



## California Whale Entanglement Discussion – August 20, 2015 Summary of Key Themes

On August 20, 2015 the California Ocean Protection Council (OPC), California Department of Fish and Wildlife (CDFW), and National Marine Fisheries Service (NMFS) hosted a meeting to share information and explore ideas for reducing the risk of whale entanglements in California Dungeness crab fishing gear. The meeting was open to the general public and was attended by recreational and commercial Dungeness crab fishermen, environmental nongovernmental organizations (ENGOS), engaged members of the public, and staff from the California Legislature, CDFW, NMFS, OPC, and the California Lost Fishing Gear Recovery Program. The meeting agenda and presentation slides are available on the OPC website (<http://www.opc.ca.gov/2015/08/public-meeting-to-discuss-whale-entanglements-off-california/>).

This document provides details about the purpose and objectives of the discussion, and also highlights key themes that emerged, including next steps and answers to frequently asked questions.

### Background and Purpose

Over the last several years, NMFS has noted an increase in the number of whales entangled in fixed-gear fisheries along the West Coast. Given that the largest portion of the identifiable gear involved in these entanglements is from the Dungeness crab fishery, a group of ENGOS requested that CDFW address the issue in anticipation of the 2015-16 Dungeness crab fishing season. CDFW, NMFS, and OPC hosted an informal meeting on August 20, 2015, the primary focus of which was to share data collection and information amongst interested parties in an effort to further explore ways to reduce the risk of entanglements with Dungeness crab fishing gear.

### Process and Objectives

Recognizing that it is too early in the discussion to talk about solutions, the August 20 discussion focused on gaining a better understanding of the issue of whale entanglements and root causes, as well as to begin brainstorming on possible ideas to address the issue. Objectives for this meeting included:

- Engage in an open exchange of information and idea sharing on the topic of whale entanglements
- Build a common understanding of what information/data is currently available, where there are information/data gaps, and ideas for addressing data needs
- Identify clear next steps to consider and continue to build upon ideas generated during today's discussion

The morning session consisted of a series of presentations from NMFS, CDFW, West Coast Marine Mammal Entanglement Response Network, the Whale Entanglement Team (WET), and the California Lost Gear Retrieval Program. These presentations were focused on building a common understanding of what is currently known about whale entanglements in California and the California Dungeness crab

fishery. The presentations are available on the OPC website (<http://www.opc.ca.gov/2015/08/public-meeting-to-discuss-whale-entanglements-off-california/>).

The afternoon session drew on the wide range of expertise of meeting participants to further discuss topics and themes raised during the morning discussion. The brainstorm focused on sharing information and experiential knowledge across meeting participants.

## **KEY THEMES**

### ***Data: Questions, Confidence, Legitimacy, and Availability***

- It was acknowledged that there are many unknowns and challenges associated with entanglement reports and confirmation.
  - For example, questions were raised as to whether there is sufficient information available to warrant focusing this issue primarily on whale interactions with Dungeness crab fishing gear. Additionally, there were concerns raised regarding the limited information available related the reporting location of an entanglement and where/when fishing effort actually occurs.
- Participants explained they would like to see CDFW data integrated with fishermen's knowledge to show an illustration of the cyclical/dynamic nature of whale populations and its relationship to fishing practices and ocean conditions.
- Accurate, timely, cost-effective measurements to track whale population growth and the resulting Potential Biological Removal (PBR) measurement was identified as a priority.
  - A better understanding of the impact of the Dungeness crab fishery on whale population is important to understand the full picture.
- Meeting participants encouraged state and federal agencies to continue efforts to better understand the causes of whale entanglements and mortality.
- Requests were made for data related to the recreational Dungeness crab fishery to better understand its role in the whale entanglement issue.

### ***Communication and Outreach***

- Meetings participants acknowledged the value of having fishermen, ENGOs, and agencies collectively participating in this conversation.
- Various meeting participants, including agency and ENGO representatives, indicated that it was encouraging to see fishermen taking a proactive approach to this issue.
- Questions arose about how to constructively communicate the issue to the public and media, avoiding the common tendency of blaming the fishing community and instead highlights the collaborative approaches being put into practice.

- There is value in communicating to the public and media what the Dungeness crab industry has done to reduce the risk of entanglements to date including implementing a limited entry program and a trap limit program as well as working to implement a lost gear recovery program.
- There would be value in groups with diverse perspectives working together to improve communication around the issue.
- The role of ENGO's helping to fund/support improved communications efforts was briefly discussed including whether fishermen and ENGOs should work together to fundraise to address whale entanglements.
- There is a need to define the relative impacts of whale entanglements compared with other human induced threats at a population level. It will be important for NMFS to continue assessing other forms of mortality so that appropriate actions may be taken.
- Recognizing the public relations challenges associated with whale entanglements and mortalities, opportunities for coordinated messaging to the media and public that avoids immediately blaming fishermen for whale entanglements through blogs, opinion editorials, and podcasts were suggested as avenues to be explored.
- Concerns were expressed that fishermen are being singled out as a leading source of whale mortality when there are other factors that negatively impact whales (i.e., ship strikes).
- The ENGOs indicated they would like to work with the fishing community and asked how best to support the fishing community in communicating this issue accurately to a broader public audience.

### ***Whale Entanglement Response***

- Agencies indicated data improve with increased numbers and quality of reporting of entanglements (e.g., helps to prevent re-sights from being classified as separate entanglement events). Fishermen's involvement in reporting would help improve data availability and quality.
  - Questions arose about how to encourage fishermen to report whale entanglements given the concern that a fishery will be penalized due to improved and/or increased reporting (i.e., documenting an "increase" in entanglements, even if the underlying frequency of entanglements has not changed).
- Various fishermen expressed interest in being involved in NMFS West Coast Marine Mammal Entanglement Response Network (WET).
- There was an acknowledgement that the best opportunity to increase reporting and support the disentanglement of whales is to train fishermen since they are on the water so frequently and work in remote areas.

***Group Brainstorm to Explore Ideas and Investigate Feasibility of Options to Reduce Entanglements***

- Ideas shared by participants during the August 20 discussion, as well as through other external sources (e.g., Earthjustice and Center for Biological Diversity June 26, 2015 letter to CDFW Director Bonham), are all suggestions and open for continued discussion from an inclusive audience.
- Some meeting participants stated that the best way to decrease whale mortality from entanglements is to prevent entanglements from occurring in the first place; therefore some groups are interested in exploring potential gear changes, or other options.
- Concerns were expressed about the potential financial hardship that may ensue in the fishing community if widespread changes to fishery regulations are adopted.
- *Two Traps Per Line:*
  - Fishermen indicated that requiring two commercial Dungeness crab traps per line was dangerous and an ineffective option for reducing whale entanglement risk.
  - Dungeness crab traps are not deployed in close proximity to one another, and even those placed in succession are generally 100 feet apart.
  - Connecting multiple traps would still require a second line run along the bottom, which could create loops of line that could be an entanglement risk. Additionally, lines from different fishermen could cross and tangle.
  - If a line with two traps attached became stuck in the mud, pumping would no longer be an option to recover the traps. Once the traps were stuck, other gear could wrap around the stuck gear creating a larger cluster of traps.
  - Due to the way fishermen remove crab pots, pulling gear by going into the current, it becomes very dangerous for the crew to remove the uphill pot if two were on a single line.
  - If a whale were to become entangled in a line with two or more traps, the gear would create much more drag on the whale than a single trap.
- *Weak Links*
  - Although weak links are employed on the East Coast, there were questions raised about the effectiveness of this type of mechanism for West Coast fixed-gear fisheries. There was concern expressed that the weight of the traps and high potential for gear to get stuck in sediment in certain areas would cause lines to breakaway frequently during business as usual, not just in situations of whale entanglements.
- *Recreational and Sport Dungeness Crab Fishery*
  - Concern was expressed about the number of recreational Dungeness crab traps used per angler and the large amount of slack that is often found on recreational gear.

Suggestions were made to better educate the recreational Dungeness crab fishery to reduce the amount of slack in a line, which could potentially entangle a whale.

- Support was expressed to expand and implement a permanent lost gear recovery program. It was acknowledged that the California Dungeness Crab Task Force (DCTF) and its Executive Committee would be addressing that topic at upcoming meetings.
- It was recognized by meeting participants that there is a need to expand the number of boats with trap pumping capabilities, especially in the northern range of the Dungeness crab fishery. However, it was acknowledged that pumps are very expensive, making widespread pumping cost prohibitive.
- Various meeting participants identified the value in considering alternative/creative ideas to address this issue, and it will be important to think about steps needed to successfully implement ideas.
  - There was some support in looking to the East Coast for lessons learned, while recognizing what works on the East Coast may not work in California due to differences in fishing practices, oceanographic conditions, seafloor composition, etc.
  - One of the challenges to addressing this issue is that fishermen are a diverse group with unique fishing operations.

### **Next Steps**

A Working Group will be convened by OPC, CDFW, and NMFS to further discuss and develop short-term strategies and begin exploring long-term options for reducing the risk of whale entanglements in California Dungeness crab fishing gear. The Working Group will meet prior to the start of the 2015-16 fishing season, and will include CDFW and NMFS staff, fishermen, ENGOs, and others, as appropriate. All recommendations developed by the Working Group will be made available to CDFW, NMFS, the DCTF, and others.

Additional next steps include opening lines of communication between NMFS and fishermen interested in receiving training on whale entanglement response.

## Key Questions

Meeting participants asked a number of questions throughout the duration of the August 20 discussion. Key questions and their associated responses are captured below (presented in the order asked during the meeting).

*Q: Where within the range of take for a Category 2 fishery does the CA/OR/WA Dungeness crab fishery fall?*

A: For humpback whales, the PBR is 11. That number is calculated based on data for the most recent 5-year period, and the last update was in 2013. The Dungeness crab fishery is comfortably in the middle of category 2, however the recent increase of entanglement reports may cause it to creep up. Still, there is no immediate danger of edging into Category 1.

*Q: Is every entanglement treated as take or whale mortality?*

A: No, NMFS evaluates each entanglement report to determine the extent of the entanglement. Deep entanglement, restricted pectoral fins – these types of entanglements are likely to lead to serious injury and mortality. The better the documentation for that entanglement, the better we can evaluate the severity.

*Q: How do you know you are capturing every instance of entanglement?*

A: We don't. However, there is no way to accurately estimate how many entanglements we are missing, so we have to go with the information in front of us.

*Q: Is there a potential for re-sighting the same entangled whale?*

A: Yes. NMFS works hard to evaluate each entanglement based on photo identification of the whale or a description of the gear involved. Additional documentation and data would help to better differentiate between a re-sight and a new instance of entanglement. The NMFS Fixed Gear Guide highlights key information to include in documentation of entanglements: [http://www.westcoast.fisheries.noaa.gov/publications/protected\\_species/marine\\_mammals/fix\\_ed\\_gear\\_guide\\_final\\_12.14.11.pdf](http://www.westcoast.fisheries.noaa.gov/publications/protected_species/marine_mammals/fix_ed_gear_guide_final_12.14.11.pdf).

*Q: Is it possible the recent spike in entanglements is due to better reporting, rather than actual increase in the number of entanglement events?*

A: Yes, that is very possible. There is also potential information bias – no matter where the entanglement occurred, it's more likely to be sighted if the whale moves through an area where there are more whale watching boats such as central California. The whales are spending more time in these high traffic areas, which may be contributing to the increased number of reports.

*Q: How does the entanglement trend mirror overall population growth? Is there any correlation with water temperature?*

A: Both the gray and humpback whale populations have been increasing, but not at a high enough rate to match the magnitude of the recent increase in entanglements. The increasing water temperature may affect humpback entanglements, since they follow their prey species. For gray whales, since they conduct the same migration pattern every year changing water temperatures are less likely to contribute to increased entanglements.

*Q: There seems to be very little information on where the entanglements are happening – where are they happening in relation to where they are observed? Also, what underlies the years with low entanglements – less entanglements or just less observed entanglements?*

A: Especially in recent years, the location of the report has been very close to where the entanglement occurred (e.g. within the same county), however there are plenty of examples to the contrary. One whale that was entangled with King Crab gear from Alaska ended up in California. A whale that was entangled up in Northern California is now down in Mexico. We know the whales can move around even after being entangled, which makes it difficult to identify where the entanglement occurred.

There is no satisfying explanation for the years of low entanglement incidences. There is probably a mix of factors at play including whale behavior, the distribution of fishing effort (both density and timing), and the combination of the two.

*Q: Do you have any additional thoughts to offer about whales playing with kelp? How curious are the whales about the lines?*

A: It's difficult to give a good answer to this. Whales "playing in kelp" is observed via anecdotal information and it's not something NMFS staff has seen.

*Q: Looking at recent confirmed reports of whale entanglements, the reports for confirmed entanglements in Dungeness crab are not aligned with where the effort actually occurs.*

A: That is definitely something NMFS and CDFW would want to dig into more – the disconnect between where the whale is being reported and entanglement location.

*Q: In the cases of a confirmed entanglement in Dungeness crab fishing gear, how much of the gear is active fishing gear versus lost gear?*

A: It is unclear. NMFS recently encountered what may be the first confirmed case of lost gear involved in an entanglement. This was determined by successful retrieval of the gear and talking with the fisherman involved. Although it's difficult to know for sure, given the condition of the gear when it is found, most entanglements are probably due to active rather than lost gear.

*Q: Is there a way to differentiate between sport and commercial Dungeness crab gear? Are increases in recreational fishing contributing to increased entanglements?*

A: Recreational buoys will be required to have a Go-ID number on them, which may help differentiate gear in the future.

Audience Input: Recreational gear also tends to have a lighter line, which should help differentiate between commercial and recreational gear.

*Q: Why is the focus for this whale entanglement discussion on the Dungeness crab fishery?*

A: From an agency perspective, CDFW is trying to be efficient. Many of the entanglements are associated with unknown fishing gear types from those that are known, Dungeness crab is the highest percentage of these known gear entanglements. There is far more Dungeness crab gear being used than any other fixed gear fishery in California including lobster, rock crab and spot prawn. CDFW is not ignoring the other fisheries, but is using Dungeness crab as a starting place before moving to other trap gear fisheries. It is likely that lessons learned from working with the Dungeness crab industry on this issue will help inform discussions with other fixed-gear fisheries in California.

*Q: Is there a requirement in the commercial Dungeness crab fishery to report lost gear?*

A: No, there isn't. But, fishermen can apply for in-season replacement tags for up to 10% of their total gear allocation and any number of replacement tags between seasons.

*Q: What is meant by "unknown crab gear" [shown on slide 12 of the "Overview of the California Dungeness Crab Fishery" presentation]?*

A: This category refers to reports provided to NMFS that have not been confirmed due to insufficient information accompanying the report. A more accurate label would be "unconfirmed" rather than "unknown."

*Q: Is there any estimate for how many sport and recreational traps are deployed each season?*

A: Although the state does not have any way of making those estimates for the recreational fishery, there may be an opportunity to make those estimates for the sport/party boat fleet.



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