Nome Marine Mammal Oil Spill Response Workshop

Nome, Alaska

University of Alaska Fairbanks, Northwest Campus, Educational Center

Friday; February 16, 2018

Final Workshop Report

June 2018

List of Contributors

Austin Ahmasuk, Marine Advocate, Kawerak
Gay Sheffield, University of Alaska Fairbanks, Alaska Sea Grant
Sadie Wright, Protected Species Biologist, NMFS Protected Resources Division

Contents

Preface

The Nome Marine Mammal Oil Spill Response Workshop was a co-hosted event by the National Oceanic Atmospheric Administrations (NOAA) National Marine Fisheries Service (NMFS) Protected Resources Division; University of Alaska Fairbanks, Northwest Campus; Alaska Sea Grant, and Kawerak, Inc. The NMFS Stranding Program responds to reports of oiled, dead, injured, or otherwise stranded marine mammals under NMFS's jurisdiction (e.g., whales, seals, sea lions). The goal of the workshop was to provide an opportunity for the NMFS Stranding Program to solicit regional community feedback regarding oil spill response and stranding events. Reported oiled wildlife and stranded marine mammals have been on the rise recently in the Bering Strait region. Local, regional, and national response and stranding professionals were invited to Nome to participate in the workshop. Village representatives (as Kawerak funds allowed) were invited to attend but inclement weather, cancelled air travel to Nome. This report will be shared throughout the Bering Strait region villages for review.

Marine mammals are vital to Alaska Native subsistence users as food resources, and provide a basis for indigenous survival for coastal peoples of the northern Bering Sea. Arctic marine mammals are iconic species that inhabit a largely pristine ecosystem and are currently the subject of considerable debate and management focus. Marine mammals face a number of potential stressors, including climate change and ecosystem changes[1], and impacts from oil spills[2]. This workshop provided the public with detailed information on incident command structure, effects of oil spills on marine mammals, and an overview of the Arctic Marine Mammal Disaster Response Guidelines. This workshop also provided an opportunity for NMFS marine mammal response staff to obtain community feedback. Visiting agency response personnel made tours of State, federal, and local facilities throughout Nome (i.e. Port of Nome; UAF NW Campus: Science lab, indoor/outdoor storage facilities, etc., National Guard hangar, etc. as possible areas to stage a response to a large oiling event offshore. There were detailed discussions regarding the unique issues with responding to a maritime disaster event in the Bering Strait region including but not limited to:

- Food security concerns re. marine mammals used for human consumption
- Public health issues re. How do you test for public health issues regarding the consumption of marine mammals. A discussion of who tests what.
- Baseline data
- Transboundary communications
- International dateline / border / time differences re. Shared populations of marine mammals
- Weather events / delays
- Remote logistics needed for response
- Limited infrastructure in the Bering Strait region regarding response…etc.

[1] Cohen, A.N., Dobbs, F.C., Chapman P.M., Revisiting the basis for US ballast water regulations, Marine Pollution Bulletin 118 (2017) 348-353

[2] http://dec.alaska.gov/spar/PPR/response/sum_fy13/121107301/121107301_index.htm

The Bering Strait region is biologically rich. In order to convey the history of strandings, Gay Sheffield of the University of Alaska Fairbanks, Alaska Sea Grant provided a synopsis of stranding events and ecological change for the period 2003 to 2017. The non-commercial harvest of marine resources remains essential to rural villages in the Bering Strait region. Reports of stranding events have been increasing and present significant challenges to responders because of remote logistics and weather issues. Marine mammal strandings are often utilized for human consumption in the Bering Strait region and due to increases in environmental and marine wildlife anomalies, strandings also result in concern for human health and food safety. UAF Alaska Sea Grant works with an extensive network of responders including the North Slope Borough Dept. Of Wildlife Management, U.S. Coast Guard, Alaska SeaLife Center, National Marine Fisheries Service, US Fish and Wildlife Service, Ice Seal Commission, Alaska Eskimo Whaling Commission, Eskimo Walrus Commission, and Kawerak's Subsistence Program.

Figure 1, Bering Strait

Climate change has contributed to unprecedented weather events and ocean conditions in the northern Bering Sea / Bering Strait region. Sea ice loss has caused warming events in the marine environment that are challenging to adapt to. There was concern regarding how possible recent novel marine mammal diseases and emerging environmental threats (ex. Harmful algal blooms) may elevate food security issues. Concerns about global industrial ship traffic associated with tourism, research, freight, resource development are expanding their routes into the Arctic[3]. The growth of industrial ship traffic increases the potential for impacts to local communities via harm or death to marine mammals via strikes, accidental discharges, collisions, behavioral impacts, or potential changes to the microbial environment in the ocean.[4] A number of recent maritime concerns were noted

Figure 2, Public Service Announcement regarding oiled seals and seabirds harvested during 2012 for human consumption in the Bering Strait region.

[3] https://www.rt.com/business/400620-russia-northern-sea-route-tanker/

[4] Cohen, A.N., Dobbs, F.C., Failure of the public health testing program for ballast water treatment systems, Marine Pollution Bulletin 91 (2015) 29-34

such as the grounding of the *Champion Ebony* (2016) near Nunivak Island[5] as well as the sinking of the *F/V Kapitan Bolsonovskiy*[6] *(2012) and F/V Oryung*[6] (2014) as potential sources of pollution and/or marine debris.

In analyzing what has helped to address concerns from local hunters and the scientific community during this period, four primary strategies were recommended:

1. Comprehensive Communications
    a. Local, Tribal, State/Federal
    b. Alaskan and Chukotkan
    c. Better understanding of Response Agencies protocols / needs of regional coastal communities
    d. Better understanding of subsistence communities concerns, practices, and needs by urban-based Response Agencies
2. Essential Media Updates
    a. Multi-lingual PSA's, Radio, Newspaper, Electronic Media, Face-to-face Meetings, Fliers, Phone, etc.
3. Adaptable Flexible Response Agency Leadership and communication structure
4. Collaborative effort to expand sampling / testing / reporting

There were unforeseen issues which frustrated response efforts during this period and these include:

1. Inexperienced responders
2. Unclear protocols for public health and food security
3. Unexpected concurrent events such as oil fouling and Avian cholera

Lessons learned and reported by Sheffield included:

1. Active maritime subsistence communities are most likely to discover spills, disease, etc. and alert regional hub partners.
2. Prevention, assessment, and response must be viewed in terms of public safety and food security concerns / risks.
3. Lack of regional scientific data does not mean lack of regional and traditional knowledge
4. The most effective response agencies are integrated with regional communication networks and communities' traditional knowledge holders.
5. Leadership adaptable to regional needs / concerns (e.g., Communications / Health concerns)
6. Ethically responsible to alert Chukotka regarding shared public health and marine wildlife concerns.

Recommendations to address environmental threats and responses are as follows:

[5] https://www.adn.com/alaska-news/2016/06/25/coast-guard-no-spill-in-grounding-of-tanker-carrying-fuel-to-southwest-alaska-villages/
[6]http://www.odin.tc/news/read.asp?articleID=907
[7]http://www.dailymail.co.uk/news/article-2855969/More-50-feared-dead-fishing-boat-sinks-Bering-Sea.html

1. Enhance the participation of existing regional hub communication networks: Local partnerships strengthen awareness and result in more effective response through integration of knowledge from response agencies' and traditional knowledge holders.
2. Regional / Community-based Surveillance and Response Training will lead to quicker response times, more collaboration, and better regional communications
3. Address public health / safety concerns and wildlife health concerns – including transboundary: Increased industrial maritime traffic poses serious food security / health concerns for communities that rely on non-commercial marine resources for nutritional, cultural, and economic stability – on both sides of the Bering Strait.

Arctic Marine Mammal Disaster Response Guidelines

The NOAA Arctic Marine Mammal Disaster Response Guidelines (AMMDRG) were finalized during 2017 and are available to the public on the NMFS AK Stranding Program webpage. These guidelines were developed to help regions understand and prepare for potential disaster situations that involve marine mammals, such as oil spill, disease, etc.

Points adapted from the AMMDRG Executive Summary:

- The AMMDRG identifies resources and procedures necessary to immediately and effectively response to discharges that may adversely affect fish and wildlife and their habitats.
- 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 (i.e. All seals, all whales, and sea lions).
- The AMMDRG ensures 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 laws/statutes, policies, and guidelines, and private; and volunteers and other authorized and qualified individuals, in the management of disasters
- The AMMDRG identifies resources and procedures for effective marine mammal disaster response
- The primary audience for AMMDRG are NMFS personnel and NMFS-authorized marine mammal responders from the AK Stranding Network (and potentially others); Co-management partners and other Alaska Native Organizations; local, tribal, State, Federal, and volunteer agencies.
- 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

2. Endangered Species Act (1973)
        - Marine Mammal(OPA 90) (33 USC 2701-2761) disasters which are typically led by the U.S. Coast Guard (USCG) or the U.S. Environmental Protection Act (1972, revised 1994)Agency (EPA), and

3. National Marine Fisheries Service Pinniped and Cetacean Oil Spill Response Guidelines (2015)

- 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.

Some examples of the information available in the NOAA AMMDRG are provided in Figure 1-3 and include an overview of the Incident Command System structure, including details to the Wildlife Branch Director position overseeing marine mammal response, and finally a conceptual model of the effects of an oil spill in the Arctic environment.

Incident Command System Overview

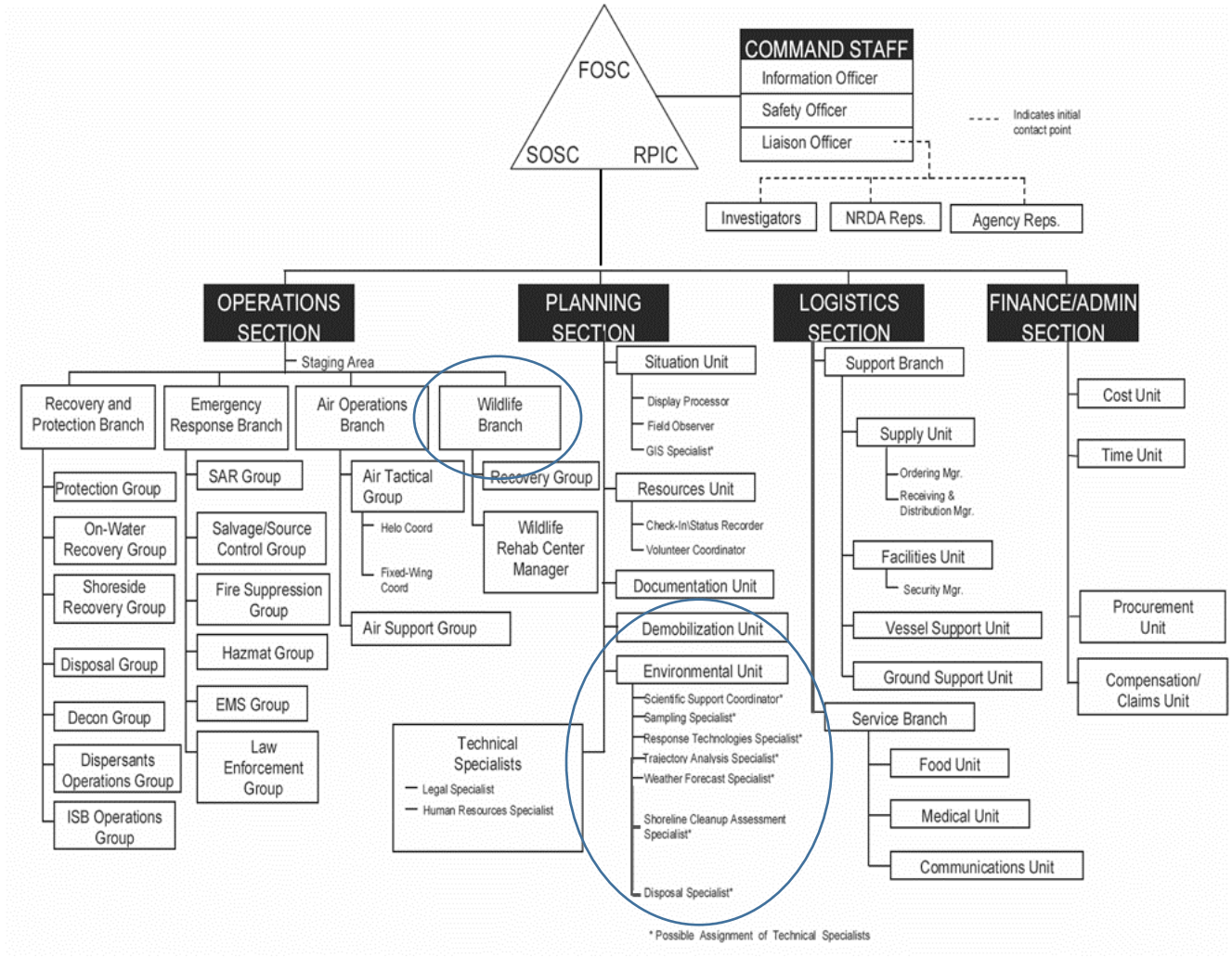

Figure 3, A flowchart of the Incident Command System used during an oil spill response.

NMFS provides the best available information about resources under NMFS's jurisdiction to the Command Staff during oil spill response from within the Environmental Unit, see above. NMFS responds to oiled wildlife from within the Wildlife Branch. Both the Wildlife Branch and Environmental Unit will seek local information during a spill response to help conduct their work better.

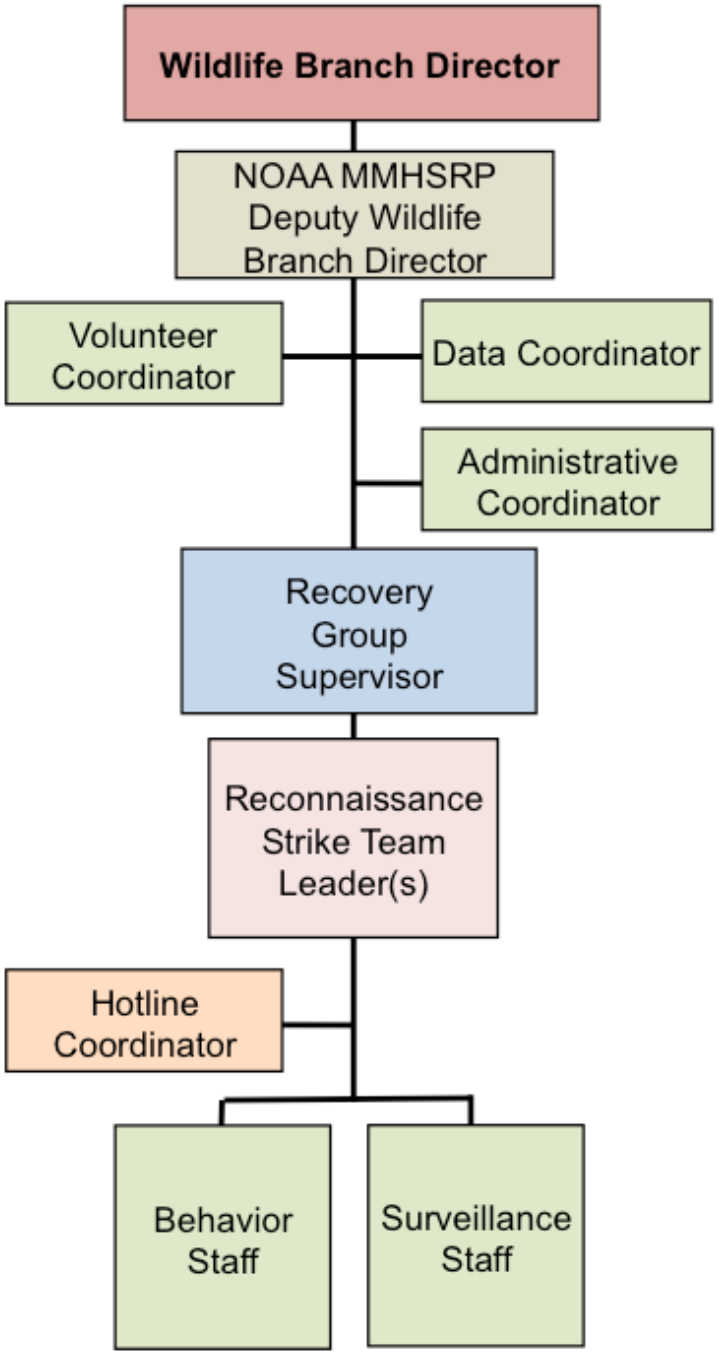

Figure 4, Flow chart of a generic response to marine mammals during an oil spill response with oiled wildlife. National Guidelines (NOAA 2015)

Marine mammals can be exposed to oil from multiple pathways in the Arctic marine environment

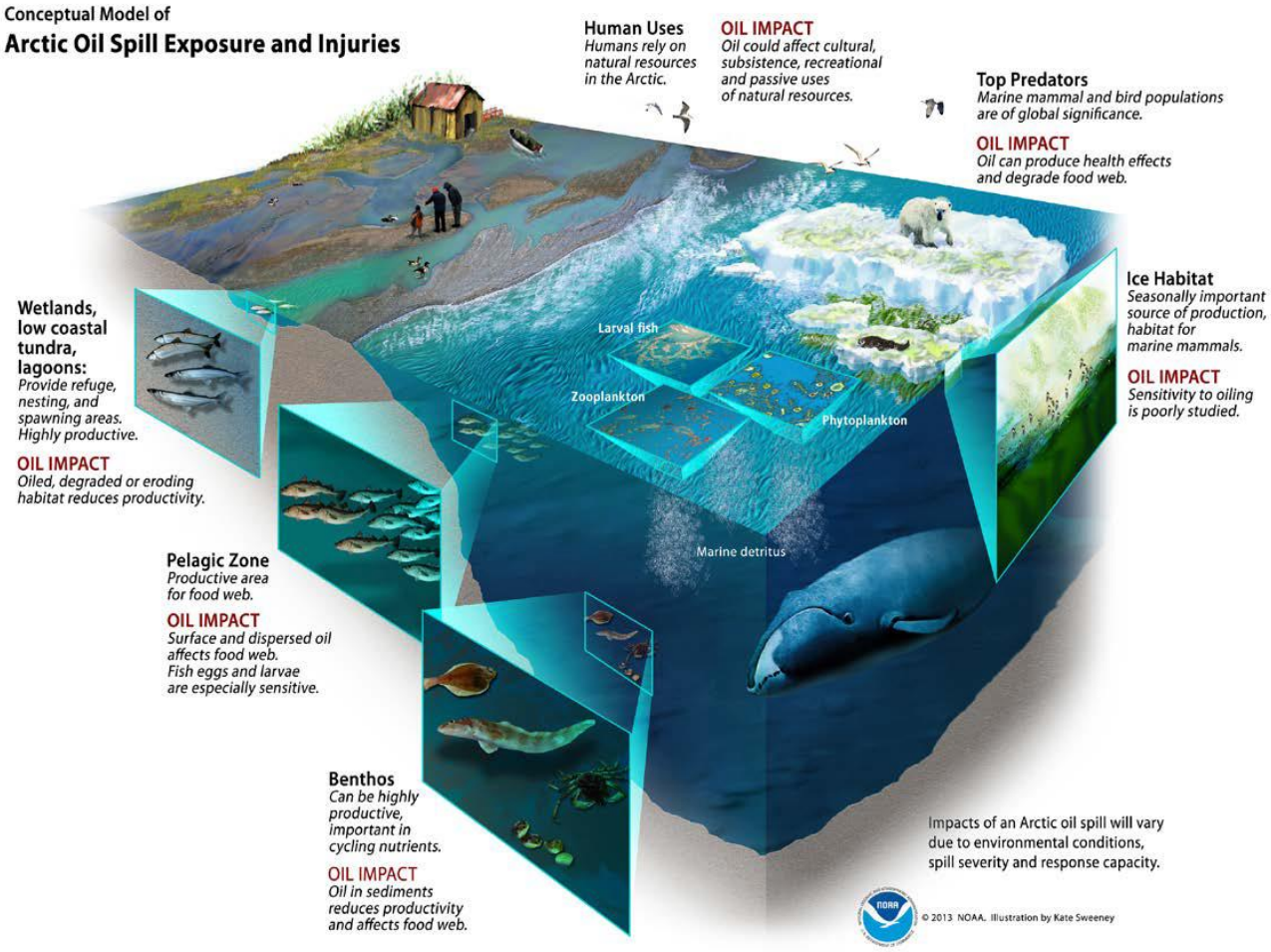

Figure 5, Effects of an oil spill

Discussion

The February 16, 2018 workshop held in Nome was an opportunity to engage with NMFS marine mammal stranding response staff and local communities to better understand the roles of NMFS and how local communities can be better engaged. There is a need to collect additional data from future stranding events in the region to better understand potential emerging threats to marine mammals. Significant sea ice loss is causing catastrophic impacts to communities[7]. On February 20, 2018 much of the Bering Strait was ice free (see picture below), a storm caused the helicopter landing pad at Diomede to become covered with debris, and inundated with storm surge waters, temporarily cutting off access to the community.

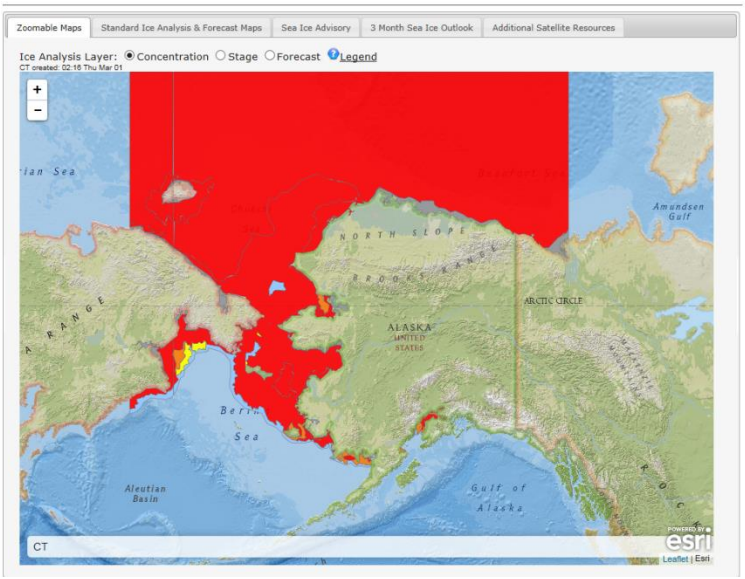

Figure 6, https://www.weather.gov/afc/ice (MARCH 2, 2018)

Figure 7, Diomede Storm February 20, 2018, Photo: Frances Ozenna

There is a great need to share marine mammal stranding data with federal management agencies across a broader spectrum as strandings occur and as new diseases potentially emerge. The existing communication networks should be utilized to the fullest extent possible. Local people in rural communities can be relied upon for some baseline work however there needs to be increased opportunities to build capacity to participate in the broader stranding network. The NMFS Arctic Marine Mammal Disaster Response Guidelines provide an Appendix containing contact information for partners throughout the Bering Strait. This should be updated periodically with the best available information.

[7] https://www.adn.com/alaska-news/rural-alaska/2018/02/27/warm-storms-pummel-bering-sea-leading-to-crazy-ice-melt-off/

Tribes need increased capacity to help the stranding network fulfill its mission. Funding to tribes to address the emerging stranding issues is one way to benefit the stranding network. The Workshop participants identified existing grant programs that can help local communities become more involved - a partial listing includes:

John F. Prescott Marine Mammal Rescue Assistance Grant Program

http://www.nmfs.noaa.gov/pr/health/prescott/

U.S. Fish and Wildlife Service Tribal Wildlife Grants

https://www.fws.gov/nativeamerican/grants.html

National Marine Fisheries Service Species Recovery Grants

https://www.grants.gov/web/grants/view-opportunity.html?oppId=296113

Acknowledgements

We thank the University of Alaska Fairbanks Northwest Campus for hosting this venue and providing for the marine mammal oil spill preparedness workshop. Thanks to Kawerak for community outreach efforts. National Marine Fisheries Services for its participation and community education.

Appendix A Agenda

9am-4pm

AGENDA

9:00-9:15	Mandy Migura: Alaska Marine Mammal Stranding Coordinator – Welcome Introductions
9:15-9:45	Gay Sheffield: 10 year history of marine mammal disasters in the Bering Strait Region
9:45-10:00	Mike Ziccardi: Incident Command System overview. What to expect from a federal response during an incident that may affect marine mammals.
10:00-10:15	Sadie Wright: Arctic Marine Mammal Disaster Response Guidelines, development and purpose
10:15-10:25	Break, if needed
10:25-11:45	Mandy/Gay/Sadie: Overview of oil spill response scenario (Anchorage Stranding Network meeting). Description of the 3 spill response stations in Anchorage, and the lessons learned reported by Anchorage participants. *Discussion:* 1. Bering Strait Region oil spill response and incident command system. A) Animal Care and Processing, B) Reconnaissance and Recovery, and C) Incident Command Post and Natural Resource Damage Assessment. 2. When would marine mammal response be impossible in the Bering Strait? Methods for data collection in order to quantify effects?
11:45-1:15	Lunch Break
1:15-1:30	Mandy Migura: NMFS Stranding Program overview and data collection
1:30-1:45	Sarah Wilkin: Effects of an oil spill on marine mammals
1:45-2:50	Data collection before, during, and after a disaster (e.g., oil spill) to determine and measure impacts *Discussion:* 1. How to best measure potential impacts to A) marine mammals, B) habitat, and C) prey? What procedures will help evaluate oil spill effects on seals and whales? What baseline data are available?
2:50-3:00	Break, if needed
3:00-4:00	Restoration of oiled areas and marine mammal species *Discussion:* 1. What can be done after an oil spill or other disaster to restore marine mammals to pre-spill levels?

Appendix B Attendees

Barbara Mahoney, NMFS, NOAA Alaska Region, Assistant Marine Mammal Stranding Coordinator

Sarah Wilkin, NMFS Office of Protected Resources, NOAA Marine Mammal Stranding Network, Coordinator

Mandy Migura, NMFS, NOAA Alaska Region, Marine Mammal Stranding Network, Coordinator

Mike Ziccardi, UC Davis School of Veterinary Medicine, Oiled Wildlife Care Network, NMFS contractor

Sadie Wright, NMFS, NOAA Alaska Region, Oil Spill Response Coordinator

Leroy Seppilu, Kawerak, Inc.

Austin Ahmasuk, Kawerak, Inc.

Brandon Ahmasuk, Kawerak, Inc.

Gay Sheffield, UAF Alaska Sea Grant

Roy Ashenfelter, Kawerak, Inc.