December 9, 2024

Ms. Mary Wahl, Chair
Oregon Fish and Wildlife Commission
4034 Fairview Industrial Drive SE
Salem, Oregon 97302

RE: Reducing Entanglements in the Oregon Dungeness Crab Fishery

Dear Chair Wahl and Commissioners:

On behalf of the American Cetacean Society, the Center for Biological Diversity, the Natural Resources Defense Council, and Oceana, we request that the Oregon Fish and Wildlife Commission schedule an agenda item in early 2025 to consider taking additional action to prevent the entanglement of large whales and sea turtles in the Dungeness crab fishery.

Entanglement in fishing gear is one of the primary threats impeding the recovery of threatened and endangered humpback whales, endangered blue whales, and endangered leatherback sea turtles. Whale entanglements in Oregon's commercial Dungeness crab fishery continue to pose significant threats to threatened and endangered whale populations and are exceeding conservation thresholds under the Marine Mammal Protection Act.

Despite the current set of risk reduction measures adopted by the Commission, the National Marine Fisheries Service confirmed three humpback whales and one fin whale entangled in Oregon Dungeness commercial crab gear just this year. Cumulative confirmed humpback whale entanglements off the West Coast are at the highest level since 2018. Further, most entanglements go undetected or unreported, and roughly 50 percent of confirmed entanglements occur in unidentified gear, meaning the true number of entanglements in the Oregon fishery are likely much higher than those observed.

Current Oregon entanglement risk reduction measures adopted in 2020 and extended last year include a 20% pot limit reduction, 40-fathom depth restriction, and a late-season tag requirement, which are implemented on May 1 through the end of the crabbing season on August 14. These measures are not based on the best available science, including studies showing that entanglement risk off Oregon begins to peak *in April* and in nearshore waters shallower than 40 fathoms.[1] As such, current management measures have not reduced entanglement risk or resulted in a decline in observed entanglements in commercial Oregon Dungeness crab gear.

[1] Derville, S, TV Buell, and KC Corbett et al. 2023. Exposure of whales to entanglement risk in Dungeness crab fishing gear in Oregon, USA, reveals distinctive spatio-temporal and climatic patterns. Biological Conservation 281 (2023) 109989

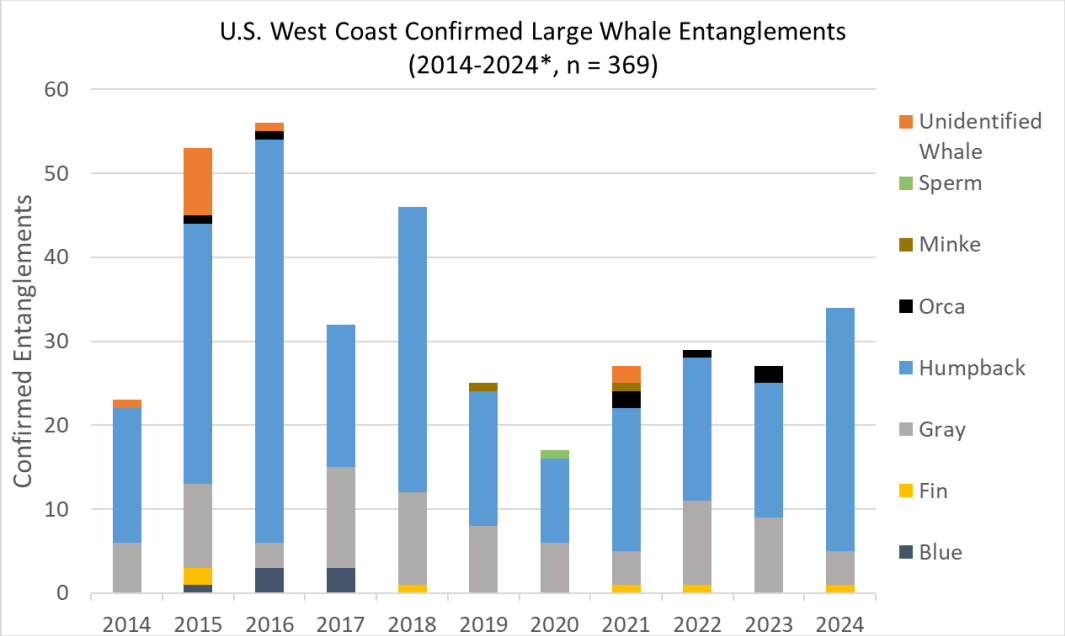

Figure 1. Confirmed whale entanglements off the U.S. West Coast from 2014-2024 from the National Marine Fisheries Service. *2024 numbers are preliminary.

After careful consideration of the risk to endangered species, the performance of current risk reduction measures, and the importance of the Oregon Dungeness crab fishery, we recommend the Commission reconsider how current risk reduction measures can be strengthened, including the actions our organizations have recommended over the last five years, which include implementing risk reduction measures no later than April 15, a 28-fathom depth restriction, a 40% late season pot reduction, emergency closure procedures for highly endangered species entanglements, and manufactured markings for the length of the entire line. Starting these discussions early in the new year will allow ample time for consideration of the best available scientific information, as well as consultation with members of the industry and other stakeholders, so that the fishery can proceed with the strong science-based protections in place by the start of the 2025-26 crabbing season. These actions will also position the fishery at the upcoming West Coast Take Reduction Team meetings as having responded to recent elevated entanglements in a way that best represents the needs of the Oregon commercial Dungeness crab industry while simultaneously reducing entanglement risk.

To advance fishing opportunities, we stand ready to support the Oregon Department of Fish and Wildlife in advancing the authorization of pop-up gear for use in times and areas closed to conventional gear for the purpose of whale entanglement risk reduction. Results from experimental fishing gear trials in California demonstrate this gear is profitable, reliable, and safe for whales. In 2024, fishermen testing pop-up gear in California harvested 229,000 lbs. of Dungeness crab worth

roughly $1.6 million with an overall gear reliability rate of 98% at a time when the fishery would otherwise be closed to protect endangered species from entanglements.[2]

More must be done to reduce entanglements and entanglement risk to ensure Oregon's fisheries are legally compliant and so Oregonians can enjoy whale-safe crab. We hope the Commission will create the opportunity for these discussions.

Sincerely,

Ben Enticknap
Oceana

Francine Kershaw, Ph.D.
Natural Resources Defense Council

Joy Primrose
American Cetacean Society

Catherine Kilduff
The Center for Biological Diversity

Attachments:

Oceana, Center for Biological Diversity, Earthjustice (September 2, 2020). Letter to Oregon Fish and Wildlife Commission, Commercial Crab Whale Entanglement Risk Reduction Measures

Whale and Dolphin Conservation, Earthjustice, Oceana, et al. (February 16, 2021) Letter to Oregon Department of Fish and Wildlife, Oregon Whale Entanglement Monitoring and Management

Ocean Defenders Alliance, American Cetacean Society, Endangered Habitats League, et al. (July 17, 2023). Letter to Oregon Fish and Wildlife Commission, Reducing Entanglement Risk in the Oregon Dungeness Crab Fishery

American Cetacean Society, Oceana, Earthjustice et al. (September 9, 2024). Letter to the Oregon Fish and Wildlife Commission, Commercial Dungeness Crab Regulations: Line Marking.

[2] Chadwick, B. (July 22, 2024), Sub Sea Sonics/ Guardian Popup Fishing System – Spring 2024 EFP Testing Results, Report Submitted to the California Department of Fish and Wildlife. Available: https://www.subseasonics.com/news

September 2, 2020

Ms. Mary Wahl, Chair
Oregon Fish and Wildlife Commission
4034 Fairview Industrial Drive SE
Salem, OR 97302

RE: **Commercial Crab Whale Entanglement Risk Reduction Measures**

Dear Chair Wahl and Commission Members:

Oceana, Center for Biological Diversity and Earthjustice commend the Oregon Department of Fish and Wildlife (ODFW) for proposing regulatory changes with the goal of reducing the risk of whale entanglements in the Oregon commercial Dungeness crab fishery. Such actions are necessary to protect threatened and endangered marine life that migrates and feeds off the Oregon coast and necessary for maintaining the sustainability of one of the state's most important commercial fisheries. We write to request the Commission further reduce the risk of entanglements by:

1. increasing the late season reduction of pot limits from 20 to 30 percent;
2. removing the automatic three-year sunset on the pot limit reduction and prohibition on commercial crabbing outside of 30 fathoms;[1]
3. establishing a process to implement temporary in-season area closures in response to elevated entanglement risk;
4. facilitating the use of alternative 'pop-up' fishing gears that can be used to safely catch Dungeness crab without risking whale entanglements; and
5. developing additional rules designed to reduce gray whale entanglement risk.

Globally, entanglement in fishing gear is one of the main threats to large whales. In recent years the number of whales observed entangled in commercial fishing gear off the U.S. West Coast has increased dramatically, including increased entanglement of threatened and endangered whale populations.[2] The majority of confirmed whale entanglements over the past two decades (2001-2019) off the West Coast, when the gear type is known, have been in commercial Dungeness crab

[1] According to the proposed rule, the 20 percent reduction of pot limits and prohibition on commercial crabbing outside of 30 fathoms would be implemented May 1 through the end of the season on August 14th for three years; 2021 through 2023.
[2] Saez, L., Lawson, D., and M. DeAngelis. 2020. Large whale entanglements off the U.S. West Coast, from 1982 2017. NOAA Tech. Memo. NMFS-OPR-63, 48 p.

gear with 94 whale entanglements, or 54 percent.[3] For many other confirmed entanglements, the gear type is unknown (180 total unknown entanglements) and it is likely far more whale entanglements go undetected.

The threatened Mexican Distinct Population Segment (DPS) and endangered Central American DPS of humpback whales feed and migrate off the Oregon coast, and are of particular concern due to their threatened and endangered status. What is more, mean annual mortality and serious injury from commercial fisheries of17.3 whales per year currently exceeds the Potential Biological Removal of 16.7 whales per year for the California-Oregon-Washington humpback whale stock.[4]

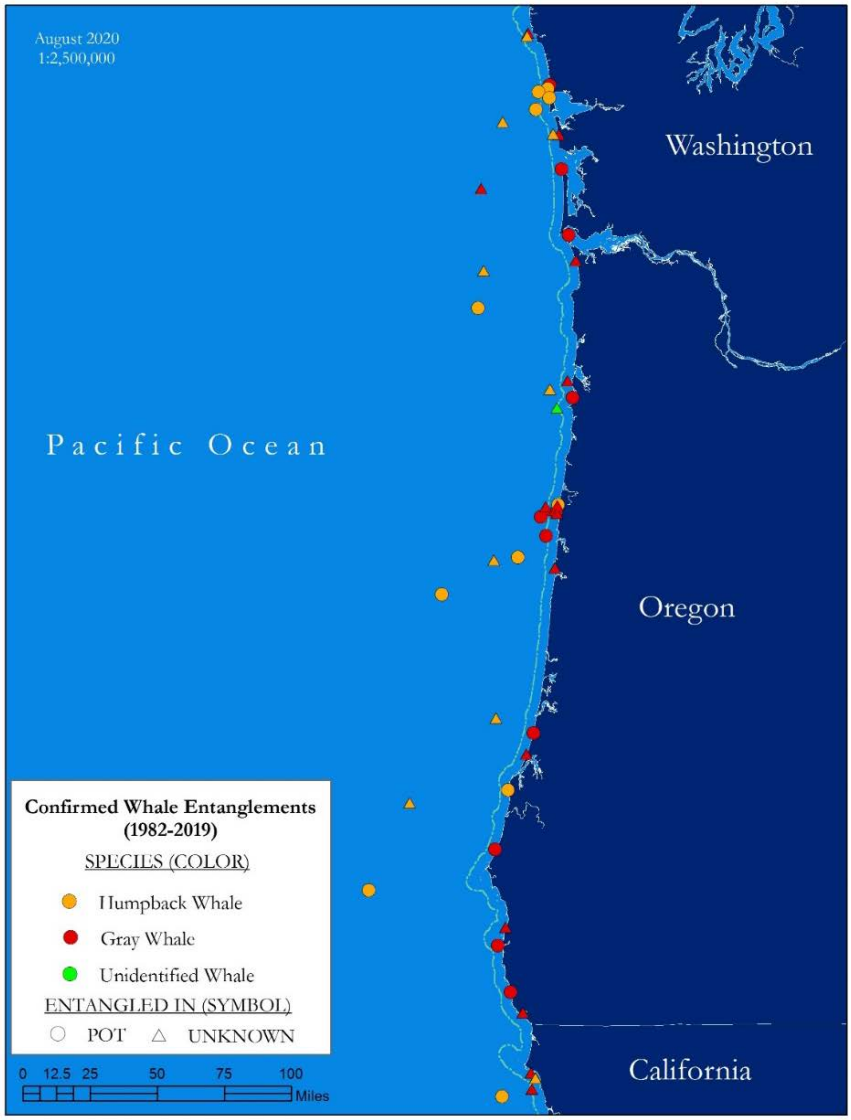

Figure 1. Confirmed whale entanglements off Oregon in pot fishing gear and unknown fishing gear, 1982-2019. Location data indicates where the entanglement was observed, which may not be where the entanglement occurred. Map by Oceana, data source: Saez, L., NOAA, data request, 2020. Large whale entanglements off the U.S. West Coast, from 1982 to 2019.

[3] Saez et al. 2020, with updated 2018-19 data, Personal Communication, May 13, 2020.
[4] NOAA Fisheries. 2020. Humpback whale (*Megaptera novaeangliae*): California/Oregon/Washington stock. Stock Assessment Report (Revised 4/15/2020)177-186.
https://www.fisheries.noaa.gov/webdam/download/109204343

Large whales that become entangled in fixed fishing gears like Dungeness crab gear can experience significant physical trauma including increased drag that affects the animal's ability to dive and feed, emaciation, severe tissue damage, infection, and drowning.[5] If it cannot get free on its own and if it's not disentangled by a response team, the whale normally dies. The National Marine Fisheries Service estimates 75 percent of entangled whales not successfully freed by a trained response team ultimately die.[6]

In response to this alarming and increasing threat to endangered humpback whales, ODFW implemented rules to increase accountability (improved gear marking, 2019) and now proposes additional management measures to reduce the risk of humpback whale entanglement in commercial Dungeness crab gear. While we appreciate ODFW's efforts, the proposed regulations can and should be strengthened. To that we end we make the following requests.

1. **Increase the late season reduction of pot limits from 20 to 30 percent.**

When entanglement risk is elevated, reducing the number of vertical lines or crab gear in the water can reduce that risk. As such, the proposed rule recommends a 20 percent reduction of pot limits across all ocean Dungeness crab permits between May 1 and the end of the fishing season (August 14) for three years; 2021 to 2023. May to the end of the crabbing season generally represents the time period when increased presence of humpback whales off the Oregon coast overlaps with reduced Dungeness crab fishing effort. For example, May to November is the period when humpback whale feeding aggregations have been observed at Stonewall and Heceta Banks off central Oregon.[7] The proposed rule notes that the average ex-vessel value of the Oregon Dungeness crab fishery in the past five crab seasons from May to the end of the season is only five percent of total fishing season value.[8]

The analysis of the proposed regulations presented by ODFW to the Commission on August 7, 2020 shows that a 30% pot limit reduction starting May 1 would provide greater relative conservation value for humpback whales than the 20% pot limit reduction.[9] Yet increasing the late season pot limits from 20 to 30 percent would have only minor, incremental economic costs, from

[5] Moore, M. J., and van der Hoop, J. M. 2012. The painful side of trap and fixed net fisheries: chronic entanglement of large whales. Journal of Marine Biology, Article ID 230653, 4 pp. doi: 10.1155/2012/230653.
[6] NMFS 2012. Protected Resources Management Process for Distinguishing Serious from Non-Serious Injury of Marine Mammals. National Marine Fisheries Service Instruction 02-038-01 (January 27, 2012).
[7] Calambokidis, J., G. H. Steiger, C. Curtice, J. Harrison, M. C. Ferguson, E. Becker, M. DeAngelis, and S. M. Van Parijs. 2015. Biologically important areas for selected cetaceans within US waters-west coast region. Aquatic Mammals 41:39.
[8] Notice of Proposed Rulemaking, Chapter 635 Department of Fish and Wildlife, Commercial Crab Whale Entanglement Risk Reduction Measures (July 30, 2020).
[9] Braby, C. Oregon Department of Fish and Wildlife (August 7, 2020).

- 0.36% to -0.39% of the total annual revenue.[10] We note that the Washington Department of Fish and Wildlife recently implemented a 34% pot limit reduction starting May 1 until the end of each crabbing season[11] and thus this would more closely align with the Washington approach. It may also be important to sufficiently increase the pot limit reduction to prevent an increase in nearshore crab pot density resulting from the depth-based closure.

2. **Remove the three-year sunset on the proposed late season pot limit reductions and depth-based closure.**

The proposed rule implements a pot limit reduction and prohibition on commercial crabbing outside of 30 fathoms from May 1 to the end of the fishing season for three years (2021 – 2023). The Notice of Rulemaking states, "after three years, the rules would be vacated unless the Commission extends or modifies them…". We find it baffling that two of "the three key measures to reduce risk of whale entanglement"[12] in this rule would be automatically removed in three years failing additional action. This approach places an increased burden on ODFW and the Commission to act again to reduce risk to protect endangered whales versus a failure to act, which would result in the automatic roll-back of conservation measures. Instead, the rules should stay in place with a commitment to monitoring, review and adaptive management. It may be that these conservation measures can be improved upon after an initial 3-year period but the default should not be that conservation measures expire if the agency and the Commission take no action.

3. **Establish a mechanism for in-season area closures when entanglement risk is high.**

ODFW and the Commission must also ensure that managers have the authority to temporarily close areas when the risk of entanglement is high. We request ODFW and the Commission work to develop the process and criteria for in-season closure of areas with high entanglement risk including identifying the biological and fishery data required to make such determinations, and the legal mechanisms through which in-season closures would be implemented.

4. **Facilitate the study and use of 'pop-up' fishing gears.**

Ultimately, the most effective way to avoid whale entanglement while allowing continued fishing is to remove vertical lines in the ocean that cause entanglements to occur. Pop-up fishing gear — also known as 'ropeless' gear — keeps all lines and buoys with the crab pot on the ocean floor without the long rope connected to a surface buoy that is used in conventional gear. An acoustic signal from the boat, or a time-release mechanism, releases a flotation device connected to the pot on the ocean floor, so fishermen can retrieve the gear without the constant threat that long

[10] The Research Group LLC. Economic Impacts Proposed Regulations for Whale Entanglement Avoidance. March 2020. Available: https://oregondungeness.org/wp-content/uploads/2020/04/ODCC-final-report-and-presentation-ec-impact-ODFW-proposed-measures-whale-entanglement-avoidance-Mar-2020-ver-6.pdf
[11] https://wdfw.wa.gov/sites/default/files/2020-02/letter_to_license_holders_feb_3_2020.pdf
[12] Notice of Proposed Rulemaking, Chapter 635 Department of Fish and Wildlife, Commercial Crab Whale Entanglement Risk Reduction Measures (July 30, 2020), at 2.

anchored ropes pose to unsuspecting marine life. Oceana has been partnering with crab fishermen since 2018 to test the use of pop-up gear off California.[13] Initial testing has demonstrated that the gear has significant promise to safely and profitably catch Dungeness crab without risking whale entanglements. More testing and development of this new technology, however, is essential to meet the needs of fishermen and fishery managers. We encourage ODFW and the crabbing industry to test different pop-up gear technologies and authorize this gear with incentives for its use like exemptions from pot limit reductions and area closures when deploying pop-up technology.

5. **Consider additional rules designed to reduce entanglement risk for gray whales.**

Gray whales migrating and foraging off the Oregon coast are also entangled in crab gear leading to serious injury and death. Since 2001 there have been 23 confirmed gray whale entanglements in commercial Dungeness crab gear off the West Coast; and next to humpbacks, gray whales are the second most frequently entangled whale in crab gear.[14]

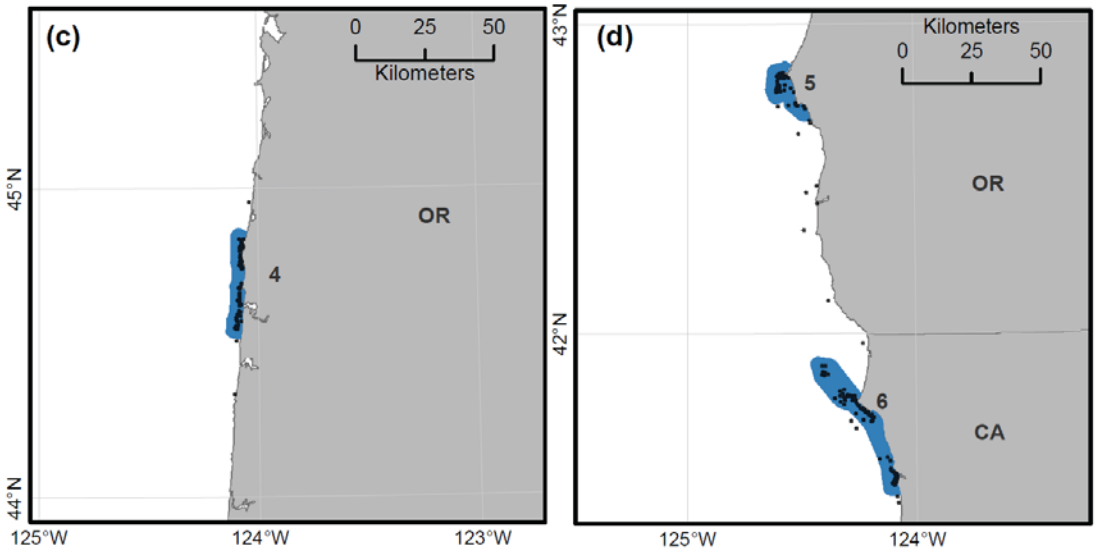

Figure 2. Gray whale feeding Biologically Important Areas (blue polygons) and sightings data (black dots) off Oregon near Depoe Bay and the Cape Blanco/Orford Reef and off Northern California at Point St. George (CA), June to November.[15]

This icon of Oregon's coast uses a relatively narrow band of coastal waters in its impressive annual migration between Arctic foraging grounds and Baja California. Remarkably, over 200 of these

[13] http://www.opc.ca.gov/webmaster/_media_library/2018/08/ropeless-trials-update7-30-18.pdf
[14] Saez et al. 2020, with updated 2018-19 data, Personal Communication, May 13, 2020.
[15] Calambokidis et al. 2015, *supra note* 7. Available: https://www.cascadiaresearch.org/files/publications/Calambokidisetal2015BIAs.pdf

whales known to be part of the Pacific Coast Feeding Group, mostly stay in ocean waters off the Pacific Northwest to feed during summer instead of making the journey further north. Based on years of visual surveys and tagging studies, certain areas have been designated as "Biologically Important Areas" for gray whale feeding including areas near Depot Bay and Cape Blanco (Figure 1).[16] We recommend ODFW and the Commission identify actions to reduce risks to gray whales including implementing seasonal area closures in these distinct feeding areas.

In conclusion, we urge you to amend the proposed rule as described in this letter and take further action to reduce whale entanglement risk. Ultimately a comprehensive solution to prevent whale entanglements includes implementing time and area closures to fishing activity when whales are present, the use of new fishing gear innovations, and increased accountability. We appreciate your attention to this important conservation issue.

Sincerely,

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[16] Calambokidis et al. 2015, *supra note* 7.

February 16, 2021

Caren Braby, PhD
Marine Resources Program Manager
Oregon Department of Fish and Wildlife
2040 SE Marine Science Drive
Newport, OR 97365

RE: Oregon Whale Entanglement Monitoring and Management

Dear Dr. Braby:

Thank you for your hard work and leadership toward reducing the risk of whale entanglements in the Oregon commercial Dungeness crab fishery. We commend the Oregon Department of Fish and Wildlife (the Department) for its actions last year to develop regulatory changes to reduce entanglement risk and increase accountability, and for its ongoing work to develop a Conservation Plan for the Oregon commercial Dungeness crab fishery as part of the Incidental Take Permit (ITP) process required under Section 10 of the Endangered Species Act (ESA). The undersigned organizations are alarmed by the significant increase in whale entanglements off the U.S. West Coast in recent years and are committed to finding and implementing solutions to protect whales and Pacific sea turtles from entanglement while advancing sustainable and responsibly managed fisheries.

As organizations dedicated to the protection of our coastal and marine ecosystems and wildlife, we represent tens of thousands of Oregonians who care about our oceans. We have a vested interest in ensuring Oregon's fisheries are conducted in a way that protects the broader ecosystem, particularly the large whales that migrate and feed off our coast.

We appreciate the Department's invitation to provide feedback on ideas for monitoring entanglements or entanglement risk at the Oregon Whale Entanglement Working Group meeting on January 13, 2021. We encourage Oregon to manage the commercial Dungeness fishery according to entanglement risk. In our view, we must prioritize the development of a monitoring program that provides managers with real-time distribution and abundance of humpback whales, gray whales, blue whales, and leatherback sea turtles off our coast to adequately assess

entanglement risk and identify areas with risk low enough that fishing can proceed. Adaptive, in-season management approaches would support continued fishing efforts if whales and sea turtles are present in low numbers or with appropriate management measures. We believe the California Risk Assessment and Mitigation Program provides a model for how a monitoring program can be specifically designed to directly inform adaptive management. In California, management action to reduce entanglement risk beginning March 15 must occur unless near real-time data shows few whales and sea turtles are present in fishing areas.

With respect to monitoring, we strongly encourage the development and use of standardized data collection methods, including aerial surveys (manned observers are required to maximize detections of large whales; in contrast, aerial digital imagery may increase detection probability of sea turtles) combined with archival and near real-time passive acoustic monitoring via anchored hydrophones or acoustic gliders, to inform managers of whale presence, abundance, and habitat use, and to contribute to the development of predictive models. Predictive modeling of whale distribution based on near real-time ecosystem indicators will be very useful in the future to supplement other data sources (e.g. sightings data, acoustic detections) used to inform management action and prioritize areas for ongoing survey efforts. For now, the focus should be on collecting empirical data through direct and remote observation.

While voluntary data collection programs may provide a useful indication of species presence (e.g. timing of migration), the uncertainty related to opportunistic sightings means that these data alone are not robust enough to underpin management measures. Methods do not currently exist to incorporate opportunistic data into predictive models of species density. Therefore, while we support citizen science and data collection for certain whale identification programs and entanglement reporting, voluntary data collection programs alone should not be a monitoring priority of the Department.

We also encourage the Department to include 100% real-time monitoring of fishing effort as part of a monitoring plan. Timely information of when and where fishing occurs will help to assess risk and identify areas with high co-occurrence of whales and fishing gear. A suite of tools is currently available and being refined, including solar loggers, AIS, VMS, and GPS-tracked buoys that should be part of a monitoring plan for fishing effort.

While the focus of management measures to date and the impending Conservation Plan has been on ESA-listed whales and sea turtles, we remain concerned about the entanglement of gray whales. From 2001 through 2019 there were 23 confirmed gray whale entanglements in commercial Dungeness crab gear off the West Coast, 10 of which occurred from 2015-19.[1] Next

[1] Saez, L., Lawson, D., and M. DeAngelis. 2020. Large whale entanglements off the U.S. West Coast, from 1982 2017. NOAA Tech. Memo. NMFS-OPR-63, 48 p. with updated data, 2018-19 from Saez, L. Personal Communication, May 13, 2020.

to humpbacks, gray whales are the second most frequently entangled whale species in crab gear and are currently experiencing an ongoing Unusual Mortality Event, with an estimated 24% decrease in abundance since 2016. We ask that the Department consider monitoring and management of gray whale entanglements as part of this effort.

Ultimately, the most effective way to avoid whale entanglement while allowing continued fishing is to remove the vertical lines in the ocean that cause entanglements to occur. Pop-up fishing gear—also known as *ropeless* gear or "on demand" gear—keeps all lines and buoys with the crab pot on the ocean floor without the long rope connected to a surface buoy that is used in conventional gear. Our organizations are interested in the testing of pop-up gear in the Oregon commercial Dungeness crab fishery, and we hope to start a dialogue with the Department about how such testing can be facilitated and conducted off Oregon.

Thank you for your time and attention to this important issue. We look forward to reviewing the Conservation Plan when it is available and we remain committed to working with the Department, the Oregon Fish and Wildlife Commission, the fishing industry, and other dedicated stakeholders throughout this process to ensure the protection of whales and thriving fisheries off the Oregon coast.

Sincerely,

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WHALE AND DOLPHIN CONSERVATION

WDC

NRDC

EARTHJUSTICE

CENTER for BIOLOGICAL DIVERSITY

OCEANA

July 17, 2023

Ms. Mary Wahl, Chair
Oregon Fish and Wildlife Commission
4034 Fairview Industrial Drive SE
Salem, Oregon 97302

RE: Reducing Entanglement Risk in the Oregon Dungeness Crab Fishery

Dear Chair Wahl and Commission members,

Entanglement in fishing gear is one of the primary threats impeding the recovery of threatened and endangered humpback whales, endangered blue whales, and endangered leatherback sea turtles. Current management is failing to sufficiently reduce entanglements, with record numbers of entanglements reported on the West Coast starting in 2013.[1] Given that current levels of whale entanglements in the Oregon Dungeness crab fishery have not been reduced, and cumulative takes off the West Coast are exceeding conservation thresholds,[2] more must be done to reduce entanglement risk in the Oregon commercial Dungeness crab fishery.

As conservation organizations dedicated to a healthy marine ecosystem and the protection of marine wildlife, we urge the Commission to adopt a stronger set of risk reduction measures that fully meet the requirements of the Endangered Species Act (ESA) and Marine Mammal Protection Act and promote the recovery of these imperiled species. Specifically, we request the Commission:

1. Implement mandatory late-season risk reduction measures starting no later than April 15 through the end of the crabbing season;
2. prohibit commercial crabbing deeper than 28 fathoms during the late season;
3. implement a 40% late season pot limit reduction;
4. establish procedures for an emergency closure if a North Pacific right whale or Southern Resident orca are confirmed entangled;
5. set a concrete deadline for new line-marking requirements;

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[1] NMFS (2022). West Coast Whale Entanglement Summary, Available: https://www.fisheries.noaa.gov/resource/document/2022-west-coast-whale-entanglement-summary

[2] NOAA Fisheries (2023) Draft U.S. Pacific Marine Mammal Stock Assessments: 2022 Available: https://www.fisheries.noaa.gov/s3/2023-01/Draft%202022%20Pacific%20SARs_final.pdf "Total commercial fishery mortality and serious injury (8.8/yr) is greater than the calculated PBR (2.6) for this stock, thus, it is not approaching zero mortality and serious injury rate."

6. require a regular review of the regulations to assess effectiveness with updated whale and sea turtle distribution and habitat use data; and
7. allow pop-up gear in areas otherwise closed for the purpose of reducing entanglement risk.

Each entanglement of a humpback whale, blue whale or leatherback sea turtle in Oregon commercial Dungeness crab gear constitutes a "take" under the ESA and is unlawful in the absence of an incidental take permit from the National Marine Fisheries Service. The ESA conditions the issuance of an incidental take permit on the development of, and commitment to, implementing a conservation plan that minimizes and mitigates the impacts of any incidental take of endangered and threatened species to the maximum extent practicable.[3] Activities authorized under the incidental take permit must not jeopardize the continued existence of any species, meaning those activities may "not appreciably reduce the likelihood of the survival and recovery of [any endangered or threatened] species in the wild."[4]

Oregon Fish and Wildlife staff propose maintaining the risk reduction measures currently in place which are otherwise set to expire at the end of this year. These measures include a 20% pot limit reduction, 40-fathom depth restriction, and a late-season tag requirement, which are implemented on May 1 through the end of the crabbing season (August 14). Observed entanglements, however, in commercial Oregon Dungeness crab gear have not declined under these measures. Plus, most entanglements go undetected or unreported, and many more entanglements occur in unidentified gear, meaning the number of true entanglements in the Oregon fishery are likely much higher than those observed.[5]

After careful consideration of the risk to endangered species, the performance of current risk reduction measures, and the importance of Oregon Dungeness crab fishery, we recommend the Commission take the below listed actions. We also request that the Commission direct department staff analyze a broader range of risk reduction measures for consideration as part of an adaptive management approach. The temporary measures currently in place and proposed for extension were developed with limited information on whale and sea turtle distribution and habitat use; knowledge on the presence of these vulnerable species off the Oregon coast has increased, and continued data collection will support more detailed models. By proposing to extend these regulations, ODFW is not using the best available scientific data.

1. **Implement the 'late-season' risk reduction measures starting no later than April 15 through the end of the crabbing season.**

New science shows that humpback whales are present in higher concentrations starting in April. Implementing risk reduction measures starting in May is too late. Derville et al. 2023 found that the "seasonality of Dungeness crab fishing and rorqual whale migration coincides with a peak of exposure around the month of April" coinciding with the upwelling season and humpback whale migration.[6] And

[3] 16 U.S.C. § 1539(a)(2)(A)(ii), (B)(ii).
[4] 16 U.S.C. § 1539(a)(2)(B)(iv); *Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv.*, 524 F.3d 917, 933 (9th Cir. 2008) (jeopardy analysis requires NMFS to consider impacts to recovery of species as well as impacts to survival).
[5] Calambokidis et al. 2020. Insights into entanglements from whale population monitoring. Available: https://www.opc.ca.gov/webmaster/_media_library/2020/10/M.1-S.2_Calambokidis_Marine-Life.pdf
[6] Derville, S., TV Buell, KC Corbett, C Hayslip and LG Torres (2023). Exposure of whales to entanglement risk in Dungeness crab fishing gear in Oregon, USA, reveals distinctive spatio-temporal and climate patters. Biological Conservation 281 https://doi.org/10.1016/j.biocon.2023.109989

just this year, a large group of 30 to 50 humpback whales was observed near the Columbia River mouth in April, and inside 40 fathoms.[7]

2. **Prohibit commercial crabbing deeper than 28 fathoms during the late season in accordance with the nearshore extent of critical habitat for threatened and endangered humpback whales.**

The 40-fathom depth restriction is too far offshore and does not align with the best available scientific information on humpback whale habitat or observed humpback whale takes. The available data show that roughly half of confirmed humpback whale entanglements off Oregon since 2014, where gear set depth is known, were in gear set at depths less than 40 fathoms.[8] Revising the depth limit to 28 fathoms is more consistent with the Department's original 30 fathom depth restriction recommendation made in 2020, matches the inshore depth range of designated humpback whale critical habitat,[9] and excludes the area where past entanglements occurred in the 30 to 40 fathom range.

3. **Implement a late season 40 percent pot limit reduction.**

Combined with the above risk reduction measures, implementing a 40% pot limit reduction would significantly reduce the vertical lines in the water causing entanglements. ODFW's own analysis indicates that a 30% late season pot limit reduction would confer 1.5 times the conservation benefit of the current 20% pot limit reduction.[10] A 40% pot limit reduction would likely more than double the conservation benefit to whales. And given that current risk reduction measures did not reduce entanglements, there is no basis for ODFW retaining a 20% pot limit reduction when its own analysis indicates higher levels of pot reduction would confer greater conservation benefit. What's more, a higher pot limit reduction will not only benefit ESA-listed humpbacks, but also gray whales that feed off the Oregon coast in summer months.

4. **Establish an adaptive management approach responsive to real-time observed elevated risk and observed entanglements, including actions to protect North Pacific right whales and Southern Resident orcas.**

We recommend that the Department develop mechanisms to allow for emergency management measures in response to observed periods of elevated entanglement risk, like what is already being implemented with California's Risk Assessment and Mitigation Program.[11] It is critical to be able to respond quickly to the best available science and changing oceanographic conditions.

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[7] ODFW (May 2, 2023). Crab Fleet Advisory. Available: https://www.dfw.state.or.us/MRP/shellfish/commercial/crab/whale_entanglement.asp

[8] ODFW Oregon Entanglement Advisory Committee (March 16, 2023) presentation slides, at 9. Available: https://www.dfw.state.or.us/MRP/shellfish/commercial/crab/whale_entanglement.asp

[9] NOAA 2020. Biological Report for the Designation of Critical Habitat for the Central America, Mexico, and Western North Pacific Distinct Population Segments of Humpback Whales (*Megaptera novaeangliae*). Available: https://media.fisheries.noaa.gov/2021-04/Biological%20Report_HWCH_081420_updated_508.pdf?null= (the 50-meter isobath (27.3 fathoms) is used as the inshore boundary of critical habitat off Oregon).

[10] ODFW (August 6, 2020). Relative conservation benefits for whales under various pot reduction scenarios. Presentation to OFWC Available: https://www.dfw.state.or.us/agency/commission/minutes/20/08_Aug/Reducing%20RIsk%20of%20Whale%20Entanglements%20in%20Oregon%20Dungeness%20Crab%20Fishery%208.7.2020.pdf at slide 19

[11] See: https://wildlife.ca.gov/Conservation/Marine/Whale-Safe-Fisheries

Importantly we recommend that such an adaptive approach include triggers for management actions, up to a complete temporary fishery closure to conventional fishing, if a North Pacific right whale or Southern Resident orca are confirmed entangled in Oregon Dungeness crab fishing gear. North Pacific right whales and Southern Resident orcas are both highly endangered and known to inhabit ocean waters off the Oregon coast. While there have been no confirmed takes of a right whale or Southern Resident orca in commercial Dungeness crab fishing gear, entanglement in fishing gear and vessel strikes and disturbance are considered serious threats to these small populations.

5. **Set a concrete deadline for new line-marking requirements.**

Unidentified whale and sea turtle entanglements continue to be a significant problem and we support efforts to improve line marking to reduce the many entanglements that are in unknown gear. Not being able to confirm the gear and fishery associated with a whale or sea turtle entanglement creates uncertainty for Oregon fisheries and for management. It is just as important to know when an entanglement involves Oregon Dungeness crab gear as it is to know when it is not Oregon crab gear. We understand ODFW is not proposing any line marking requirements at this time as originally planned to better coordinate gear marking requirements with Washington and California. However, we recommend that the Commission request additional information from the Department on its plans to develop line marking requirements and set a concrete deadline for implementation.

6. **Regularly review regulations after enactment.**

Additional data collection and the refinement of species distribution models for whales and sea turtles is underway and new information is expected to be available in the next few years. Setting regular reviews to incorporate the most current information on distribution and habitat use is important to assess the effectiveness of management actions and develop potential amendments. Sensitivity analyses on a range of options with updated species information is important to refine management measures and achieve the highest risk reduction while maintaining a robust and sustainable fishery.

7. **Encourage ODFW to work with the crabbing industry to develop and use pop-up gear with incentives.**

Ultimately, the most effective way to meet ODFW's goal of an economically robust Dungeness crab fishery coexisting with healthy populations of marine life is to remove conventional vertical lines in the ocean that cause entanglements to occur. "Ropeless" fishing gear, also called "pop-up" or "on-demand" gear, keeps all lines and buoys with the crab pot on the ocean floor without leaving the long rope connected to a surface buoy in the water column for the duration of the soak time, as is done with conventional gear. More testing and development of this new technology is essential to advance commercial-scale use of pop-up gear and meet the needs of fisheries and managers. We urge ODFW to work with the crabbing industry to test different pop-up gear technologies and authorize this gear with incentives for its use like exemptions from late season pot limit reductions and area closures when deploying pop-up technology.

Sincerely,

Ben Enticknap
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AMERICAN CETACEAN SOCIETY

Submitted via *ODFW.Commission@odfw.oregon.gov*

September 9, 2024

Ms. Mary Wahl, Chair
Oregon Fish and Wildlife Commission
4034 Fairview Industrial Drive SE
Salem, OR 97302

RE: Commercial Dungeness Crab Regulations: Line Marking

Dear Chair Wahl and Commission members,

Whale entanglements in Oregon's commercial Dungeness crab fishery pose significant threats to threatened and endangered whale populations. This is an ongoing issue that will not be resolved without a concerted effort by the Oregon Fish and Wildlife Commission to chart a path toward a whale-safe crab fishery. Despite the current set of risk reduction measures now in place, the National Marine Fisheries Service (NMFS) confirmed three humpback whales entangled in Oregon commercial crab gear just this year.[1] Cumulative humpback whale takes off the West Coast are exceeding conservation and legal thresholds[2] and more must be done to reduce entanglement risk.

Our organizations, dedicated to ocean conservation and whale-safe fisheries, support the adoption of new regulations for commercial Dungeness crab gear line marking. Line marking alone does not reduce entanglement risk; however, line marking rules are necessary for improved accountability, learning, and management. The Oregon

[1] ODFW (August 31, 2024). Commercial and Recreational Fixed-gear Fishing Marine Life Entanglement Advisory. Available: https://www.dfw.state.or.us/MRP/shellfish/commercial/crab/docs/2024/ODFW_Fleet_Advisory_082124_FINAL.pdf.

[2] NOAA Fisheries (2023) Draft U.S. Pacific Marine Mammal Stock Assessments: 2022 Available: https://www.fisheries.noaa.gov/s3/2023-01/Draft%202022%20Pacific%20SARs_final.pdf "Total commercial fishery mortality and serious injury (8.8/yr) is greater than the calculated PBR (2.6) for this stock, thus, it is not approaching zero mortality and serious injury rate."

Department of Fish and Wildlife (ODFW) states line marking "is *essential* for accurate incidental take accounting and tracking change over time."[3]

The Oregon Fish and Wildlife Commission must adopt new line marking rules to ensure that Oregon Dungeness crab gear is visibly, consistently, uniquely, and comprehensively marked so that NMFS can positively or negatively attribute an observed entanglement to the Oregon commercial Dungeness crab fishery, even in cases with poor quality documentation. The proposed regulations, while a positive step, fall short of this.

Our organizations do not support the proposed protracted timeline for phasing in line marking requirements and we do not support the proposal to mark only the top 15-fathoms of the vertical line. *Instead, we support a requirement for a manufactured dual colored yellow and black line for the full vertical and surface lines by 2028, with temporary line marking requirements in the interim*.

First, under the ODFW proposed phased-in approach there would be no requirement for any vertical line markings for four years (not until the 2028-29 season), and after that fishermen will still be able to use temporary surface and vertical line markings (e.g., paint or tape) for an additional five years (through the end of the 2032-33 season). It would not be for **nine years** - until the 2033-34 season - that manufactured dual-colored vertical line markings would be required. Given the urgency of the whale entanglement problem, including the take of threatened and endangered species, this delay is risky and unwarranted.

Second, given that entanglements have occurred on all portions of line, we strongly recommend the Commission require markings on the full length of the line instead of only the top 15-fathoms. Marking only the top 15-fathoms means an entanglement in the lower, unmarked portion of the line would not be attributable to the fishery. Marking the full line is the only way to be able to rule out Oregon Dungeness crab gear when there are observed whale entanglements in unmarked line.

The proposed line marking rules are not sufficient to ensure that Oregon Dungeness crab gear could be reliably identified (or ruled out) because 1) under the Department's proposal there would be no vertical line marking requirements until 2028, 2) they would allow non-uniform painted/ taped lines until the 2033-34 season, and 3) they would not require all of the line to be marked. We understand there are costs associated with transitioning all vertical lines to uniform manufactured lines. Therefore, we recommend a phased approach for line marking measures to:

[3] ODFW, Agenda Item Summary, Commercial Dungeness Crab Regulations, September 13, 2024. Available: https://www.dfw.state.or.us/agency/commission/minutes/24/09_Sep/B/Ex%20B%20Att%201%20Agenda%20Item%20Summary.pdf.

- **Require dual colored yellow and black line (i.e., marked line) for all line between two buoys (excluding buoy gangions) by the 2025-26 crab season [as proposed by ODFW];**
- **Require dual-colored yellow and black line for <u>all vertical line</u> extending from the main buoy to the crab pot by the <u>2025-26</u> season; and**
- **Allow sets of solid yellow and black marks to be substituted for dual-colored line <u>through the end of the 2026-27</u> season [a three-year transition period to manufactured line].**

This approach would allow for an orderly transition to fully manufactured unique vertical and surface lines by 2028 to maximize probability of fishery attribution in the short and long-term.

Vertical lines left in the water column cause whale and sea turtle entanglements. The ultimate solution is to remove vertical lines during times and in areas where whales and sea turtles are present. This includes time and area closures and pot limit reductions, but also the development and use of "pop-up" gear so that the crab fishery can continue to be productive and profitable. Pop-up fishing gear is a viable way to fish for crab safely in the presence of whales and is a necessary part of the solution. Recent gear testing off California demonstrates that pop-up gear is profitable, reliable, and sustainable.[4] We urge the Commission and the Department to facilitate the use of pop-up gear here in Oregon.

Thank you for your time and attention to this important conservation issue.

Sincerely,

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Oceana

Joy Primrose
American Cetacean Society

Francine Kershaw, Ph.D.
Natural Resources Defense Council

Andrea Treece
Earthjustice

Ben Grundy
Center for Biological Diversity

Regina Asmutis-Silvia
Whale and Dolphin Conservation

Michael Beck
Endangered Habitats Conservancy
Endangered Habitats League

[4] For more information see: https://www.subseasonics.com/_files/ugd/edbdaf_9716e39474ae4f57a833972d1deb0bb8.pdf and, https://usa.oceana.org/wp-content/uploads/sites/4/2024/08/Ropeless_Trials_infographic_AUG-2024-1-scaled.jpg.