 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. For NMFS-led responses involving NMFS trust species, the regional stranding agreement holder will be the local point of contact for information to and from communities.

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 also work with the tribal government to identify people/organizations with the knowledge needed to mount an effective response.

NMFS Trust Species in Arctic Alaska

NMFS has seventeen trust marine mammal species that reside or migrate through Arctic Alaska: six mysticetes, five odontocetes, and six pinnipeds ([Table 2](#)). All marine mammals are protected by the MMPA; the six species listed as Threatened or Endangered in this region are provided additional protection under the ESA.

Table 2. NMFS Trust Marine Mammal Species in Arctic Alaska

Common Name	Scientific Name	ESA Status (if listed)
Mysticetes		
Bowhead Whale	<i>Balaena mysticetus</i>	Endangered
Gray Whale (western population)	<i>Eschrichtius robustus</i>	Endangered
Gray Whale (eastern population)	<i>Eschrichtius robustus</i>	Non-ESA listed
Humpback Whale (western North Pacific population)	<i>Megaptera novaeangliae</i>	Endangered
Humpback Whale (Mexico population)	<i>Megaptera novaeangliae</i>	Threatened
Humpback Whale (Hawaii population)	<i>Megaptera novaeangliae</i>	Non-ESA listed
Minke Whale	<i>Balaenoptera acutorostrata</i>	Non-ESA listed
Fin Whale	<i>Balaenoptera physalus</i>	Endangered
North Pacific Right Whale	<i>Eubalaena japonica</i>	Endangered
Odontocetes		
Beluga Whale	<i>Delphinapterus leucas</i>	Non-ESA listed
Killer Whale	<i>Orcinus orca</i>	Non-ESA listed
Harbor Porpoise	<i>Phocoena phocoena</i>	Non-ESA listed
Dall's Porpoise	<i>Phocoenoides dalli</i>	Non-ESA listed
Narwhal	<i>Monodon monoceros</i>	Non-ESA listed
Ice Seals		
Ringed Seal	<i>Phoca hispida</i>	Threatened
Ribbon Seal	<i>Histiophoca fasciata</i>	Non-ESA listed
Bearded Seal	<i>Erignathus barbatus</i>	Threatened
Spotted Seal	<i>Phoca largha</i>	Non-ESA listed
Other Pinnipeds		
Steller Sea Lion (western population)	<i>Eumetopias jubatus</i>	Endangered
Northern Fur Seal	<i>Callorhinus ursinus</i>	Non-ESA listed

Marine mammal distribution was determined by stock assessments provided by National Marine Mammal Laboratory of the NMFS Alaska Fisheries Science Center at the website link:

<http://www.nmfs.noaa.gov/pr/sars/>.

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 Alaska Native Organizations (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 unparalleled local and traditional knowledge about the environment. Subsistence hunters are generally recognized as regional experts on marine mammal behavior and life history. 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

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

Any food not harvested locally in Arctic Alaska must be flown or shipped in at great expense. While modern technology is nearly everywhere in Arctic Alaska communities and many households no longer support themselves solely using local resources, tribal language, customs, 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 supply at least a third of daily calories for most Alaska Natives in maritime communities, 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 of Arctic coastal communities.

Contamination of marine mammals from oil or other hazardous substances, and/or the presence of disease, may have serious adverse impacts on the health of the humans that use 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 human health analyses.
- **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 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 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 have an unparalleled depth of knowledge about the local environment, and their subsistence activities often result in reconnaissance of vast remote regions of Alaska. As such, communities are usually the first to report that a disaster event is occurring, and during some types of disasters, communities often 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, and so they are also the most seriously impacted by disaster events and response activities. All effective response efforts must be coordinated with the local tribal 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 most have village corporations as well. The primary contact information for the communities and leadership organizations in these regions is provided in Appendix 1. 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).

Facilities, Communication, and Services

Disaster response personnel who are unfamiliar with Arctic Alaska may not realize that all of the communities in these regions (except Deadhorse) have limited infrastructure, no road access, and frequently unreliable communication systems. All communities can be accessed by aircraft, and most communities can be accessed by boat, given favorable weather conditions. Alaska Airlines services the hubs of Utqiagvik (North Slope), Kotzebue (Northwest Arctic), and Nome (Bering Strait) daily, while smaller airlines service outlying communities. Transportation within villages consists of standard vehicles, as well as boats, four-wheelers, and snow machines (i.e., snow mobiles). Most communities outside of the hubs do not have rental cars, although cars/trucks, four-wheelers, and snow machines may sometimes be hired from private individuals.

All Arctic 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 opt not use phone, internet, and email communication, even when these services are available.

Most communities do not have local medical services, although they are within range of emergency medical services; many have small volunteer fire departments, and some have village safety officers. Most communities have schools, which often host visiting overnight guests, as hotels are generally not available (except in hub communities). Electricity, sewer, and refuse management are usually available in each community. Fresh water is often very limited.

Many communities have a small store that carries a limited selection and quantity of food and basic amenities, but most do not have restaurants. 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 the communities' resources. As such, responders should ensure they will have access to lodging, fresh water, food, and basic amenities before traveling to a response site, or bring their own.

Bering Strait Region

The Bering Strait is a narrow international waterway that connects the North Pacific Ocean to the Arctic Ocean, is bordered on the east by Alaska, and the west by Russia, and serves as the main transport channel for maritime activity to and from the Arctic Ocean.

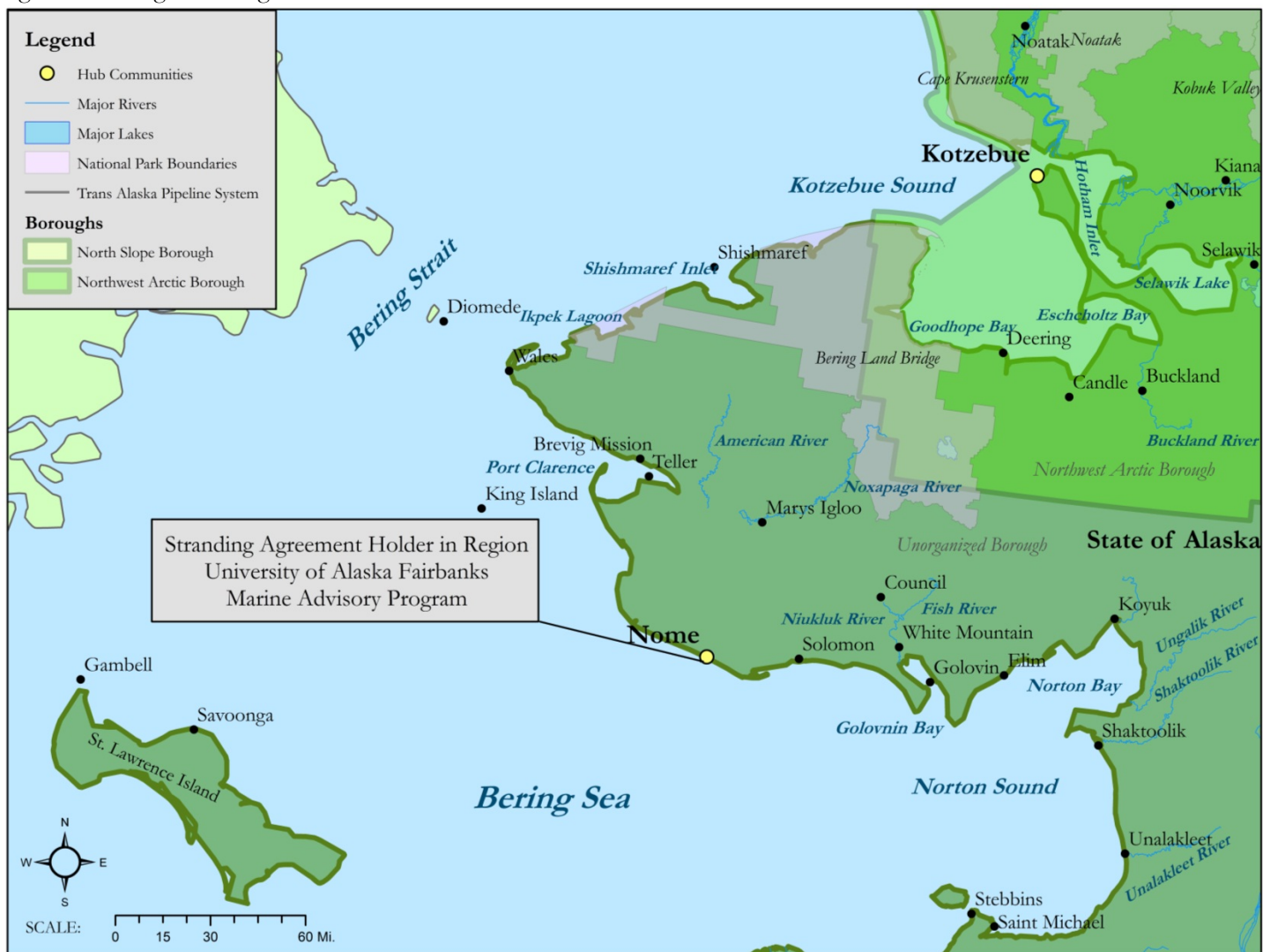
Currently, the UAF Alaska Sea Grant Marine Advisory Program is the SA holder in the Bering Strait region, and would serve as the primary contact and local advisor during a response. Nome is located on the southern Seward Peninsula coast on Norton Sound of the Bering Sea, and serves as the hub for the 20 communities (Shishmaref, Diomedes, Wales, Brevik Mission, Teller, King Island, Mary's Igloo, Gambell, Savoonga, Nome, Solomon, White Mountain, Golovin, Elim, Koyuk, Shaktoolik, Unalakleet, Saint Michael, Council, and Stebbins) in the Bering Strait Region.

The Bering Strait region is home to three culturally and linguistically distinct Native peoples: Iñupiat, Central Yupik, and Siberian Yupik. Twenty tribal governments represent the 20 villages in the region, although only 16 of these communities are permanently inhabited. Marine mammals are a primary food source for Bering Strait communities, and are critical for nutritional, cultural, and economic needs in this region. In a subsistence use study of 12 communities in the Bering Strait region, more than 9,000 marine mammals were harvested for an estimated total of more than 2.8 million pounds, resulting in 635 pounds per person per year (Ahmusuk and Trigg 2007) ([Figure 3](#)).

Nome has the only seaport in Arctic Alaska. The port is used by freighters, research vessels, commercial fishing vessels, offshore mining dredges, cruise ships, and others. The Nome Harbor includes a 3,025 ft. (922 m) breakwater east of an existing causeway, and is equipped to handle the community's bulk cargo and fuel deliveries. The City Dock and Westgold Dock (north) have a depth of 22.5 feet (MLLW). The Nome Small Boat Harbor has a depth of 10 feet (MLLW). Smaller cargo vessels and landing crafts load village freight and fuel at the east, west, and south inner harbor. A 60-foot (18 m) wide concrete barge ramp located inside the inner harbor provides a suitable location to trans-load freight to equipment on and off barges. Lastly, this location also has approximately 2 acres (8,100 m²) of uplands to be used for container, vessel, and equipment storage.

The road system leading from Nome is relatively extensive, unmaintained during winter, and is through remote terrain. Local roads lead from Nome to Teller, Council, and the Kougarok River. There is no road connecting to any other parts of Alaska.

Figure 3: Bering Strait Region



Bering Strait Region

Regional Organizations

Unlike the rest of Arctic Alaska, there is no borough government in the Bering Strait region. Traditional government services are funded by and administered by a conglomerate of entities depending upon circumstances and location. The following list of regional organizations is not comprehensive; initial coordination efforts during a disaster response with the UAF Alaska Sea Grant Marine Advisory Program, Kawerak, and the EWC will provide guidance on additional organizations to contact.

The Bering Straits Native Corporation (BSNC) was formed in 1967 (previously called the Bering Strait Native Association (BSNA)) as an association of the Native Villages in the Bering Strait region. The BSNA was created to advocate for the passage of a Native Land Claims bill. After the passage of the Alaska Native Claims Settlement Act in 1971, BSNA organized Kawerak as the regional non-profit corporation (incorporated under State Law in 1973) to provide services throughout the Bering Strait region (Kawerak 2015).

Today, Kawerak contracts with the state and federal government to provide services to residents of the Bering Strait region, 75% of whom are of Eskimo, Aleut, or American Indian descent. Kawerak's organizational goal is to assist Alaska Native people and their governing bodies to take control of their future. With programs ranging from education to transportation, and natural resource management to economic development, Kawerak seeks to improve the Region's social, economic, educational, cultural, and political conditions. Kawerak is governed by a Board of Directors comprised of the presidents (or designees) of the 20 federally recognized tribes in the region, two elder representatives, and the chair of the Norton Sound Health Corporation board.

Representing the Alaska Native population in Nome, Nome Eskimo Community's 2900+ members reflect the many heritages of the surrounding region. Among their members are Central Yupik, Iñupiaq, St. Lawrence Island Yupik, and American Indians whose lineage is tied to tribes in the contiguous United States.

The EWC was created in 1978 through a Memorandum of Understanding between Kawerak, Inc. of Nome, the Alaska Department of Fish and Game (ADF&G), and the USFWS. The EWC is the organization representing Alaska's coastal walrus hunting communities. Initially formed as a consortium of Native hunters, EWC is a recognized statewide entity working on resource co-management issues, specifically walrus, on behalf of Alaska Natives. Walrus are an essential cultural, natural, and subsistence resource to the Alaskan coastal Yupik and Iñupiat communities and other stakeholders.

Unlike other areas of the country that have a multitude of marine mammal organizations holding SAs (with accompanying infrastructure and equipment), the UAF Alaska Sea Grant Marine Advisory Program is the only SA holder in this region, with one full time employee. NMFS's local point of contact is the UAF Alaska Sea Grant Marine Advisory Program, who will work closely with Kawerak, EWC, and affected tribal governments to advise NMFS and exchange information (see Appendix 1).

Northwest Arctic Borough

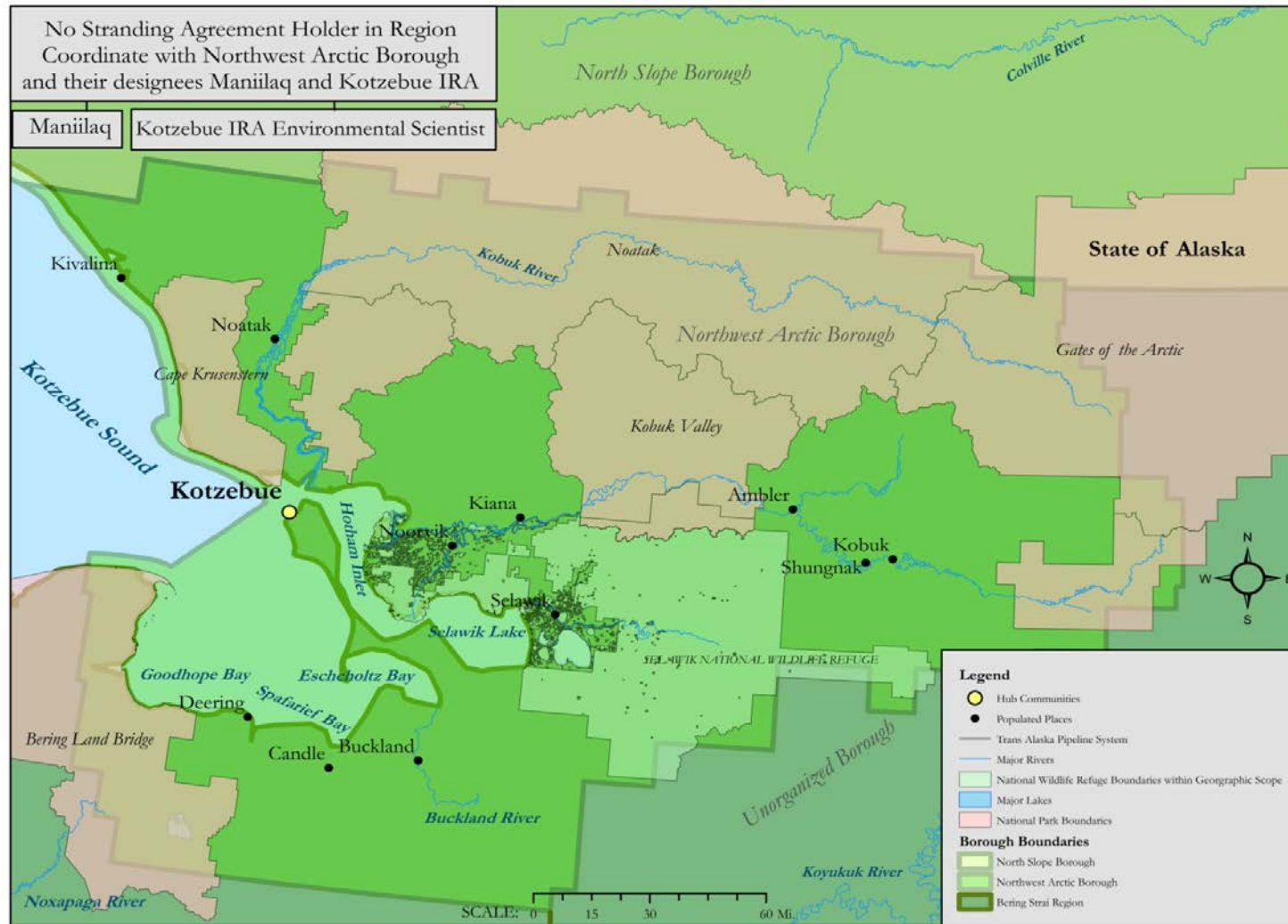
The Northwest Arctic Borough (NWAB) is the second largest borough in Alaska, comprising approximately 39,000 square miles along Kotzebue Sound, including the Wullik, Noatak, Kobuk, Selawik, Buckland, and Kugruk watersheds ([Figure 4](#)). Communities located within NWAB include Ambler, Buckland, Deering, Kiana, Kivalina, Kobuk, Kotzebue, Noorvik, Selawik, Shungnak, and the unincorporated community of Noatak; all of these communities have federally recognized tribal governments.

This region has been occupied by Iñupiat people for at least 10,000 years. "Kikiktagruk," Kotzebue's traditional place name, was the hub of ancient Arctic trading routes. The population of the community consists of 85% Alaska Native or part Native, and subsistence activities are a vital component of the lifestyle. Residents rely on caribou, reindeer, beluga whales, birds, four species of seals, berries, greens, and fish (Kotzebue IRA 2015).

The City of Kotzebue is the hub of Northwest Alaska, and is the regional transfer point between ocean and inland shipping. Kotzebue does not have a natural harbor and is ice-free for only three months each year. Deep draft vessels must anchor 15 miles off shore, and cargo is lightered to the docking facility. Local barge services provide cargo to area communities.

Subsistence harvest of land and marine mammals provides a primary food source, and is critical to the NWAB communities for cultural, nutritional, and economic needs. In western Alaska, 70% of all households harvest game, and 98% harvest fish, for a wild food harvest of 425 pounds per person per year (the second highest harvest per person) (ADFG 2012).

Figure 4: Northwest Arctic Region



Northwest Arctic Region

Regional Organizations

The 11 communities of the NWAB are governed by a complex mosaic of organizations. Each community has tribal and city governments, a village corporation, as well as other special interest groups. Although many of these organizations have specialized purviews, some organizations overlap in the services they administer, as well as in their authorities. The following list of regional organizations is not comprehensive; initial coordination efforts with the NWAB, Maniilaq Association, and the Native Village of Kotzebue will provide guidance on the other organizations to contact. Organizations overarching the entire Northwest Arctic include the NWAB, Maniilaq, and the regional corporation NANA.

The NWAB was formed in June 1986 as a home rule borough. Geographically, the borough is roughly the size of the state of Indiana with its southern border just miles above the Arctic Circle. Roughly 7,500 people in 11 communities call the NWAB home. The NWAB administers planning, public services, and economic development services to the greater area. The Public Services Department administers all NWAB activities relative to capital projects, public works, and public safety. The duties include functions in the fields of firefighting, law enforcement, transportation, disaster response, coordination, and other safety functions (NWAB 2014).

Maniilaq Association (Maniilaq) provides health and social services to residents of Northwest Alaska. A non-profit corporation, Maniilaq represents 12 federally recognized tribes located in Northwest Alaska. Maniilaq manages social and health services for about 6,500 people within the NWAB and the village of Point Hope. Maniilaq also coordinates tribal and traditional assistance programs, and environmental and subsistence protection services.

NANA, a Regional Corporation, Inc., is one of the 13 Regional Native Corporations created as a result of the Alaska Native Claims Settlement Act of 1971. NANA's mission is to provide economic opportunities for its more than 13,500 Iñupiat shareholders and to protect and enhance NANA lands.

The Native Village of Kotzebue is the federally recognized tribal government representing the Qikiktagrukmiut, the original inhabitants of the area of Northwest Alaska surrounding modern day Kotzebue (Qikiktagruk). The tribe, a sovereign entity, is commonly called the Kotzebue IRA due to its organization pursuant to the 1934 Indian Reorganization Act, as amended for Alaska in 1936. Membership of the Kotzebue IRA is estimated at 2,500 people, most of whom belong to the original families of Qikiktagruk, although Native peoples from other tribes are members. Most of the recent marine mammal science projects have been conducted through the Kotzebue IRA under the direction of the staff biologist.

Kikiktagruk Inupiat Corporation (KIC) is the Kotzebue village corporation. Founded in 1973 as an Alaskan Native Corporation, KIC operates a diverse portfolio of companies across North America and serves a shareholder base of Iñupiat Natives. Services available in the Kotzebue area include vehicle, large equipment, and apartment rentals.

No organizations within the NWAB currently hold a SA from NMFS, and there is no dedicated infrastructure or equipment to respond to stranded marine mammals. NMFS's local point of contact is the NWAB, who will work closely with Maniilaq and the Kotzebue IRA to advise NMFS (see Appendix 1).

North Slope Region

The North Slope region of Alaska lies north of the Brooks Range, borders the Chukchi Sea to the west, and borders the Beaufort Sea to the north. The North Slope Borough (NSB) encompasses more than 90,000 square miles, and has a population of 7,000+ people (Figure 5). Eight communities fall under the jurisdiction of the North Slope Borough: Anaktuvuk Pass, Atkasuk, Kaktovik, Nuiqsut, Point Hope, Point Lay, Utqiagvik (formerly known as Barrow), and Wainwright. All of these communities have tribal governments, as well as village corporations and city governments (NSB 2014). The majority of people living in the NSB are Iñupiat. More than three-fifths of the NSB's population lives in Utqiagvik, which is the commercial and transportation hub.

Subsistence harvest of land and marine mammals provides a primary food source and is critical to the NSB communities for cultural, nutritional, and economic needs. In Arctic Alaska, 92% of all households use game, and 96% use fish, for a wild food harvest of 438 pounds per person per year (not including marine mammals)(ADFG 2012). Marine mammals are a primary food source for NSB communities and comprise a significant portion of the subsistence diet of Alaska Natives in this region.

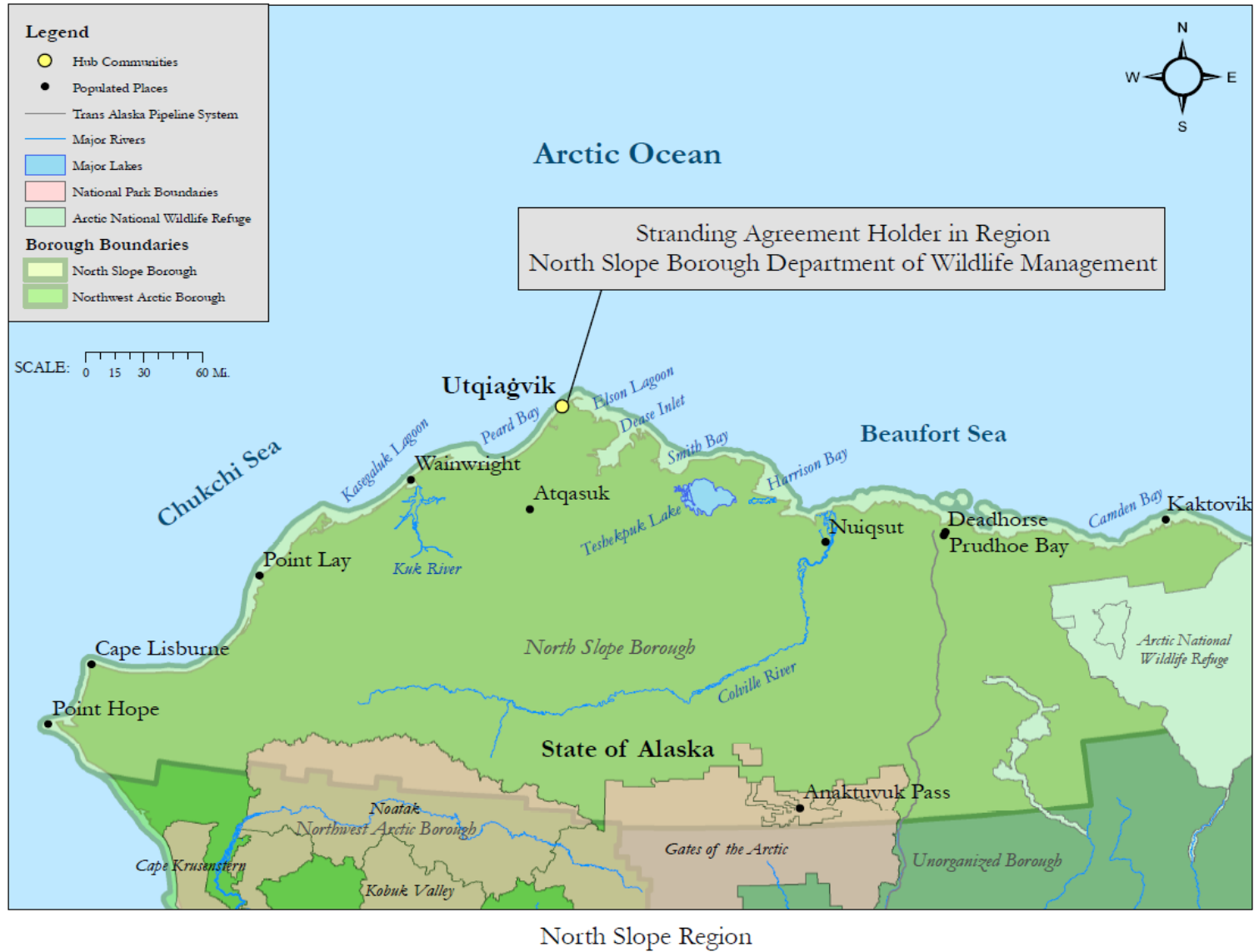
Deadhorse, Alaska, located on the North Slope, exists to support oil operations in Prudhoe Bay. There are 2,000-3,000 non-permanent residents of this community; employees who support various oil operations. Deadhorse can be accessed by car/truck via the Dalton Highway. Deadhorse will likely be an important staging area during a disaster response on the North Slope, as it is accessible and has housing, facilities, and spill response equipment that could be used for response activities.

Regional Organizations

The eight communities of the North Slope Borough are governed by a complex mosaic of organizations. Each community has tribal and city governments and a village corporation; many have whaling captain's associations as well as other special interest groups. Although many of these organizations have specialized interests, some organizations overlap in the services they administer, as well as in their authorities. The following list of regional organizations is not comprehensive; initial coordination efforts with the North Slope Borough Department of Wildlife Management (NSBDWM) will provide additional guidance on the other organizations necessary for a response. Organizations overarching the whole of the North Slope include the NSB, and the Arctic Slope Regional Corporation (ASRC).

The NSB was formed in 1972 as a home rule borough. The NSB administers planning and community services, health and social assistance, wildlife management, economic development, and emergency services (among others) to the greater area. The NSBDWM facilitates the sustainable harvest of subsistence species, and conducts research on fish and wildlife species with the goal of keeping these populations at healthy levels to ensure the continued ability of residents to harvest wildlife resources. The NSBDWM has long-partnered with NMFS on various research projects, as members of the co-management groups, and as a SA holder. The NSBDWM is the only SA holder for this region and serves as NMFS's local point of contact (see Appendix 1).

Figure 5: North Slope Region



The Arctic Slope Regional Corporation (ASRC) is the regional corporation of the North Slope, and was established pursuant to the Alaska Native Claims Settlement Act of 1971. Incorporated in 1972, ASRC has its corporate headquarters in Utqiagvik (formerly known as Barrow), Alaska, with administrative and subsidiary offices located in Anchorage and throughout the United States. ASRC is a private, for-profit corporation that is owned by and represents the business interests of its 11,000 Iñupiat Eskimo shareholders in the villages of Point Hope, Point Lay, Wainwright, Atkasuk, Utqiagvik, Nuiqsut, Kaktovik, and Anaktuvuk Pass. Some of the corporation's shareholders live outside of the region in Alaska, with a small number residing in the Lower 48. One of ASRC's subsidiaries, ASRC Energy Services (AES) provides offshore oil spill response equipment and personnel to the oil and gas industry (ASRC 2014).

The Native Village of Barrow (NVB) is the federally recognized tribe of Utqiagvik (formerly known as Barrow). Similar to the NSB, the NVB administers services to its members including social services, economic development, wildlife and environmental services, and tribal court among others (NVB 2014).

The Iñupiat Community of the Arctic Slope (ICAS) is an Alaska Native tribe governed by the IRA, established in 1971, and represents approximately 6,300 Iñupiat people of the Arctic slope region. ICAS is comprised of 13 members (one from each village and five from Utqiagvik) who are elected in a staggered fashion and serve three year terms. The mission of ICAS is to exercise its sovereign rights and powers for the benefit of tribal members, to conserve and retain tribal lands and resources including subsistence and environmental issues, to establish and carry-out justice systems including social services pursuant to Iñupiat Tribal law and custom, and to increase the variety and quality of services provided to current tribal members and for future generations (ICAS 2014).

Ukpeagvik Iñupiat Corporation (UIC), the village corporation of Utqiagvik, has more than 40 companies offering services as diverse as information technology and marine transport. Their subsidiary, UIC Arctic Response Services, provide oil spill prevention and response services for nearshore, offshore, and onshore activities (UIC 2014).

In 1977 the International Whaling Commission (IWC) banned aboriginal hunting of bowhead whales. Subsequently, the AEWC was formed to represent the whaling communities and advocate to the US government and the IWC for the preservation of the bowhead hunt. Since 1981, the AEWC has managed the bowhead whale subsistence hunt locally through a Cooperative Agreement with NMFS. The AEWC works closely with NMFS throughout the year and reports to them on the results of each spring and fall whaling season. The AEWC is comprised of commissioners from the 11 whaling communities, along with a chairman and vice-chairman. Each whaling community has a Whaling Captain's Association; these organizations elect commissioners from their communities to sit on the AEWC. The AEWC conducts research in support of the bowhead hunt, the development of more efficient, humane weapons, and advocates among many interest groups for their continued ability to hunt bowhead whales. The headquarters for the AEWC are in Utqiagvik (AEWC 2014). The NSBDWM is the only SA holder for this region and serves as NMFS's local point of contact (see Appendix 1).

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 US. While the National Guidelines (NOAA 2015) provide a detailed description of the statutory and regulatory foundation that governs oil spill and 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.

In Alaska, the Area Contingency Plan is called the Alaska Federal/State Preparedness Plan for Response to Oil and Hazardous Substance Discharges/Releases (Unified Plan). The Unified Plan includes Wildlife Protection Guidelines in Annex G. 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 AMMDRG. The AMMDRG address disaster response activities species to marine mammals under NMFS's authority in Arctic Alaska, defined in this document as the Bering Strait, northern, and northwestern regions of Alaska.

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

Pertinent Legislation/Plans

Federal:

- National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 CFR § 300 et seq.)
- Oil Pollution Act of 1990 (OPA 90) (33 USC § 2701 et seq.)
- Clean Water Act (CWA), as amended by OPA 90 (33 USC § 1321 et seq.)
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

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 ARRT developed the Unified Plan. The Unified 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 Unified 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 (Unified Plan 2010).

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 (Unified Plan 2010).

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 (Unified Plan 2010).

To address wildlife-specific spill response strategies, the ARRT Wildlife Protection Working Group developed Annex G, “Wildlife Protection Guidelines for Alaska” of the Unified 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). 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 North Slope Borough; ADF&G; US Department of Commerce (NOAA and NMFS); USCG; DOI (USFWS); Office of Environmental Policy and Compliance; and an oil industry representative (ARRT 2010). Annex G of the Unified Plan, Volume I, “Wildlife Protection Guidelines for Alaska,” is located at the website: <http://www.akrrt.org/plans.shtml> (Unified Plan 2010).

Annex G of the Unified Plan provides basic potential response strategies; the AMMDRG serves as a more in-depth guide for NMFS employees and their response designees while conducting response activities that could affect their trust species. The AMMDRG provides a foundation for coordination and communication between the National MMHSRP participants and other state and federal government agencies. The AMMDRG builds upon Annex G 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.

Preparedness

An effective response to an oil spill in Arctic Alaska would be severely challenged by the distances to transportation hubs and/or urban cities, expansive coverage areas, few trained personnel, and limited to non-existent supplies and infrastructure. The following paragraphs outline the current response network, existing and potential facilities, and needed equipment and equipment cache sites. Detailed personnel and facility resource information is available in the Regional Annex, a separate document maintained by NMFS, and Appendix 2 - Arctic Marine Mammal Resources for Disaster Response:

Table 1	Alaska Marine Mammal Stranding Agreement Holders
Table 2	Groups with Arctic Marine Mammal Handling Experience and Behavior Experts
Table 3	Resources Available for Marine Mammal Rehabilitation
Table 4	Potential Facilities for Response Activities
Table 5	Veterinarians with Arctic Marine Mammal Experience

The details of preparedness capabilities will be addressed in the following subsections. In summary, most supplies/equipment will be cached in the hub communities: Nome, Kotzebue, and Utqiagvik (formerly known as Barrow), and smaller caches of equipment will be stored in outlying communities (see Appendix 4 - Equipment Lists). These equipment lists were developed to meet the

NMFS response standards (NMFS 2017) to enable responsible parties to cache enough equipment in the hub communities to respond to 50 dead pinnipeds, 50 live pinnipeds, and five live or dead cetaceans. Alaska Clean Seas (ACS) has some wildlife response equipment cached in their facility in Deadhorse, Alaska; a description of their facilities potentially available for marine mammal response is listed in Appendix 2 - Table 4. Any non-member use of this facility would need to be authorized by the ACS Board of Directors, and/or the specific company where the facility is located. Other potential facilities for response activities have been identified in the hub communities (Appendix 2 - Table 4), and conditions for establishing temporary facilities in the outlying communities presented in the Temporary Facilities section of these Guidelines. Permanent rehabilitation facilities and their capacities are in Appendix 2 - Table 3.

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. Very few members of the AK Stranding Network have the required and recommended training for oil spill response, nor do the community members who will likely be volunteers during an oil spill. The Regional Annex, and Appendix 2 - Tables 1, 2, and 5, outline contact information for potential personnel.

In Alaska, local coastal community members are the experts on the marine environment in their region. They are generally the most 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.

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 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: This is a very important issue in the Arctic and NMFS recommends that all non-local personnel who will be deployed to Arctic Alaska 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 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 cultural sensitivity (e.g., carcass collection, disposal, etc.).

Table 3: Required and recommended training for oiled marine mammal personnel

Personnel Type	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	R	R
Network Member Director	R		R	R	R	H					R	R	R
Response Management	R		R	H	R	H	R	R	R	R	R	R	R
Collection Area Lead/Staff	R		H	H	R	R	R	R				R	H
Field Processing Area Lead/Staff	R		H	H	R	R	H	H		R		R	H
Facility Processing Area Lead/Staff	H	R	H	H	R	H		H	H	R		R	H
Primary Care Area Lead/Staff	H	R	H	H	R	H		R	R			R	
Secondary Care Area Lead/Staff	H	R	H	H	R	H		R	R			R	
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 (NOAA 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, workers should wear approved PPE appropriate to their task. Some examples follow:

Recommended/Required PPE

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

Potentially Required PPE Depending on Assignment

- ✓ Ear protection (muff or ear plug type) when using pyrotechnic devices, operating machinery, or flying in small planes/helicopters
- ✓ 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

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.

Marine Mammal Facility Requirements

General Considerations

The size of the spill, the 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 of 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. 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 in remote communities must prioritize resources for the residents of each community above response activities (e.g., demand for fresh drinking water). Rehabilitation of live cetaceans that are rescued during a disaster response will be even more logistically difficult than pinniped care. Depending on the size and health of the cetacean, euthanasia may be considered if rehabilitation is not practicable.

There are published standards for the design of facilities housing marine mammals in captivity; these are covered in Chapter 3 of the National Guidelines.

Alaska Facilities for Pinniped Rehabilitation

Permanent Facilities

Currently, there are only two permanent marine mammal facilities in Alaska with the capacity to house pinnipeds. The Alaska SeaLife Center (ASLC), located in Seward, and the Alaska Zoo, located in Anchorage (see Appendix 2 - Table 3: Arctic Marine Mammal Resources for Disaster Response for contact information, and capacity). The ASLC also has capacity to house small cetaceans.

The ASLC is Alaska's only public aquarium and ocean wildlife rescue center. 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, rehabilitation, and release of live oiled pinnipeds as well as disease investigation (ASLC 2014). At present, the ASLC has the ability to accept up to 20 de-oiled pinnipeds on short notice, and manage up to 100 at its facility in Seward. This number is primarily limited by current staffing levels. Rehabilitation time for weaned or mature animals is expected to be relatively short (about three weeks), whereas pups require longer (up to three months). In the event of a large scale, prolonged event, ASLC has the ability to convert additional

areas for rehabilitation and ramp up staffing levels through cooperative agreements with individuals from other Association of Zoos and Aquariums-accredited facilities. ASLC is in the process of developing and acquiring the equipment suitable for handling and cleaning oiled animals; this equipment could be set up on site in Seward or deployed closer to the affected area. The ASLC is a Stranding Agreement holder, and holds a rehabilitation permit for species under NMFS's authority from the MMHSRP.

The Alaska Zoo has provided homes 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 has existing infrastructure capacity to dry hold 22 pinnipeds. With a week to prepare, the Alaska Zoo could increase their capacity to dry hold at least 50 pinnipeds.

Most species of small pinnipeds (harbor, ringed, spotted, and ribbon seals) are good rehabilitation candidates at any age. Young of the year and yearling walruses, Steller sea lions, and bearded seals can also be managed well for rehabilitation. Rehabilitation of older animals of these species is challenging because of their size and behavior and could only be considered on a case by case basis.

Temporary Facilities

There are many requirements and consideration for housing pinnipeds which are discussed in depth in Chapter 2 of the National Guidelines. Suitable temporary facilities could be established in most places where basic heat and light, fresh water, and an enclosure safe from predators was provided. In the major hubs in each region, there are warehouses and other enclosures (e.g. conex containers) that could be outfitted for these purposes on a short-term basis and are outlined in Appendix 2 - Table 4: Potential Facilities for Response Activities. There are likely other facilities that could house pinnipeds in these the hub 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 resources, such as the water supply for community residents (see Chapter 3 for a flow chart that incorporates these community considerations into rehabilitation decision making). A wider variety of temporary facilities can likely be found or made for response activities such as necropsy and sample storage; power availability is the limiting factor and can be remedied with generators (see Appendix 2 - Table 4: 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. These MTREs can be deployed with trained staff to remote communities for use in areas without other available infrastructure. As of this writing, the ASLC owns two of these units (located in Seward, Alaska), and two additional units are owned by ACS and located in Prudhoe Bay (Appendix 2 - Table 4: Potential Facilities for Response Activities). Each unit can hold between 2-3 ringed, ribbon, or spotted seals, or 1-2 young of the year walrus, Steller sea lions, or bearded seals. Total capacity if the four MTREs were deployed together would be ~12-16 seals, for 4-12 weeks of

total care. The MTREs are designed for wet holding. If necessary, more seals may be held temporarily at the site in dry holding containers, such as fish totes and dog kennels, or in secure facilities with no pools, such as garages or other structures. *In situ* rehabilitation capacity would require one week of time to organize, transport equipment and personnel, and setup onsite.

While some affected animals could be housed in MTREs or other existing structures, others could be transported to hub communities with available facilities, or to permanent facilities (ASLC or Alaska Zoo). Any large scale or long term effort would also require additional personnel to care for the animals.

Equipment and Supplies

Oiled wildlife response is a specialized field and, as such, requires certain equipment and supplies to accomplish it safely and 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 marine mammal target readiness level in Arctic Alaska is to have enough equipment and supplies cached in each hub community to be able to sample and store 50 dead pinnipeds, several dead cetaceans, and rehabilitate 25 live pinnipeds; sample and store five dead pinnipeds and one dead cetacean in each outlying community.

While no equipment and supply list is complete and comprehensive, Appendix 4 includes the items needed to meet the target preparedness level for the Arctic, listed by response activity (e.g., collection of external oil samples, field rescue, necropsy, carcass collection, and rehabilitation), and the location of the response (e.g., hub community vs. outlying community). There are very few supplies currently available in Arctic Alaska to respond to marine mammals affected by an oil spill (Appendix 2 - Table 4). In addition to the equipment needed for these activities, responders should be aware that most communities will have limited to no housing facilities, and limited fresh water or food supplies for responders; as such, they should plan accordingly and bring necessities with them.

Response

The following is a brief overview of how pinniped/cetacean response operations are expected to occur for spills in the Alaska Arctic. 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/city governments, local SA holders, and co-management groups should be notified about the potential impact to their trust resources. The NMFS Regional Stranding Coordinator (RSC) may receive the notification via NOAA's Scientific Support Coordinator (SSC) or other point of contact. The AK Stranding Network and their designees will be mobilized via coordination with the Wildlife Branch Director (WBD) and the RSC (the RSC may be assigned to the WBD role in the ICS).

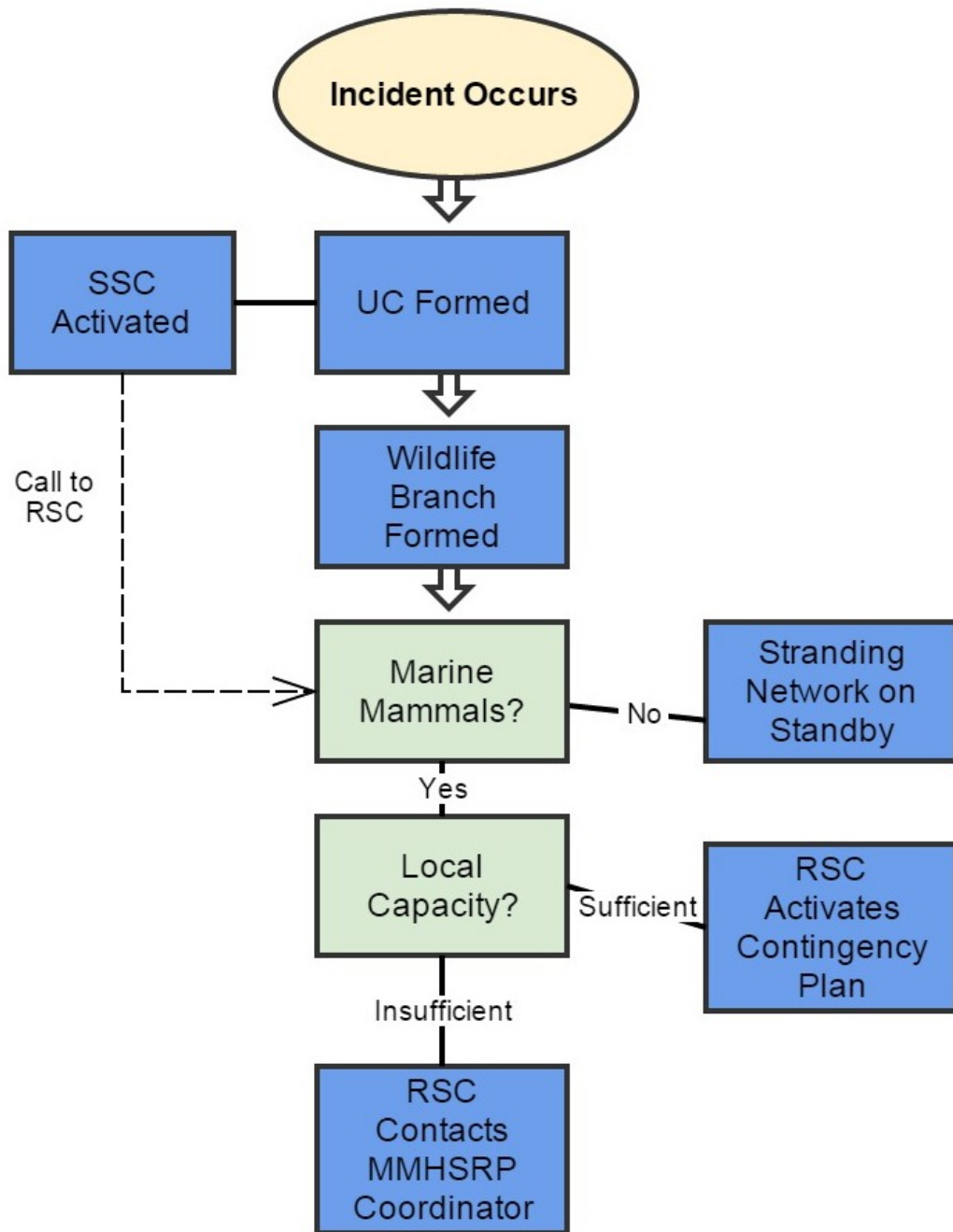
In event of an oil spill or other Federalized disaster incident, the ICS will provide the on-scene management structure that guides response efforts. This structure includes a Unified Command (UC) including designation of a FOSC from the USCG (for spills occurring in marine waters) or the

EPA (for spills occurring on land and inland navigable waters), a SOSC, and a Responsible Party Incident Commander (RPIC). The ICS typically also includes four sections:

- **Planning section:** responsible for developing the incident-specific 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, spill response, tracking resources, and documenting response effort.
- **Operations section:** conducts tactical operations to carry out an IAP; directs resources
- **Logistics section:** provides the resources, support, and services to the IAPs
- **Financial section:** monitors costs related to the incident.

Wildlife agencies provide recommendations to the UC including prioritization of the resources at risk. 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 must have the approval of all appropriate wildlife trustee agencies and the UC before being initiated ([Figure 6](#)). 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 6: 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, deterrence, capture, and care) usually occurs within the Wildlife Branch, which works under the Operations Section. The NMFS RSC may be the Director or Deputy Director of the Wildlife Branch. Some actions that are related to wildlife, or can help inform wildlife response efforts, occur in the Environmental Unit of the Planning Section (e.g., identification and prioritization of resources at risk, emergency ESA Section 7 consultation, Geographic Information System (GIS)/mapping, provision of trained wildlife observers on response equipment, and collection of shoreline information). Guidance for dealing with oiled wildlife is not specifically provided in the NCP; therefore the Wildlife Branch operational plan is developed uniquely within each Regional and Sub-Area Contingency Plan based on the specific local resources and agency involvement. Under the direction of the WBD, the principal objectives of the Wildlife Branch are typically to:

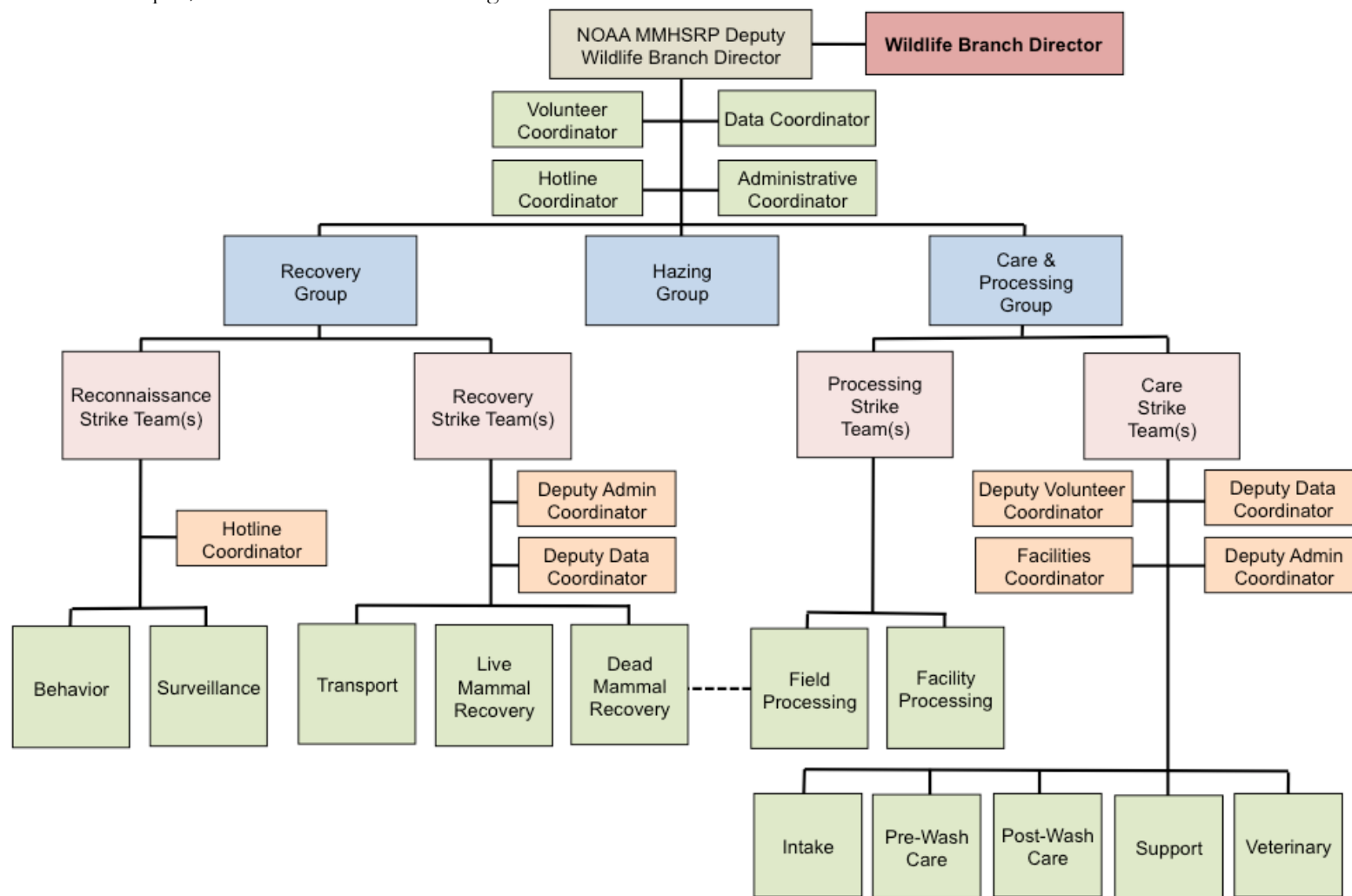
- Conduct all operations in a safe manner for people and animals;
- Minimize injuries to wildlife and habitats from the contamination;
- Minimize injuries to wildlife and habitats from the cleanup effort;
- Collect all data, samples, and animals in a legally defensible manner;
- Document for the UC (and 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 vary considerably 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 conditions. 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 preparedness are planned for based on extent of needed response. The National Guidelines covers the tiers in depth, but briefly, these tiers are broken down in the following manner:

- Tier 1: Spills that only have a local impact and require only local resources;
- Tier 2: Spills that have national significance, and require resources from within that nation; and
- Tier 3: Spills that have international significance, and require resources from multiple countries.

[Figure 7](#) 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 7: Tier 3 Pinniped/Cetacean Wildlife Branch Organizational Chart



Cited from: National Guidelines (NOAA 2015)

Pinniped and Cetacean Operations During an Oil Spill

For effective coordination within the overall spill response ICS (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 trained people can successfully fill all of the necessary roles. 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 NMFS 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 Responsible Party (RP), the regional capacity of the AK Stranding Network, whether a Pinniped/Cetacean Group is needed 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 may also effectively fill this role. 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, 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 arrive at participating facilities independent of the coordinated 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, and all metadata must be maintained. For an overview of these forms, refer to Chapter 3 of the National Guidelines.

Undeclared 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 undeclared 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 an undeclared event, NMFS will likely be communicating directly with stakeholders, SA holders, and communities regarding NMFS's trust species; **refer to the NMFS-Led Disaster Response Undeclared Oil Spill Events section for protocols to follow during an undeclared 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 oiled in the first place. After a spill happens, direct oil clean up efforts (i.e., “primary” response efforts), such as deflection booming, skimming, dispersants, and *in situ* burning (which reduces the amount of the oil product in the environment) can minimize the risk of animals being oiled. “Secondary” response efforts that can minimize injury to wildlife by keeping animals away from oil and/or cleanup operations, can be effective in preventing species from becoming oiled and requiring rehabilitation. Deterrence is a secondary response effort that can be effective, but can use potentially dangerous materials (e.g., pyrotechnics, sound generators, propane cannons), that require incident-specific authorizations. Deterrence methodologies for marine mammals have not been formally studied in Alaska. Additionally, deterrence actions only are effective when there are safe locations to drive animals to. Marine mammal deterrence also typically requires 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 contains detailed descriptions of the hazing/deterrence group personnel and organization, safety, documentation, and available procedures (see [Figure 7](#) Tier 3 Pinniped/Cetacean Wildlife Branch Organization). 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 plan that exists for NMFS-managed marine mammals is for killer whales, and was developed for the Puget Sound, WA area. The development of deterrence/hazing protocols is an iterative process requiring extensive collaboration within NMFS, other scientific agencies, and Alaskan stakeholders such as the co-management groups, other ANOs, and Arctic communities. To facilitate this process, NMFS has begun discussions with the several co-management groups, and regional entities in the hub communities, and also held a deterrence workshop to identify possible hazing/deterrent techniques for bowhead and beluga whales (NMFS 2014).

Deterrence Authority

During an incident response, deterrence of species under NMFS's authority may proceed only with proper authorization from the NMFS RSC. For non-ESA-listed marine mammal 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 or volunteer groups. Certain groups can be pre-authorized to deter animals using pre-approved techniques and authorized under an MMPA/ESA permit, but will need a trained marine mammal observer on vessels to insure deterrence is effective. MMPA Section 109(h) does not authorize deterrence of ESA-listed species; the NMFS RSC will need to give that authorization verbally.

Personnel

If deterrence was authorized via the RSC/MMHSRP, experienced personnel should exclusively staff the Deterrence/Hazing Group who have proper training in the use of required deterrence/hazing 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 Leader, and to the UC as needed. In addition to personnel listed below, Alaska Native subsistence community members have developed techniques to influence the direction of cetaceans and pinnipeds. The marine mammal co-management groups can identify local experts who should be paired non-local Deterrence/Hazing Staff to integrate their expertise with the authorized activity.

The following list of local personnel should also be incorporated into the Deterrence/Hazing Group:

- 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 likely to be in the area, or are observed in the vicinity of a spill event, the deterrence/hazing team should be assembled to evaluate whether to develop a deterrence plan for those species.

Several different factors must be taken into account 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 and likely to be at risk?
- ✓ What is the life stage of the marine 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 cetaceans may not be possible.

Deterrence/Hazing Techniques

There are a number of potential deterrence 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. The deterrence methods recommended (if any) would be those that have the greatest chance of success depending on current conditions and information. The incident-specific deterrence plan should explicitly evaluate how deterrence measures might contribute additional risk to marine mammals and to subsistence uses of those marine mammals, and should outline mechanisms for minimizing risk. In addition to the techniques listed Chapter 4 of the National Guidelines, Alaska Native subsistence hunters have developed techniques to influence the direction of belugas, bowheads, and ice seals during their hunts; these techniques should be similarly evaluated, and only performed under the guidance of these local experts.

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 contain detailed information on roles and responsibilities, document descriptions, and detailed protocols that will be pertinent during larger events (see above [Figure 7](#) Tier 3 Wildlife Branch Organization). These Guidelines combine those processes into one chapter to fit the scenario mostly commonly expected to occur in Arctic 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 collection of appropriate data and 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 must also be evaluated for their potential to be culturally insensitive and/or impact subsistence practices. The most effective decisions will be achieved through inclusion of local stakeholders within the leadership structure and decision-making processes.

Due to the remote conditions and lack of infrastructure and personnel, most efforts will focus on the collection of dead marine mammals. Carcasses can be shipped for processing at NMFS-affiliated facilities, or field processed if animals are too large to ship or in an advanced state of decomposition.

Reconnaissance, Recovery, and Field Processing Authority

All handling of 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. Anyone can document the location and status of a dead or oiled marine mammal, 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 responders, bringing samples, carcasses, and other information to local organizations who pass it on to the state and federal agencies.

Members of the AK Stranding Network, specifically the local SA holder, will serve as the local lead (under direction from the DWBD and/or the RSC), with additional help coming from the AK Stranding Network, and other Regional Networks as needed, to ensure non-local responders use local knowledge respectfully and effectively. As discussed previously, local experts from the communities should also be involved, as they understand the complex and often dangerous environmental conditions, and 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 Organization
- Commissioners from co-management group(s) of the potentially affected species; Ice Seal Committee commissioners for recovery of live ice seals.
- Local tribal representatives (appointed by tribal government); additionally, the tribal government can suggest other 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. Additional species-specific sample collection/necropsy protocols may be available from the North Slope Borough Wildlife Management Division (e.g., bowhead whales).

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 organizations outlined in [Figure 8](#) 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 (one person may fill more than one of these roles). 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 9](#).

Reconnaissance activities will be combined with recovery activities for many response efforts in Arctic Alaska. In these situations, in addition to the procedures and needed resources listed in [Figure 9](#), 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 resources, procedures, and permissions for those activities.

Personnel and Equipment Resources

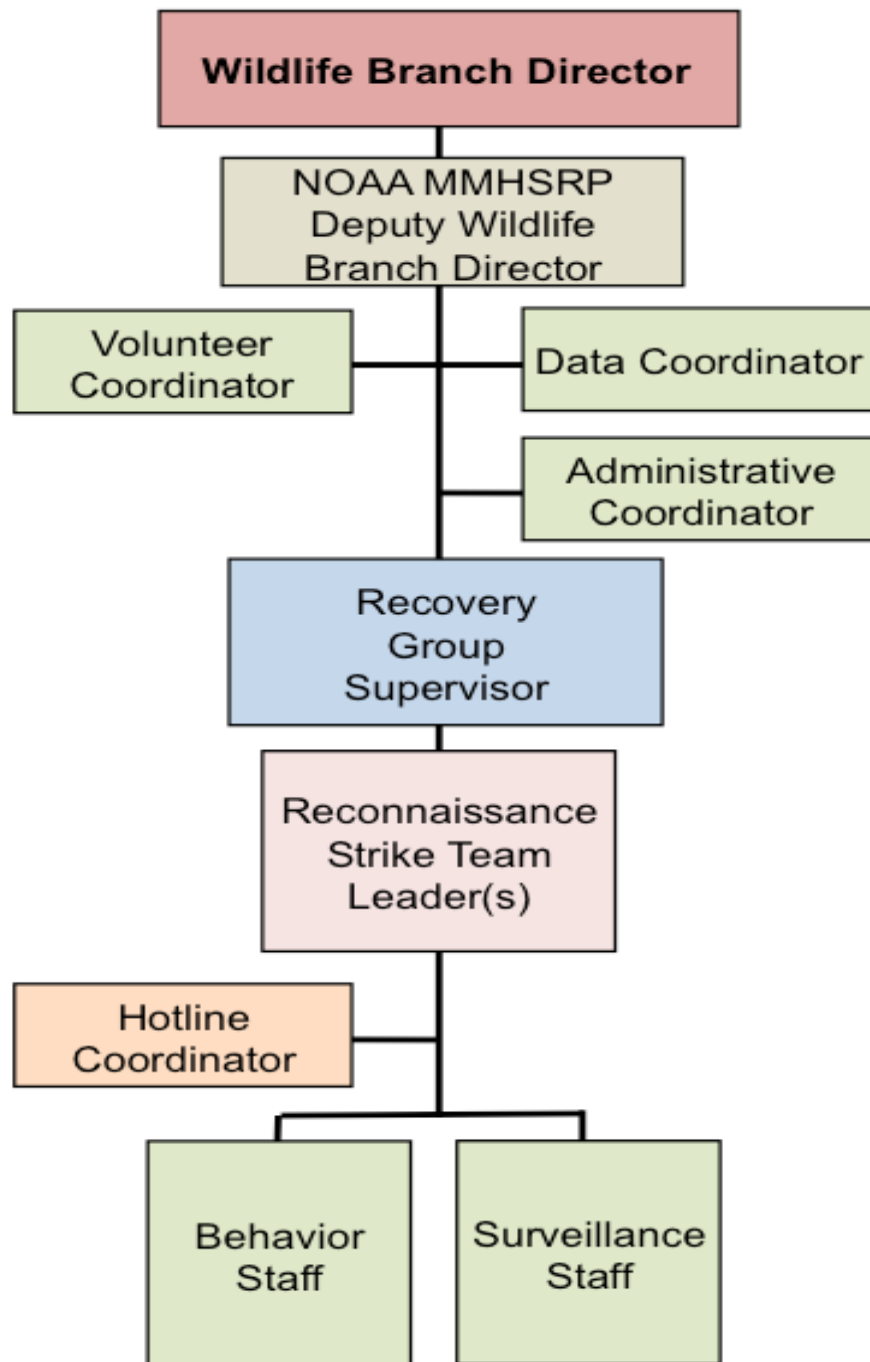
Reconnaissance Personnel: see the Regional Annex, and Appendix 2 Arctic Oiled Marine Mammal Resources, Table 1 and 2. **Team with local area expert on all reconnaissance activities:** ask local tribal government for recommendation (see Appendix 1)

- **Equipment:** Appendix 4, Equipment, Supply List for Reconnaissance

Documentation:

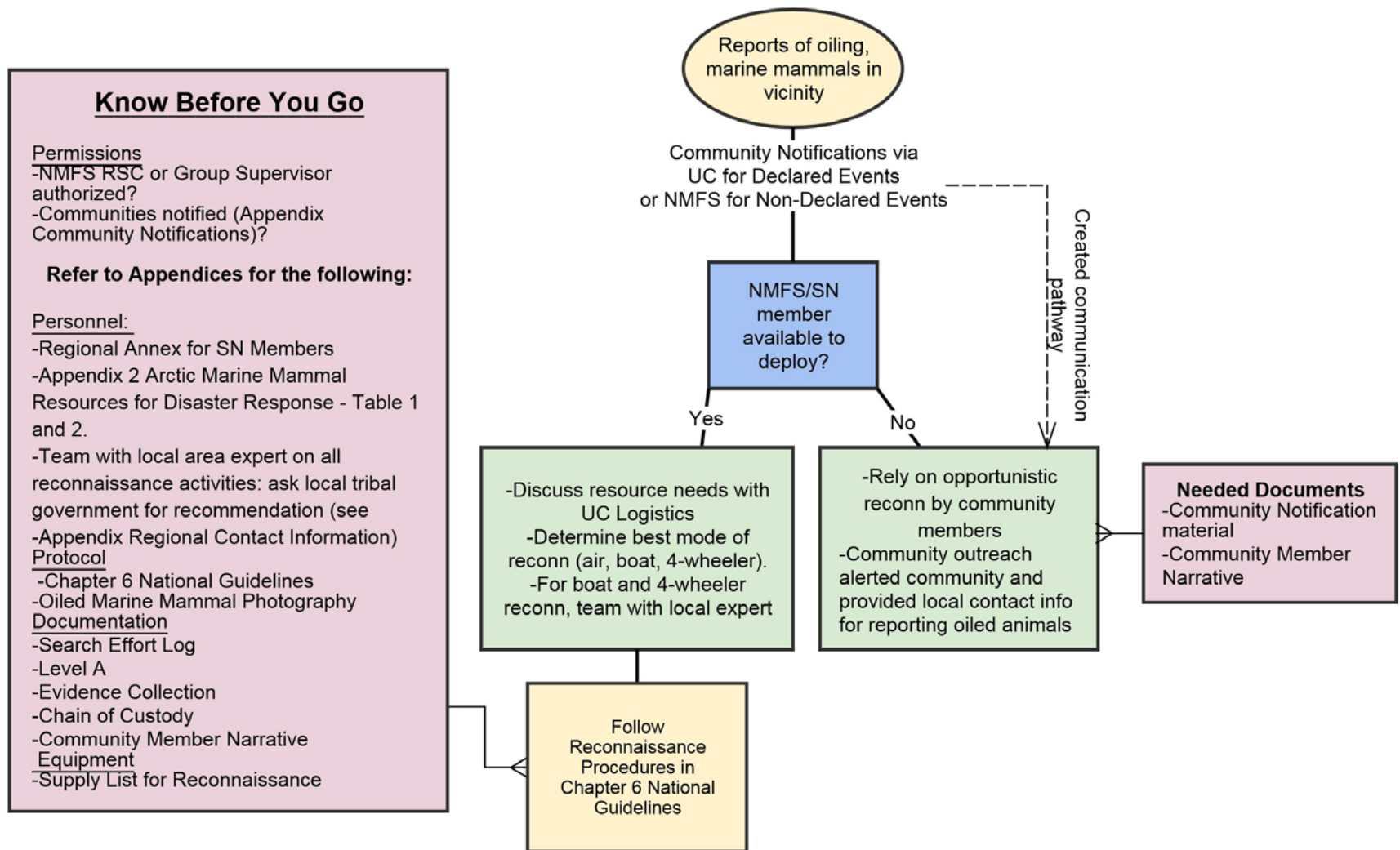
- Search Effort Log: Appendix 5-A
- Level A Data Form— if combined with Recovery: Appendix 5-B
- Oiled Marine Mammal Evidence Log— if combined with Field Processing: Appendix 5-G
- Chain of Custody— if combined with Field Processing: Appendix 5-C
- Community Member Narrative: Appendix 9.

Figure 8: Reconnaissance Strike Team Organizational Chart



Cited from: National Guidelines (NOAA 2015)

Figure 9: Reconnaissance Procedures



Dead Marine Mammal Recovery and Field Processing Procedures

Recovery Procedures

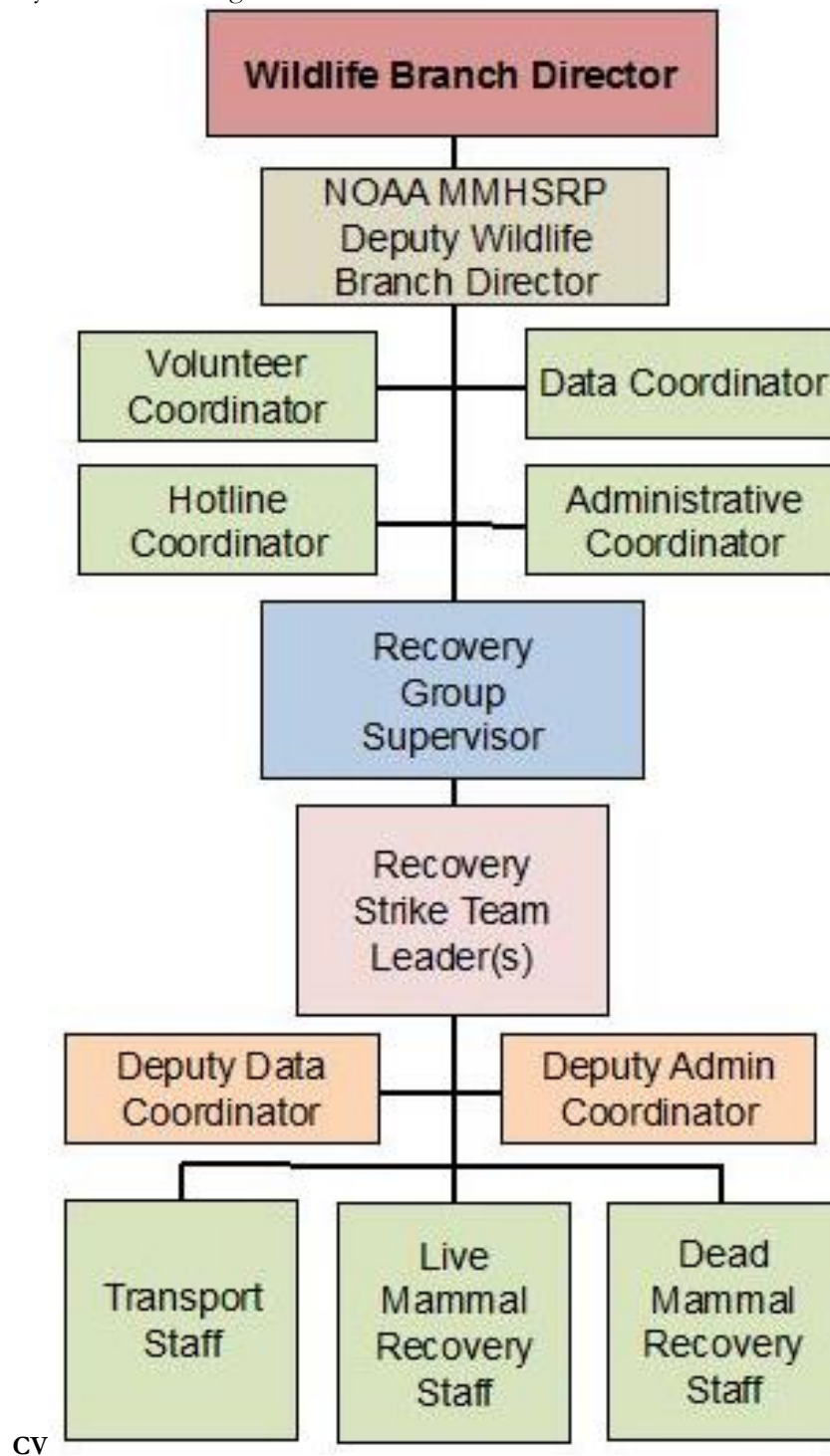
The collection or processing of all dead marine mammals, oiled or un-oiled, is important for an effective wildlife response and for Natural Resource Damage Assessment. Therefore, measures must be taken to ensure that **every marine mammal carcass, regardless of condition code**, is appropriately identified and documented (and ideally collected and not disposed of until approved by the trustees). Refer to Chapter 5 of the National Guidelines for detailed ICS roles and responsibilities, document descriptions, and recovery techniques. [Figure 10](#) outlines a division of labor for larger, ICS initiated 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 to an equipped facility to be processed (i.e., necropsied) by a veterinarian or experienced marine mammal necropsy personnel. 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 very large marine mammals (mysticetes, odontocetes, mature bearded seals, and Steller sea lions), or large numbers of small pinnipeds (greater than 10), collection will be logistically challenging, and field processing (i.e., necropsy and sampling) 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, facilities in the local or hub community may potentially be erected/adapted to necropsy and store samples with consent and collaboration from local communities (see Chapter 2 Facilities, Appendix 2 - Arctic Marine Mammal Resources for Disaster Response, Table 4 Potential Facilities for Response Activities).

If NMFS staff or AK Stranding Network members are unable to collect or sample oiled marine mammals, volunteer or paid community members, or other qualified and authorized organizations may be approved and guided (by NMFS authorized personnel) to assist in sampling and collection (see Appendix 12). 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 tribal government for appropriate disposal options (see Appendix 1). Carcass disposal options will be considered on an incident-specific basis. Some options include burning, burying, sinking, dumping in landfills *in situ*, or transportation and disposal in a larger community. 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.

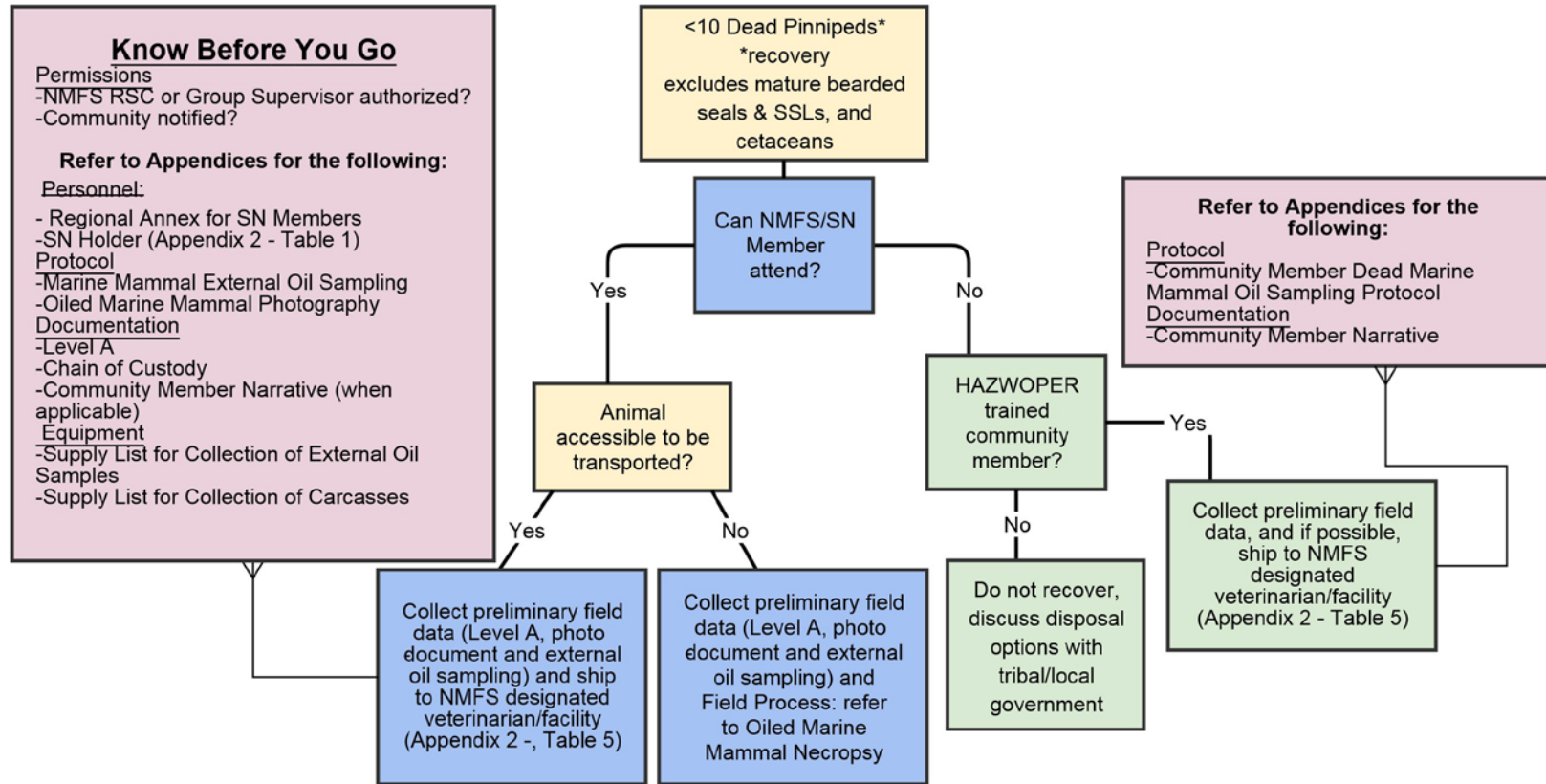
Decision Making: The decisions and processes involved in recovering dead pinnipeds will need to consider the number and size of animals involved, who is available to attend, where the animals are located (and subsequent transportation options), and available resources for recovery efforts. [Figure 11](#) and [Figure 12](#) outline decision pathways that incorporate these considerations.

Figure 10: Recovery Strike Team Organizational Chart



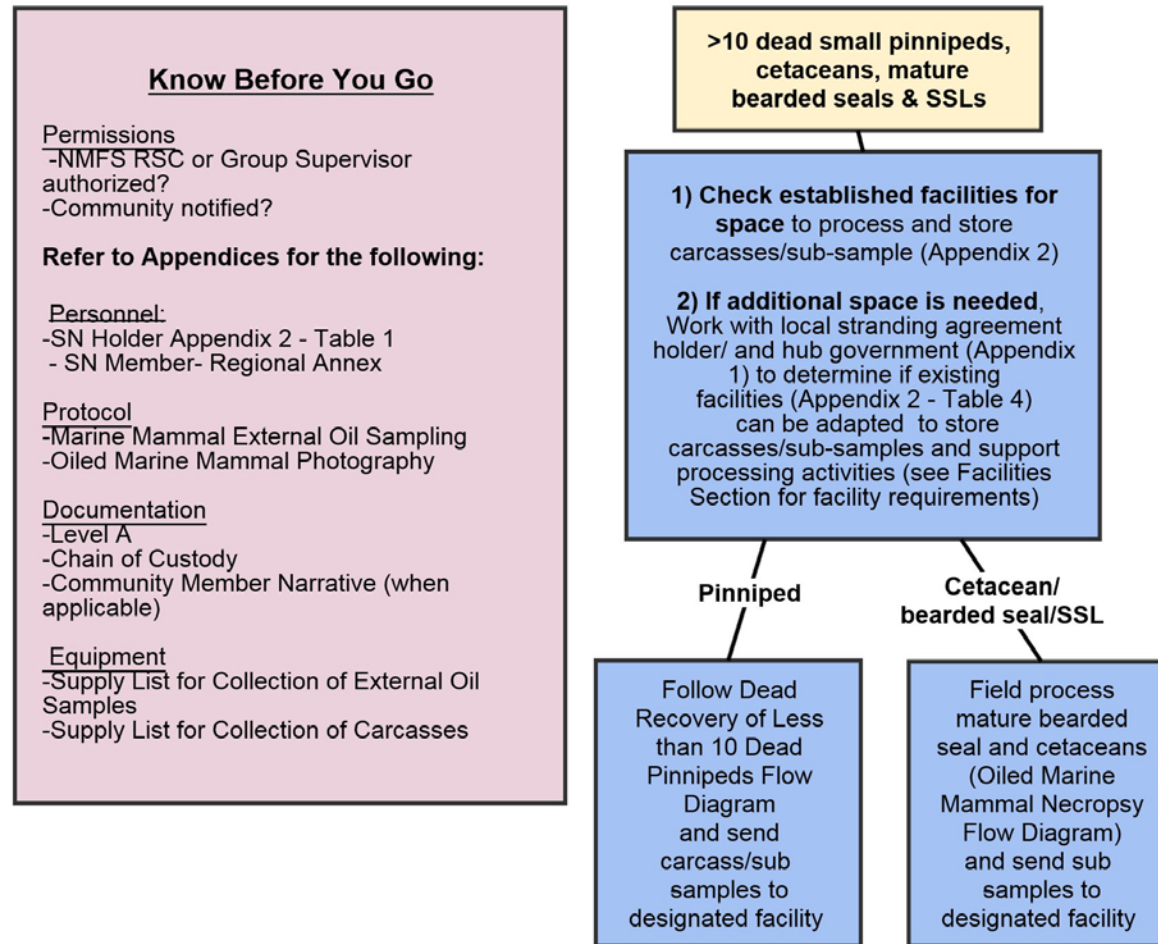
Cited from: National Guidelines (NOAA 2015)

Figure 11: Dead Recovery & Field Processing of Less Than 10 Dead Pinnipeds



SSL=Steller Sea Lion

Figure 12: Dead Recovery & Field Processing of More than 10 Dead Pinnipeds or Large Marine Mammals



SSL=Steller Sea Lion

Personnel:

- AK Stranding Network Agreement Holders: Appendix 2 - Table 1
- AK Stranding Network Members: Regional Annex

Protocol:

- Marine Mammal External Oil Sampling: Appendix 6
- Oiled Marine Mammal Photography: Appendix 11
- Community Member Dead Marine Mammal Oil Sampling: Appendix 12

Documentation:

- Level A Data Form: Appendix 5-B.
- Chain-of-Custody (CoC) Form: Appendix 5-C.
- Community Member Narrative (when applicable): Appendix 9

Equipment:

- Supply List for Collection of External Oil Samples: Appendix 4
- Supply List for Collection of Carcasses: Appendix 4

Dead Marine Mammal Processing

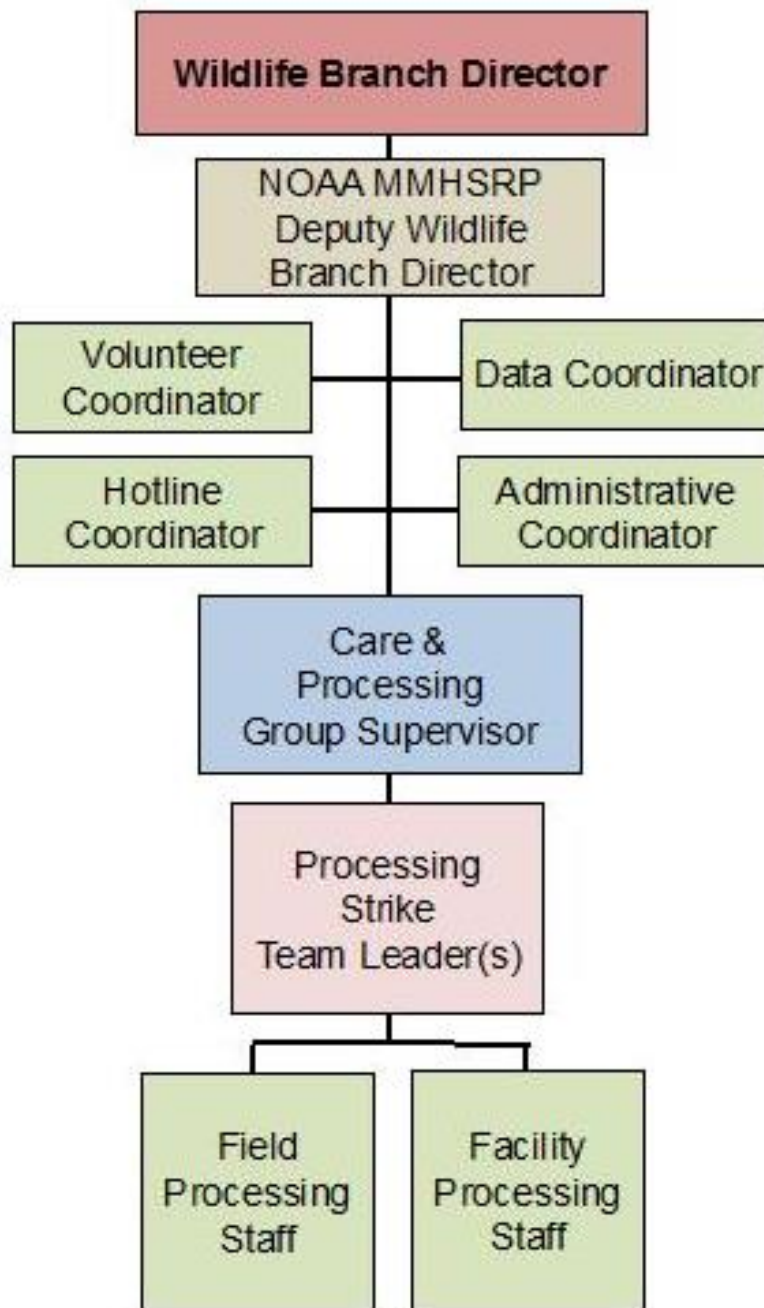
The response to all dead stranded marine mammals (as well as live mammals that die in care) during oil spill events will involve consistent sampling and, in many instances with dead mammals, complete necropsies. Chapter 7 of the National Guidelines outlines the importance of necropsy for documenting effects of an oil spill and refers responders to general necropsy methods, document descriptions, and ICS roles and responsibilities. [Figure 13](#) 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 is necessary). The ability to conduct a successful field necropsy, 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, with additional personnel to assist with the necropsy, removal, or burial of the carcass.

Personnel

Ideally, the 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. 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.

Figure 13: Processing Strike Team Organizational Chart



Cited from: National Guidelines (NOAA 2015)

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

Documentation

- Level A Data Form: Appendix 1-B.
- Oiled Marine Mammal Data Log- Dead Animals: Appendix 5-E
- NOAA's Photo Log: Appendix 5-F
- Oiled Marine Mammal Photography Protocol: Appendix 11
- Marine Mammal External Oil Sampling Protocol: Appendix 6
- Oiled Marine Mammal Tissue Sampling: Appendix 7
- Oiled Marine Mammal Necropsy Form: Appendix 8
- Community Member Narrative: Appendix 9
- Chain of Custody Form: Appendix 1-C
- Check with NSBDWM regarding Arctic species-specific sampling protocols

Equipment

- Supply List for Collection of External Oil Samples: Appendix 4
- Supply List for Collection of Carcasses: Appendix 4
- Supply List for Field or Facility Necropsy: Appendix 4

Necropsy Procedures

Depending on carcass condition and accessibility, three different levels of necropsies can be undertaken: full, limited, or 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, although samples may be collected.

- 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 (swab wrapped in aluminum foil following sampling) (Appendix 6 Marine Mammal External Oil Sampling Protocol)
- Internal: Organs and body fluids, focusing on bile collection for code 2 and early-code 3 animals (see Tissue Sampling Protocols, Appendix 7)

✓ Biotoxins/Pathogens

- Biotoxins: Feces, liver, urine, gastric/intestinal contents
- Pathogens: Lung, spleen, lymph node, plus additional samples if possible
- Histopathology (see Appendix 8)
- All organs

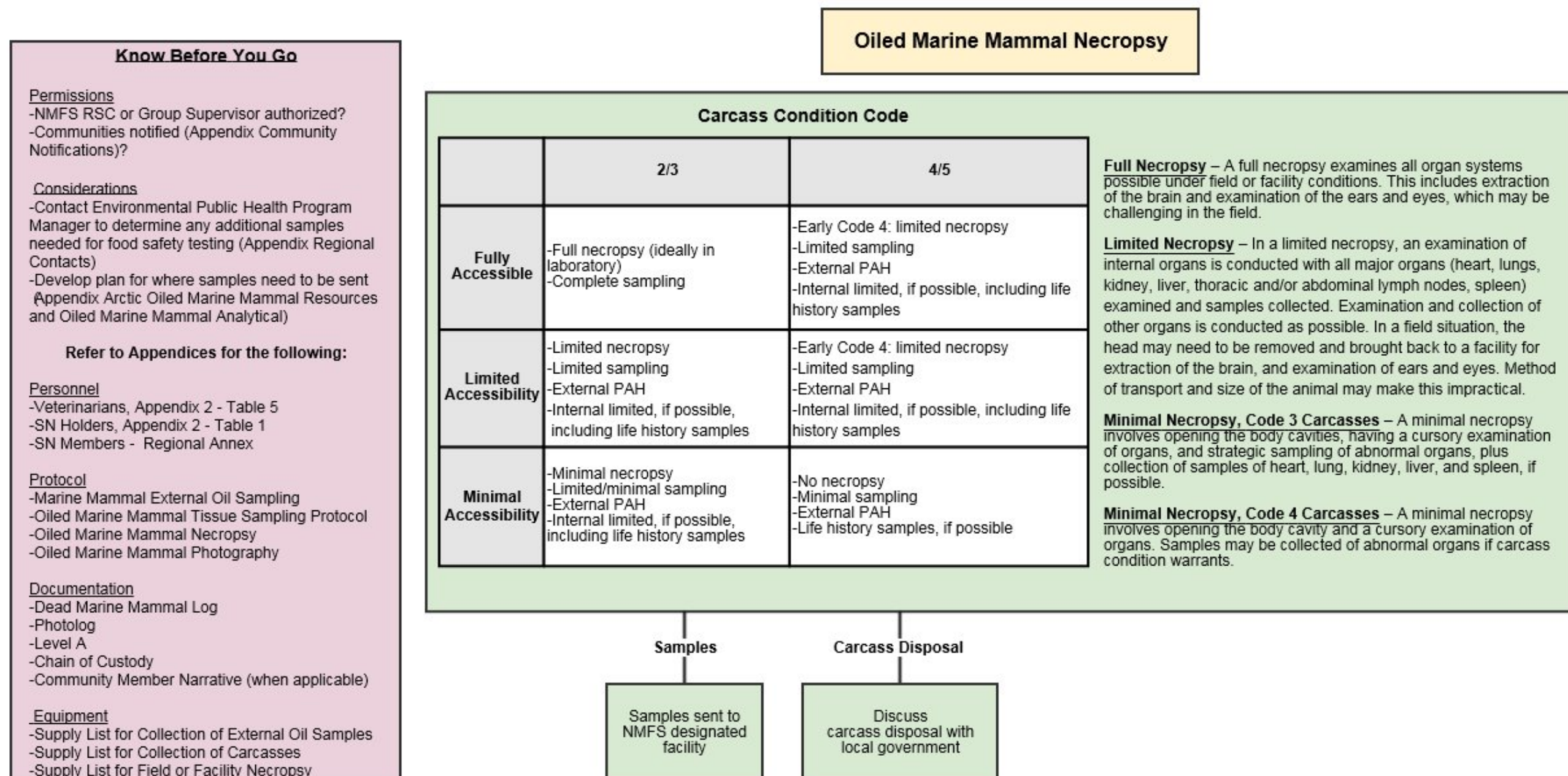
✓ Life History

- Skin
- Gastric contents
- Teeth (lower left mandible)
- Reproductive organs (testes/ovaries)
- Muscle
- Sampling for oil exposure must be performed under specific conditions detailed in Appendix 7 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 analysis of other materials from the spill. In any spill event involving marine mammals, NMFS should 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 includes NMFS-recommended laboratories with expertise in petroleum hydrocarbon chemistry that can be contacted for oil spill sample collection and analysis information. In an oil spill response, this information should be established and included as part of the Incident Sampling Plan.

The protocols, resources, and procedures needed for conducting necropsies on dead marine mammals are summarized in [Figure 14](#), 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 14: Necropsy Process Summary



Live Marine Mammal Recovery and Processing Procedures

Live Pinniped Recovery

The recovery and rehabilitation of live pinnipeds in Alaska poses significant challenges and considerations. As discussed in Chapter 2, Arctic Alaska has limited existing infrastructure and capacity to rehabilitate captured pinnipeds *ex situ* (~60 pinnipeds between the ASLC and the Alaska Zoo; likely only 20 pinnipeds could be placed permanently in facilities), few mobile units for *in situ* rehabilitation (12-16 pinnipeds over 4-12 weeks), and many of the temporary facilities that could be adapted/created to house pinnipeds will likely have other prioritized usage by communities. Although these facilities may have the capacity to rehabilitate captured pinnipeds, the actual number of pinnipeds accepted for rehabilitation will likely be determined by the number that can be permanently placed in captivity (for those seals deemed non-releasable). Given these considerations, only small numbers of pinnipeds could realistically be rehabilitated during an oil spill event.

Due to Alaska Natives' subsistence concerns, including food safety of rehabilitated animals, and the potential for rehabilitated animals to transmit pathogens to the broader wild population, it is the current policy of the NMFS MMHSRP that a captured oiled pinniped that has been rehabilitated outside of the region in which it was captured (*ex situ*) cannot be released back into the wild. Practically speaking, this means that any stranded pinniped that is taken from the Arctic regions of Alaska and transported to an offsite Stranding Network rehabilitation facility may not be released back into the Arctic. NMFS will consider this policy on a case-by-case basis in the event of disaster affecting marine mammals in Arctic Alaska.

During a disaster response, there are three potential outcomes for release of recovered and rehabilitated seals, 1) maintenance of this policy, which would result in pinnipeds rehabilitated *ex situ* being permanently placed in captivity (despite being releasable under NMFS National Guidelines following behavioral and medical assessments); 2) pinnipeds rehabilitated in the region where they were captured (*in situ*) **may** be able to be released [this option entails suitable local/regional facilities being established (see Chapter 2) and local stakeholders weighing in on subsistence food considerations]; or 3) a review or amendment to the policy for *ex situ* rehabilitation, following significant discussions with the local community to address concerns about food safety of animals that had been exposed to oil and any pathogen transmission. **Given the considerations listed above, *in situ* rehabilitation/release is the preferred option; the Decision Making section below outlines the criteria and processes involved in choosing between these three options.**

Personnel

All field staff involved in the capture of live marine mammals should have extensive previous experience. Individuals with wildlife experience (e.g., 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 2. 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.

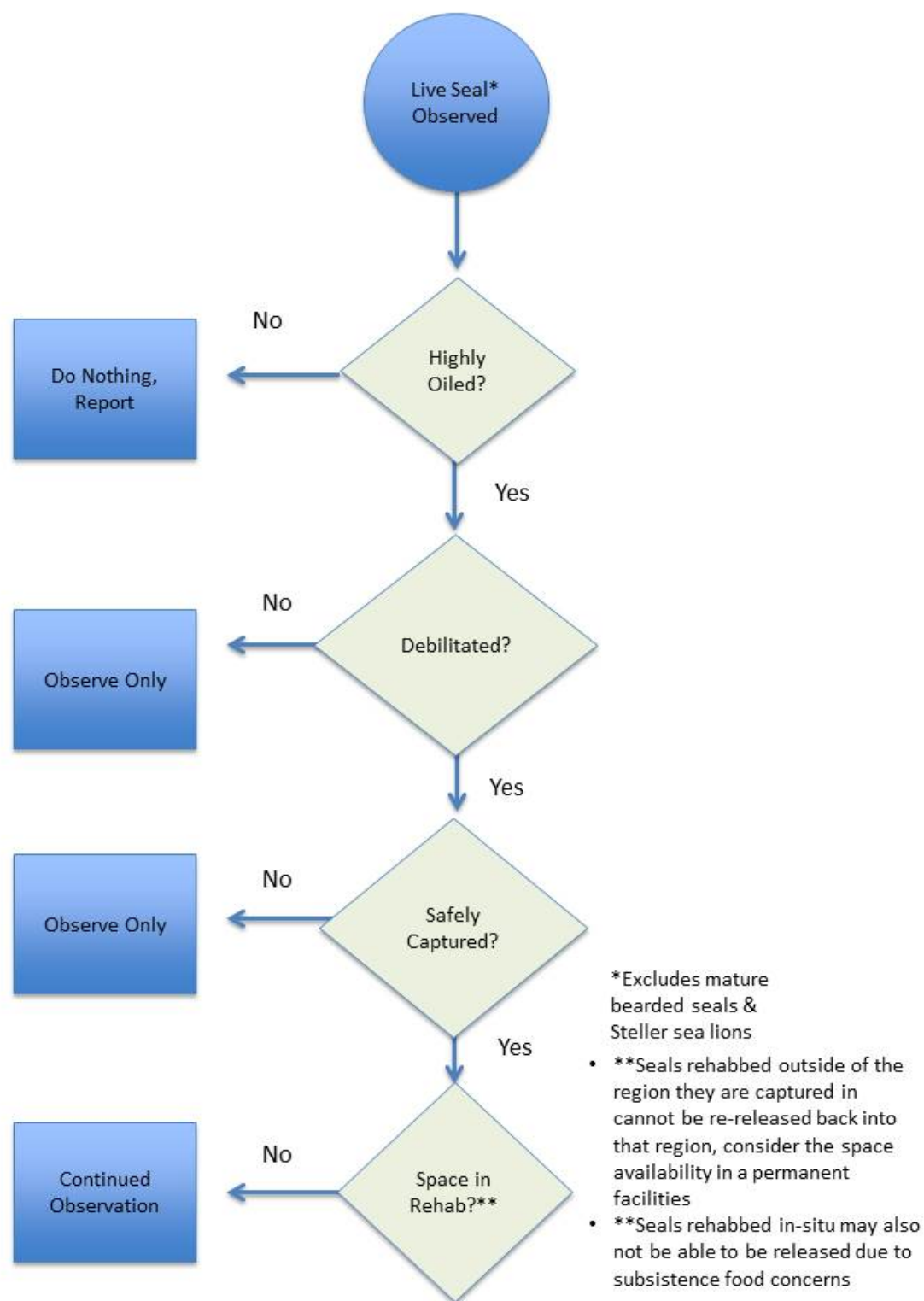
Decision-Making: Prior to the capture of an oiled marine mammal, a defined decision-making process should be followed ([Figure 15](#), Flow Diagram for Live Pinniped Capture During an Oil Spill), and the decision to capture marine mammals must be approved by NMFS (under the agency's Health and Stranding Permit 932-1905) and the appropriate level within the ICS (through the Wildlife Branch) prior to initiation. First and foremost, captures should only be contemplated if they can be performed in a safe manner for personnel as well as the animals ([Figure 15](#)). The potential benefits of capture of oil-affected mammals must outweigh potential negative consequences. 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 problems).

Additionally, as described above, both subsistence food concerns and resource limitation in coastal Arctic communities have bearing on the decision processes for rehabilitating seals. Given these considerations, *in situ* rehabilitation is the preferred action—current *in situ* capacity is 16 pinnipeds (i.e., MRTE capacity); if additional temporary facilities can be allocated in the region, more pinnipeds can be rehabilitated *in situ* (see Appendix 2 - Table 4). If *in situ* rehabilitation capacity is exceeded, the next preferred option is to *ex situ* rehabilitate up to 20 pinnipeds at the Alaska SeaLife Center as there is permanent placement options for 20 pinnipeds. When the *in situ* capacity and permanent placement options for recovered animals are exceeded, the third option is to either not recover affected pinnipeds or to *ex situ* rehabilitate animals (up to 90 pinnipeds between the ASLC and the Zoo) and release them back into Arctic waters. [Figure 16](#) outlines a pathway to incorporate these considerations into the decision making process for recovering seals.

Live Cetacean Recovery

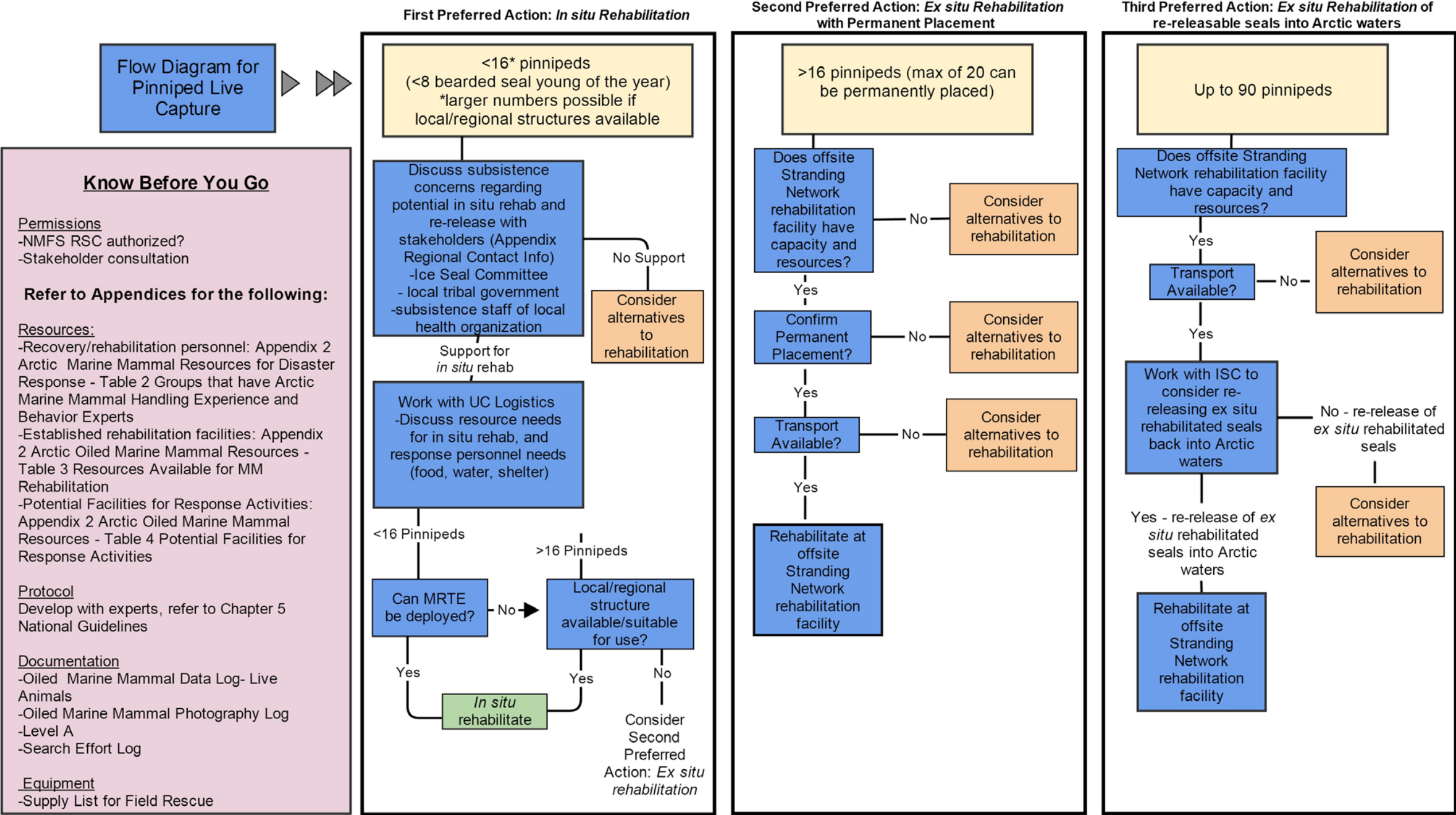
Capture of live, free-swimming cetaceans is not currently envisioned to be undertaken due to lack of equipment and trained personnel. Unless specifically authorized by NMFS, no non-debilitated/non-stranded live animals will be collected during spill incidents. Preemptive captures to prevent the oiling 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) at the direction of the UC and trustee agencies and when adequate transport and holding facilities exist. A decision to capture should consider such factors as sex, age, reproductive state, and size of individual animal, and their location with respect to other marine mammals.

Figure 15: Flow diagram for live seal capture during an oil spill



Acronyms: SSL = Steller Sea Lion

Figure 16: *In situ*/*Ex situ* Rehabilitation Matrix



Acronyms: MRTE=Mobile Rehabilitation and Treatment Enclosure, ASLC=Alaska SeaLife Center, ISC=Ice Seal Committee, SSL = Steller Sea Lion

Personnel, Facilities, and Equipment Resources

- ✓ Recovery/rehabilitation personnel, refer to—Appendix 2 - Table 2
- ✓ Established rehabilitation facilities, refer to—Appendix 2 - Table 3
- ✓ Potential facilities for response activities, refer to—Appendix 2 - Table 4
- ✓ Equipment, refer to Appendix 4 Equipment, Supply List for Field Rescue

Field Sampling/Documentation:

- ✓ Oiled Marine Mammal Data Log—Live Animals
- ✓ Oiled Marine Mammal Photography Log
- ✓ Level A
- ✓ Search Effort Log

Capture techniques and euthanasia procedures: Many excellent resources are available for effective captures techniques for the species in question. See the *CRC Handbook of Marine Mammal Medicine* (Dierauf and Gulland, 2001), chapters on Marine Mammal Transport (Antrim and McBain, 2001), Cetacean Medicine (McBain, 2001) and Seals and Sea Lions (Gulland et al, 2001) for more specific information. Chapter 5 of the National Guidelines 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 marine mammal. 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 or USFWS), the WBD, and the UC. Criteria used by the Northwest Marine Mammal Stranding Network can be found in Appendix 10, 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, necropsy, and carcass disposal following appropriate methods) is generally the preferred method for stranded marine mammal euthanasia. Due to subsistence food concerns and the potential for post-secondary scavenging, 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, euthanasia via ballistics will be considered in order to prevent the contamination of the food supply for community members.

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 their capture from the environment, 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 in earlier chapters, large-scale rehabilitation (i.e., hundreds of animals) of oiled pinnipeds in Arctic Alaska is not currently feasible. There are only two primary care facilities in Alaska able to care for oiled pinnipeds, each with limited capacity and resources: the ASLC, located in Seward, Alaska; and the Alaska Zoo, in Anchorage, Alaska (Appendix 2 - Table 3), both of which are outside the three regions discussed in this plan. Although these primary facilities could potentially accommodate ~120 oiled pinnipeds, *ex situ* rehabilitated seals are not presently releasable into their native waters, and permanent placement is likely only available for about 20 of these animals. For events involving 16 or less oiled pinnipeds, MRTE’s could be deployed for *in situ* rehabilitation. Greater numbers of pinnipeds could be *in situ* rehabilitated if other temporary care facilities were established in the hub and outlying communities (Appendix 4 Potential Facilities for Response Activities). For animals that require rehabilitation, responders should refer to Chapters 8-12 of the National Guidelines for detailed information regarding rehabilitative care of pinnipeds and associated personnel qualifications, necessary documentation, and 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 USC. 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’s trust species and may warrant a response effort by 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 response 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 NMFS’s trust species.

MMHSRP Authority

All disaster response activities involving NMFS’s 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 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 section

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 UMEs, non-declared oil spill events, and other non-declared disasters affecting NMFS’s trust species, NMFS may need to lead the disaster response effort. Similarly 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 JIC. The following sections detail the protocols for non-declared oil spill events and UMEs; other non-declared disaster events will follow the same or very similar communication and response protocols and so are not discussed separately.

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 without a spill being reported (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 may be important for subsequent response efforts.

Communities are often the main source of information regarding the event, and are the most seriously affected from the impacts of the event itself, as well as the ensuing response effort. Rural community members 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, carcasses, and 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 (or community point of contact if no SA holder in the area) to develop a communication plan for stakeholders in affected communities (Figure 17-Communication with Stakeholders during a 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) to determine how to best help the community accommodate response
- Development of a clear feedback loop of information regarding the event to/from community (see Appendix 13).

[Figure 17](#) outlines a response flowchart for non-declared events. These response efforts allow for reporting and sampling of individually oiled animals ensuring that critical information is shared in a time- and cost-sensitive manner. The protocols presented in [Figure 17](#) are discussed in Chapter 2.

Figure 17: Communication with Stakeholders during a Non-Declared Oil Spill Event

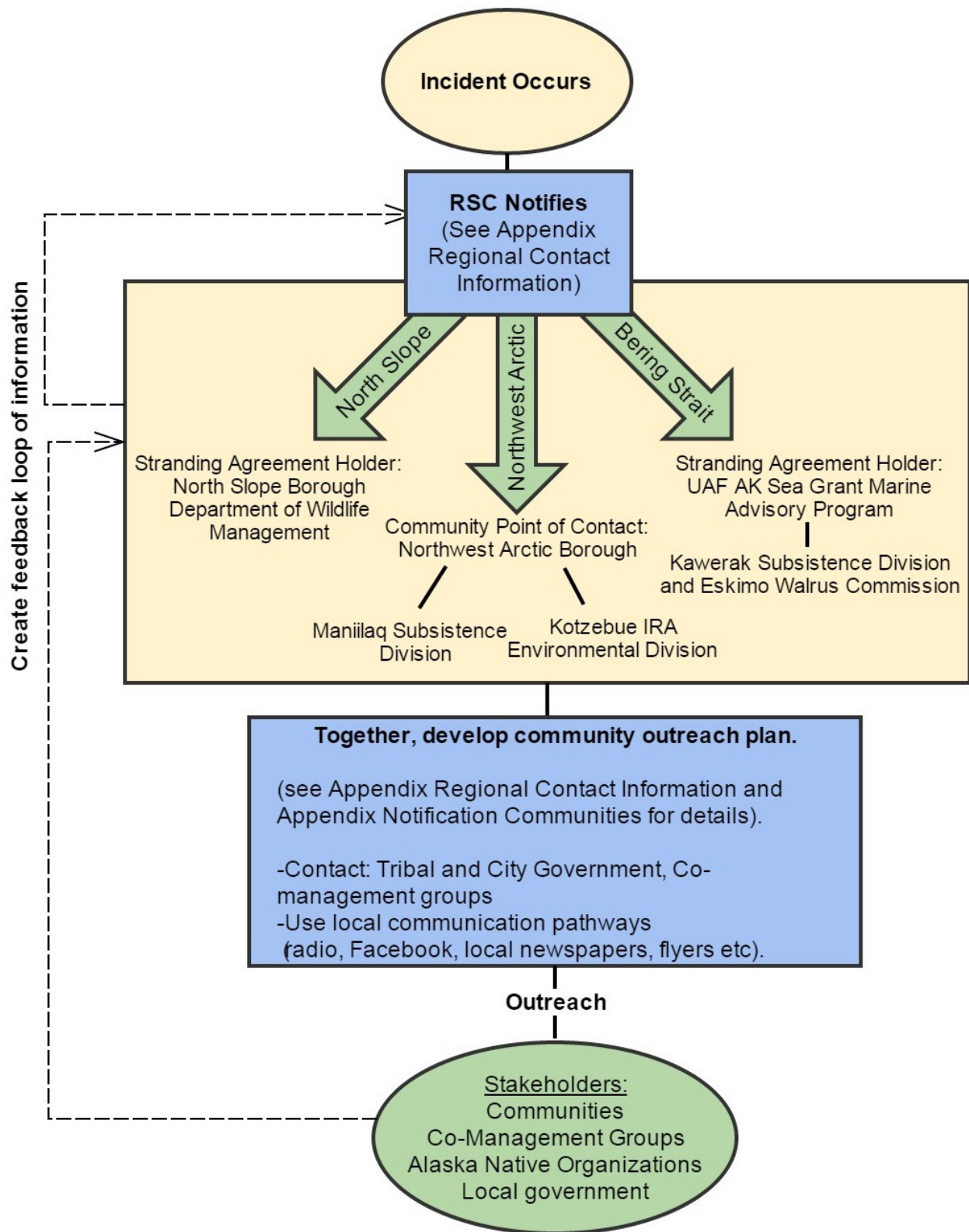
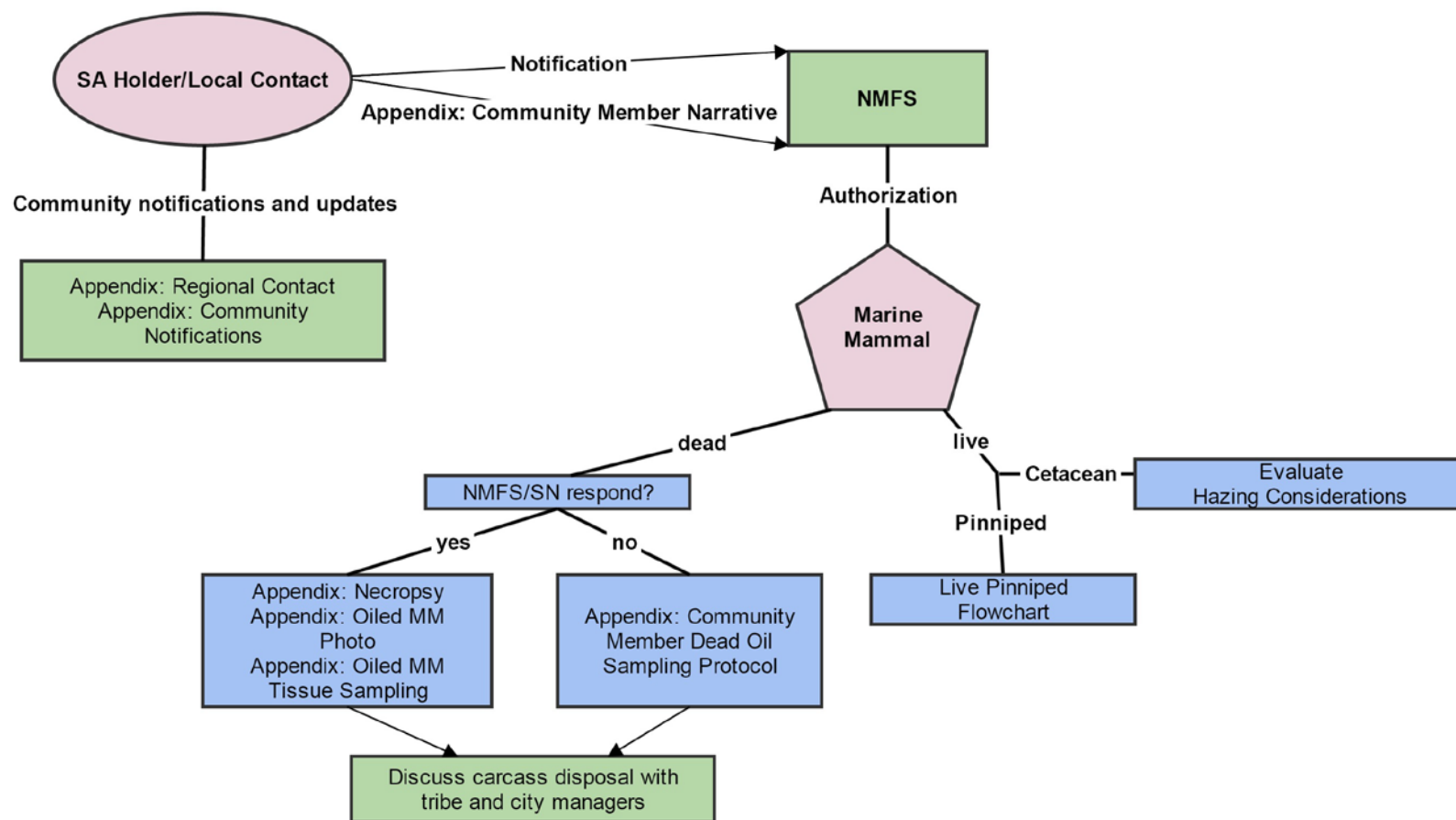


Figure 18: Non-Declared Oil Spill Response Flowchart



Unusual Mortality Events

Title IV of the MMPA requires the preparation of a contingency plan for response to marine mammal Unusual Mortality Events (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/disease. UMEs also vary in their characteristics. For example, the cause of the UME may be known or not known, or there may be live marine mammals requiring care or only dead animals observed.

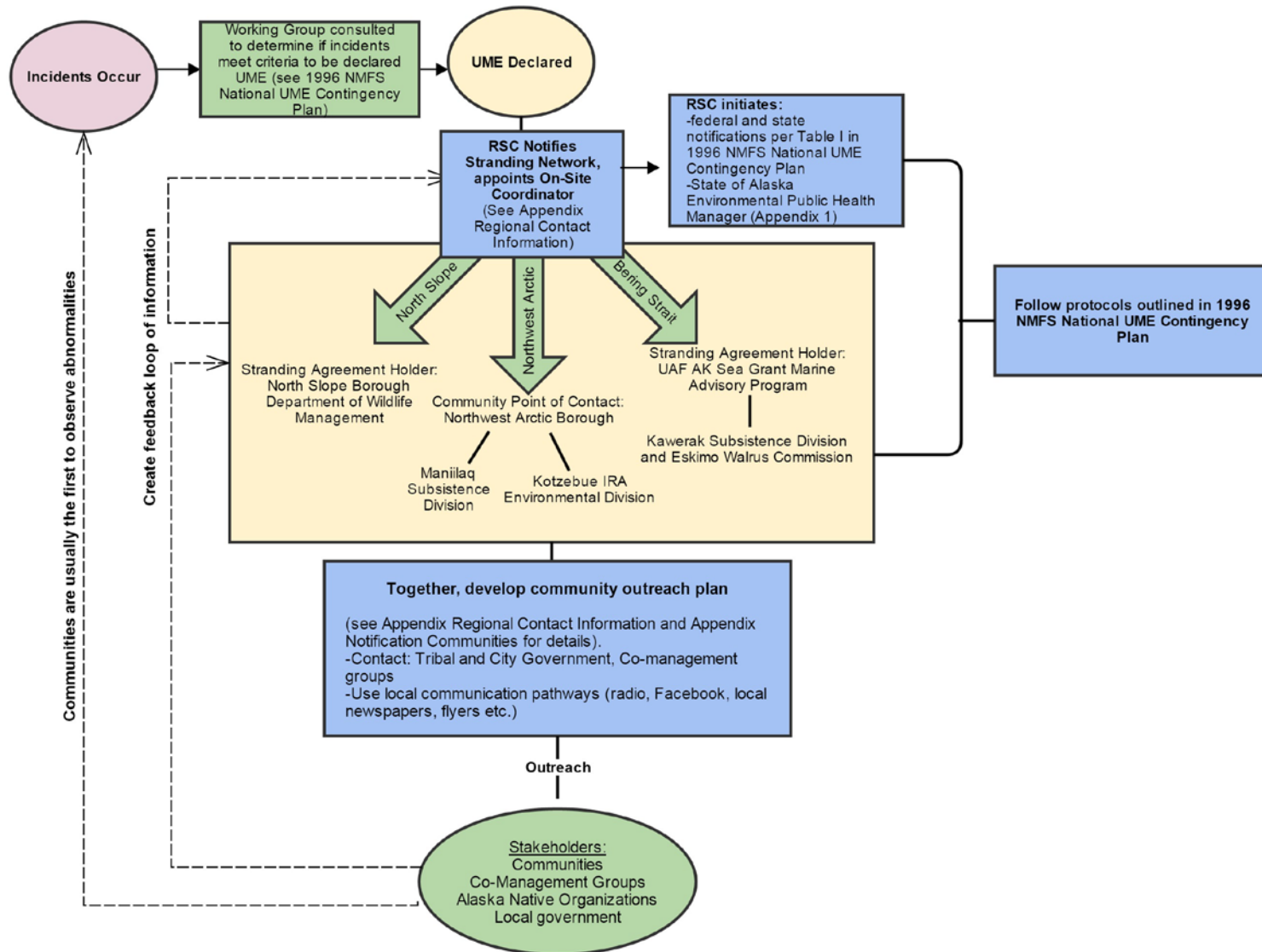
An UME is defined under the MMPA as "a stranding that is unexpected; involves a significant die-off of any marine mammal population; and demands immediate response." There are seven criteria that are used by an expert panel, the Working Group on Unusual Marine Mammal Mortality Events, to determine if a stranding event qualifies as a UME. In addition to an increase in the magnitude 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, advanced 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 Arctic Marine Mammal Disaster Response Guidelines ([Figure 1](#), [Figure 3](#), [Figure 4](#), [Figure 5](#), and [Table 2](#)). In responding to a declared UME, much of the structure detailed in these Guidelines 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 disasters discussed in these Guidelines, 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 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 19](#)). The On-Site Coordinator 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 1), 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 1. 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 or biotoxin is identified or suspected) given that marine mammals are a primary food source of coastal communities in Arctic Alaska (Appendix 1).

Figure 19: 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 in the Marine Mammal Subsistence section above, marine mammals are a primary 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 1 to identify needed samples for food safety testing, and also notify and continuously update communities about the event as described in Appendix 13 protocol. Although NMFS is not a human health organization, NMFS staff should stay informed about the food safety status, and facilitate communication to and from communities and the State Public Health Department.

Resources: Location and Utilization

The three regions and their associated waterways covered by these Guidelines span thousands of square miles, and have a very small human population 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 and governing these regions.

Equipment and Logistics

Few supplies and equipment needed for a UME response are located within the hub communities of Nome (Bering Strait) and Utqiagvik (North Slope) (Appendix 2 - Table 4). The supply caches that do exist are maintained by the local SA holders and are likely only adequate for a limited response (i.e., <5 pinnipeds). There are currently no supplies cached in the Northwest Arctic for UME response. The logistics of accessing the communities in these regions are discussed in the Facilities, Communication, and Services section. Grants are available for possible funding to acquire supplies.

Response and Investigation Protocols

Rescue and rehabilitation of live cetaceans affected by a UME are not currently envisioned to be undertaken in Arctic Alaska 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 wild marine mammal populations). In 2009, NMFS developed specific marine mammal rehabilitation facility guidelines (Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation, and Release; available at www.nmfs.noaa.gov/pr/pdfs/health/release_criteria.pdf) which set minimum facility, husbandry, and veterinary standards for rehabilitating marine mammals. These standards will be followed by the specialized staff at the rehabilitation facilities listed in Appendix 2 - Table 3. Necropsy and tissue sampling protocols and checklists for UME seals, baleen whales, and toothed whales are listed in Appendix 17, Appendix 18, and Appendix 19-UME Necropsy UME Seal. Equipment and supply lists are found in Appendix 20-Equipment and Supply for a Single Necropsy, Appendix 21-Epidemiology Supply List, and Record Keeping, and Appendix 15-Maintaining Chain of Custody.



U.S. Department of Commerce
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