Unusual Mortality Event Involving Gray Whales along the West Coast of North America

Key Message and Talking Points:

Today, NOAA is declaring an Unusual Mortality Event for elevated gray whale strandings from January 1, 2019 to present.

- Based on consultations with the Working Group on Marine Mammal Unusual Mortality Events, a UME has been declared for the west coast of North America including Mexico, California, Oregon, Washington, British Columbia, Canada and Alaska.
- Strandings began January 1, 2019 and are continuing, as of May 28, 2019, there have been 69 strandings in the U.S. (37 in CA; 3 in OR; 24 in WA, 5 in AK), ~73 strandings in Mexico, and 5 strandings in Canada.
- Common findings include emaciation in both dead and live free-ranging whales.
- NOAA Fisheries will make information available to the public on its website as soon as it is legally and scientifically appropriate and possible, follow this event here https://www.fisheries.noaa.gov/westcoast/marine-life-distress/2019-gray-whale-unusual-mortality-event-westcoast.

The review of the external expert scientific Working Group on Marine Mammal Unusual Mortality Events determined that the recent strandings of 69 gray whales in California through Alaska meet the criteria for a UME.

- The Marine Mammal Protection Act mandates NOAA Fisheries to respond to, review, and investigate possible "Unusual Mortality Events" (UMEs) according to certain criteria and procedures.
- Under their MMPA authorities, NOAA and the U.S. Fish & Wildlife Service can declare a UME, triggering development of a response plan and making additional resources available.
- The Working Group on Marine Mammal Unusual Mortality Events provides their expert recommendations, aiding agencies in determining if an Unusual Mortality Event is occurring and assisting with development of a research plan to investigate the causes.
- NOAA Fisheries forms an Investigative Team to conduct the research and the Team may request Marine Mammal UME Contingency funds (if available) to assist the investigation.

The Unusual Mortality Event declaration will bring more focus and resources to help the investigation, including significant expertise of the Working Group and an Investigative Team.

- NOAA Fisheries depends on stranding network partners, including volunteer organizations, to respond to marine mammal strandings, and appreciates their dedication in doing so.
- Declaring an Unusual Mortality Event triggers the development of a response plan and will make available some additional resources to respond to any new strandings that occur.
- An Unusual Mortality Event declaration compels NOAA Fisheries to form an Investigative Team, including independent scientists and stranding network partners, to

develop a research plan in consultation with the national Working Group on Marine Mammal Unusual Mortality Events (Working Group).

- The Investigative Team submits a plan and budget request to the Working Group which could then authorize Unusual Mortality Event Contingency Funds, if they are available, to assist the investigation.
- These rigorous investigations usually take several months or more to complete.
- The public may donate to the Marine Mammal UME Contingency Fund using Pay.gov (https://www.pay.gov/public/form/start/59313592) or at https://www.fisheries.noaa.gov/national/marine-life-distress/marine-mammal-unusual-mortality-event-contingency-fund for this or other UMEs and help cover costs incurred by the Marine Mammal Stranding Network.
- There are currently seven other active marine mammal Unusual Mortality Events open in the United States. Learn more about them here https://www.fisheries.noaa.gov/national/marine-life-distress/marine-mammal-unusual-mortality-events.

While this whale population has grown considerably in recent years, this rate of strandings stands out as higher than average.

- The eastern North Pacific gray whale population has grown considerably in recent years and has recovered from the days of whaling to a healthy population of an estimated at 27,000 whales today. Nonetheless, this number of strandings is significantly higher than the annual average and we want to understand what the factors might contribute to this large increase.
- With a larger population, more mortalities can be expected over time. The gray whale population has grown about 70 percent since 2001.
- If population growth increases competition for resources, and/or in years when there are fewer resources, mortalities may increase. In this case, there may be more mortalities both because the population is larger and because a greater proportion of the whales are dying.
- Analysis by the UME Working Group shows that the rate of stranding of gray whales as a proportion of the population in 2019 is higher than expected and exceeding the average number of strandings compared to recent years. This indicates that a UME is occurring.
- Gray whales have demonstrated their resilience, given adequate protection and food resources. They are also known as sentinels of conditions in the Arctic, where they feed.

The public should not touch stranded or floating whales. To report a dead, injured, or stranded marine mammal, call the Marine Mammal Stranding Network.

- Please contact your local or regional stranding network organization if you see a sick, injured or dead whale in coastal waters or on stranded on a beach.
- To report a dead, injured, or stranded marine mammal:
    - In California, Oregon or Washington call the West Coast Marine Mammal Stranding Network: 1-866-767-6114;
    - In Alaska call the Alaska Marine Mammal Stranding Network: 1-877-925-7773;
    - In Canada, please call the British Columbia Marine Mammal Response Network 1-800-465-4336;

- Contact the U.S. or the Canadian Coast Guard on channel 16 or the network phone line in the U.S. if you observe sick, injured or floating whale carcasses at sea.

Questions & Answers:

Q: Why is NOAA involved in declaring a UME?
A: Conserving and restoring protected resources including marine mammals, fish, and corals is a core mission for NOAA Fisheries. NOAA Fisheries is responsible for the protection and conservation of all whales, dolphins, porpoises, seals, and sea lions under the Marine Mammal Protection Act. We depend on healthy marine species for maintaining balanced and thriving ocean ecosystems and coastal communities. NOAA Fisheries relies on the best available science to carry out the mandates of the Marine Mammal Protection Act, including reducing the negative effects of human activities on protected species and their habitats. We develop and implement plans to guide species recovery and conservation, enforce regulations against harming protected species, and conduct high-quality science focused on conservation.

Q: What are you announcing today?
A: NOAA Fisheries has declared an Unusual Mortality Event (UME) for the Eastern North Pacific stock of gray whales along the west coast of North America including Mexico, California, Oregon, Washington, British Columbia, Canada and Alaska. Strandings began January 1, 2019 and are continuing.

Q: What is an Unusual Mortality Event?
A: An Unusual Mortality Event is defined under the Marine Mammal Protection Act as a stranding event that is unexpected, involves a significant die-off of any marine mammal population, and demands immediate response. Seven criteria determine whether a mortality event is "unusual." If the Working Group on Marine Mammal Unusual Mortality Events (Working Group), a group of external marine mammal health experts, determines that an event meets one or more of the criteria, it forwards a recommendation to NOAA's Assistant Administrator for Fisheries to declare an UME.

Q: What criteria have been met?
A: In this case, the Working Group concluded that two of the seven criteria have been met. These include the following criteria:

1. A marked increase in the magnitude or a marked change in the nature of morbidity, mortality or strandings when compared with prior records.
5. Affected animals exhibit similar or unusual pathologic findings, behavior patterns, clinical signs, or general physical condition (e.g., blubber thickness).

Q: How widespread is this UME?
A: Mortalities of gray whales have been observed along the entire west coast of North America from Mexico to Alaska.

Q: When did the first reports of increased strandings of gray whales occur?
A: The first reported stranding in the U.S. for this event was January 15, 2019.

Q: How many gray whales are involved in the event?

A: As of May 29, 2019, there have been a total of 147 whales reported in the event, with ~73 dead whales in Mexico, 69 whales in the U.S. (37 in CA; 3 in OR; 24 in WA, 5 in AK), and 5 whales in British Columbia, Canada. For the U.S., the historical 18-year 5-month average (Jan-May) is 14.8 whales for the four states for this same time-period.

Q: What are the findings in stranded whales?
A: Several dead whales have been emaciated with moderate to heavy whale lice (cyamid) loads. Necropsies have been conducted on a subset of whales with additional findings of vessel strike in three whales and entanglement in one whale. In Mexico, 50-55% of the free-ranging whales observed in the lagoons this winter were reported as "skinny" compared to the annual average of 10-12% "skinny" whales normally seen.

Q: What is causing this? Are they running out of food?
A: Gray whales feed primarily in the Arctic in summer, consuming sea-bottom amphipods and other organisms living in and above the sediment and in the water column. They "place their bets" during the summer/fall feeding season when they seek to consume enough food to survive the following six months, as they do not feed extensively during their migration or their winter in Mexico. The gray whales likely face the greatest nutritional stress during the northbound migration off the West Coast, when they may be reach the limits of their fat stores. If they did not consume enough food during the spring and summer feeding feeding season, they may not have enough nutritional stores to fuel their roundtrip migration back to the Arctic. NOAA Fisheries' West Coast Region and Southwest Fisheries Science Center have been actively monitoring this situation as part of annual surveys conducted along the California Coast. At this point, we do not know the cause of the strandings and the UME investigation will provide more information to hopefully aid in determining the cause.

Q. Is this related to the UME for whales in Alaska a couple years ago?
A. To our knowledge no, that UME was investigated but a definitive cause was not determined, and that UME involved fin and humpback whales. Additionally, researchers think that UME may have be linked to specific unusual oceanographic/climatic conditions, which occurred in 2015.

Q: Have other marine mammals or animals been affected by this die-off event?
A: No, however, there is an ongoing UME for Guadalupe fur seals along the California coast, this event began in 2015. The Guadalupe fur seal UME currently does not seem to be related to the stranding of gray whales. More details can be found here: https://www.fisheries.noaa.gov/national/marine-life-distress/2015-2019-guadalupe-fur-seal-unusual-mortality-event-california

Q: What happens to the carcasses of stranded whales?
A: In most cases the large whale carcasses will naturally decompose, with other marine life from microbes to scavengers recycling their nutrients back into the environment. In some cases, carcasses may be moved to a location more suitable for a necropsy, and we work with our partners to identify suitable locations where carcasses can then decompose. We urge the public to let this natural process continue, and keep in mind the regulations on collecting of marine mammal hard parts. While decomposing carcasses do not pose a human health threat, beachgoers should keep children and pets away from carcasses.

Q: What is the size of the Eastern North Pacific gray whale population along the west coast?
A: The population size of the Eastern North Pacific gray whale stock has increased over several decades despite an UME in 1999 and 2000 and has been relatively stable since the mid-1990s. The minimum gray whale population size was determined from counts in 2010-2011, based upon this data the population was around 20,125 whales (NMFS 2014 Stock Assessment Report). The most recent abundance estimate from NOAA Fisheries' Southwest Fisheries Science Center (SWFSC) (forthcoming in the 2018 NMFS Pacific Stock Assessment Report) is nearly 27,000 whales in a 2015-2016 survey. Eastern North Pacific gray whales in the U.S. are not listed as "endangered" or "threatened" under the Endangered Species Act or as "depleted" under the MMPA. More data on gray whale population status can be found in the Stock Assessment Report here.

Q: What are the next steps in the investigation now that an UME has been declared?
A: As part of the Unusual Mortality Event investigation process, an independent team of scientists (Investigative Team) is being assembled to coordinate with the Working Group for Marine Mammal Unusual Mortality Events, Department of Fisheries Oceans Canada (DFO) and Mexican scientific colleagues to review the data collected and to determine potential next steps. The Investigative Team will also coordinate its investigation with other on-going Unusual Mortality Event investigations. The investigation may require months, or even years of data collection, analysis, and interpretation.

Q: What additional resources are now available to pursue the investigation, since an UME has been declared?
A: An UME declaration provides additional expertise from the Working Group (an international and multidisciplinary team of scientists) and additional stranding response partners, as well as access to some additional funding through the Marine Mammal UME Contingency Fund. Finally, through the UME process all findings and interpretations undergo national and international scientific review.

Q: Will you be collecting additional biological and environmental information?
A: The Stranding Network will continue to collect and analyze samples as needed to evaluate the situation from whales that strand in U.S. waters. The Working Group will decide whether additional information is needed.

Q: When will you have some results to share?
A: The Investigative Team will begin developing an investigative plan soon. You can track the progress of our investigation from our main UME webpage.

Q: What is the risk to humans?
A: Large whales are wild animals and may injure people if approached closely.

Q: Are there any risks to pets?

A: Pets should always be kept away from marine mammals, particularly diseased or dead marine mammals.

Q: How many gray whale UMEs have previously occurred along the west coast?
A: One UME has been declared previously for the Eastern North Pacific gray whales. This event occurred throughout the species' range in Mexico, the United States, and Canada from 1999-2000, with more than 650 emaciated animals stranded along the west coast of North America including 222 in the United States (Gulland *et al.* 2005). Many of the stranded whales were emaciated and calf production in 1999 and 2000 was less than one third of that in 1996–98. Oceanographic factors that limited food availability for gray whales were identified as likely causes of the UME, with resulting declines in survival rates of adults during this period.

Q: What happened after the previous UME? Did the population recover?
A: The overall gray whale population is estimated to have declined from about 21,000 in 1997/1998 to 16,000 in 2000/2001 following the UME, and calf production dropped during 1999-2000 to less than one-third that of previous years (*Punt and Wade*, 2010). In the following few years, gray whale strandings declined back to pre-1999 levels, calf production increased to more typical rates, and the population has since rebounded to about 27,000 animals today. The gray whale population has demonstrated its resilience in recovering from endangered status (delisted in 1994) and again following the 1999-2000 UME.

Q: Are there more whales dying that we do not know about? Do you find all of them?
A: Analysis following the last UME indicated that only 3.9-13.0% of all Eastern North Pacific gray whales that die in a given year are found on land and are observed and reported (*Punt and Wade*, 2010)

Q: Where can I find additional information on gray whales and other Unusual Mortality Events?
A: You can find more information on our gray whale and UME webpages.

Q: What should people do if they encounter a dead whale floating in the water or stranded on the beach?
A: Please immediately contact your local or regional stranding network organization if you see a sick, injured or dead whale in coastal waters or on stranded on a beach:

- In California, Oregon or Washington, call the West Coast Marine Mammal Stranding Network: 1-866-767-6114.
- In Alaska, call the Alaska Marine Mammal Stranding Network: 1-877-925-7773.
- In Canada, call the British Columbia Marine Mammal Response Network 1-800-465-4336.
- Contact the U.S. or the Canadian Coast Guard on channel 16 or the network phone line in the U.S. if you observe sick, injured or floating whale carcasses at sea.
- The public should not touch stranded or floating whales.
- Do not allow pets to approach the stranded gray whale.
- Observe alive, stranded animals from a safe distance of 100 yards (safe for you and the animal).

Q: What can I do to help the investigation?
A: The most important action someone can take is to report immediately a dead, injured, or stranded marine mammal.

- In California, Oregon or Washington, call the West Coast Marine Mammal Stranding Network: 1-866-767-6114.
- In Alaska, call the Alaska Marine Mammal Stranding Network: 1-877-925-7773.
- In Canada, call the British Columbia Marine Mammal Response Network 1-800-465-4336.

Lastly, the public may use Pay.gov to donate to the Marine Mammal UME Contingency Fund for this or other UMEs and help cover costs incurred by the Marine Mammal Stranding Network.

Q: What should people do if they witness harassment of a whale in the water or on the beach?
A: To report violations please contact NOAA's Office of Law Enforcement at (800) 853-1964.

Q: What is the Marine Mammal UME Contingency Fund?
A: MMPA section 405 (16 USC-1421d) establishes the Marine Mammal Unusual Mortality Event Fund describing its purposes and how the public can donate to the fund. According to the MMPA, the fund: "shall be available only for use by the Secretary of Commerce, in consultation with the Secretary of the Interior:

- To compensate persons for special costs incurred in acting in accordance with the contingency plan issued under section 1421c(b) of this title or under the direction of an Onsite Coordinator for an unusual mortality event.
- For reimbursing any stranding network participant for costs incurred in preparing and transporting tissues collected with respect to an unusual mortality event for the Tissue Bank.
- For care and maintenance of marine mammal seized under section 1374(c)(2)(D) of this title."

The National Contingency Plan for Response to Unusual Marine Mammal Mortality Events outlines the types of expenses that are reimbursable under the fund and the process for requesting reimbursement.

Learn more about the Marine Mammal UME Contingency Fund.

Q: How can deposits be made into the UME Contingency Fund?
A: The following can be deposited into the fund:

- Amounts appropriated to the fund.
- Other amounts appropriated to the Secretary for use with respect to UMEs.
- Amounts received by the United States in the form of gifts, devises, and bequests under subsection (d) of section 405(d) of the MMPA.

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