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National Guidelines for Oiled Marine Mammal Response in the United States

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Abstract: Recent oil spills in the United States in the Gulf of Mexico (*Macondo/Deepwater Horizon* in 2010-2011 and *Texas City Y* in 2014) have had the potential to impact large numbers of cetaceans (dolphins and whales) due to the abundance in the geographic area and the life history of these species. For these responses, the USA's National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS) established Marine Mammal and Sea Turtle Groups within the Wildlife Branch, enhancing the operations of the local pre-existing marine mammal stranding response by following previously-developed National Guidelines for Oiled Marine Mammal Response. These Guidelines helped focus marine mammal collection and care activities both in the field and at established rehabilitation facilities, and also addressed collection of samples and data for response-related activities as well as potential use by resource trustees to help in the impact assessment and subsequent criminal and civil litigation. While having pre-existing protocols greatly improved the efficiency of the wildlife response, significant gaps became apparent in the document. Thus, NMFS and associated experts have updated this document to institute a more robust command-and-control system within the Wildlife Branch, to

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better delineate roles and responsibilities for personnel, and to provide more detailed information to better prepare for recovering and caring for affected pinnipeds and cetaceans. This paper will detail these changes to the Wildlife Branch, and the readiness and training marine mammal responders in the United States will be striving towards for future responses.

BACKGROUND

Oil spills in the marine environment have the potential to impact any species of wildlife that live in the ecosystem, either directly or indirectly. The impacts of oil on birds have been long known, and significant effort has been invested into developing protocols for the treatment of oiled avian species (Massey 2006). Similarly, during and after the *Exxon Valdez* oil spill in 1989, much effort has been spent to develop extensive and professional protocols for sea otters (Williams and Davis, 1995). Less attention has been paid to other marine mammals (e.g., pinnipeds and cetaceans) due to a comparative lower risk of acute effects to these taxa. In the early 2000's, an emerging professionalism in oiled wildlife response prompted the United States National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service (NMFS), Office of Protected Resources (OPR), Marine Mammal Health and Stranding Response Program (MMHSRP) to identify a need for developing guidelines to direct and inform wildlife response activities to marine mammals. Under U.S. law, all marine mammals are protected from "take" by unauthorized personnel. The MMHSRP is the Federal program responsible for authorizing and coordinating effective responses to "stranded" marine mammals, defined as those that are in distress or dead. The first set of Pinniped and Cetacean Oil Spill Response Guidelines (Guidelines) was created by the MMHSRP in 2006 (Johnson and Ziccardi 2006), and summarized the experience and research to that point.

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The *Deepwater Horizon/MC-252* (DWH) oil spill, which occurred in April 2010, was the first significant oil spill to utilize the Guidelines as the blueprint for an organized response to oiled and impacted marine mammals. While having pre-prepared guidelines greatly improved the efficiency of the response, several elements were found to be missing, lacking, or unclear in the document. Many challenges were identified relating to coordination across the complex response and the lack of previous knowledge and experience in dealing with large numbers of oiled or impacted marine mammals. Smaller-scale spills since 2010 that have involved oiled and impacted marine mammals have also offered opportunities to continue refining the guidelines; a key spill on this smaller scale is the *Texas City Y* spill, which occurred near Galveston, TX, in March 2014.

GUIDELINES

With the insights gained and lessons learned from implementation of the Guidelines during several responses (as well as exercises) and the associated Natural Resource Damage Assessment (NRDA) processes, the MMHSRP have revised the guidelines. Significant revisions include:

- The development of a more robust command-and-control system within marine mammal-related activities within the Wildlife Branch;
- A better delineation and description of responsibilities associated with the different roles involved in a response to oiled or impacted marine mammals; and
- More detailed information to allow marine mammal personnel (rehabilitators, scientists, and managers) and oil spill responders to better understand and prepare for the recovery, care, and processing of impacted pinnipeds and cetaceans.

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The overall purpose of these Guidelines are to provide a foundation within the United States for coordination and communication between all of the potential partners (Federal, state and local government agencies, oil spill response organizations, and marine mammal personnel). Key elements in the Guidelines include:

- Outlining organizational and reporting structures for marine mammal experts to effectively work within the oil spill response framework (e.g., in the United States, Incident Command System or ICS);
- Detailing appropriate and standardized data collection techniques to allow for effective response activities (and subsequent activities including NRDA);
- Defining chain-of-custody protocols for animal collection, necropsy and sampling to enable legal proceedings;
- Providing recommendations for optimum protection of human health for marine mammal responders, including recommended training; and
- Presenting a goal for best achievable care of oiled marine mammals, including information on how to effectively prepare (e.g., training and equipment) to accomplish this goal.

IMPLEMENTATION

While these Guidelines were created specifically for oil spill response in the United States, they are still at a very broad “national” level. The next step in the implementation of these Guidelines is to create regionally- and taxa-specific annexes and plans for marine mammals which can be incorporated into Regional and Area oil spill contingency planning documents. Additionally, while these Guidelines were developed for use in the United States and some sections are very

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specific to that country (e.g., authorizing legislation), there is much that could be used for response to oiled and impacted marine mammals outside of the U.S. Draft versions of these Guidelines were referenced in oil spills in New Zealand (M/V *Rena*, October 2011) and Bangladesh (Sundarbans oil spill, December 2014).

Comment [MZ1]: Would be good to have a concluding paragraph – why are these Guidelines important, what do they intend to do in the future, how will it help spill response communities as well as researchers, etc.

REFERENCES

Johnson, S. and M.H. Ziccardi. 2006. Marine Mammal Oil Spill Response Guidelines. In NOAA Fisheries Guidance Document (Silver Spring, MD, NOAA Fisheries). 58 pp.

Williams, T.M. and R.W. Davis. 1995. Emergency Care and Rehabilitation of Oiled Sea Otters. University of Alaska Press, Fairbanks, Alaska.