

Orca Salmon Alliance (Cindy Hansen)

Please see attached comments from the Orca Salmon Alliance

February 4, 2026

SEPA Revised Draft EIS for the Chehalis Flood Damage Reduction Project
c/o Bobbak Talebi, Southwest Region Office
P.O. Box 47775
Olympia, WA 98504-7775



Re: Revised Draft Environmental Impact Statement for the proposed Chehalis River Basin Flood Damage Reduction Project

Submitted via online portal

Thank you for the opportunity to comment on the revised Draft Environmental Impact Statement (DEIS) for the proposed Chehalis River Basin Flood Damage Reduction Project (Proposed Project). The undersigned groups, as members of the Orca Salmon Alliance, are writing to oppose the construction of a flood retention facility and associated temporary reservoir near Pe Ell, Washington, and changes to the Centralia-Chehalis airport levee. The Orca Salmon Alliance (OSA) is a transboundary coalition of organizations dedicated to the protection and recovery of Southern Resident orcas and the wild salmon populations on which they depend. Through outreach, education, and advocacy, we speak with a unified voice to highlight the connection between these two species and ensure their survival in a rapidly changing world. We recognize that flooding in the Chehalis Basin has caused physical damage and continues to pose a risk to homes and livelihoods in the area, particularly with the increased threat of climate change. Reducing the impact of flooding is a critical goal, however, as the DEIS states, the Proposed Project “would not protect all Chehalis Basin communities from all flooding, and it is not designed to stop regular annual flooding from the Chehalis River or smaller floods.” The Proposed Project comes with a huge price tag at an estimated cost of up to 2 billion dollars and poses an unacceptable risk to cultural resources and Chehalis River salmon habitat. There are non-dam alternatives available that would create fewer adverse environmental impacts, preserve culturally important places, and benefit the entire region as opposed to protecting only a percentage of structures in the basin.

During the previous SEPA review, OSA submitted comments stating that the Proposed Project presents an unacceptable risk to cultural resources of the local Tribes, Chehalis River salmon, and the endangered Southern Resident orcas. The revised DEIS includes updated plans for a facility with an even larger footprint. The dam would be 45% wider and would require 65% more concrete than the original proposal, resulting in even greater cultural and environmental impacts than initially estimated. The DEIS itself concludes that the proposed project “would have **significant adverse impacts** on fish, wildlife, aquatic and terrestrial habitat, recreation, earth, water, transportation, wetlands, land use, Tribal resources, cultural resources, environmental health and safety, environmental justice, and public services and utilities.” We submit these comments on behalf of the endangered Southern Resident orcas and the salmon they rely on for their continued survival. We do not support the Proposed Project given the significant environmental impacts described in the DEIS, and we urge the Department of Ecology to instead adopt a comprehensive plan including non-dam alternatives that will mitigate flood damage throughout the Chehalis Basin without further endangering salmon, orcas and cultural resources.

The Chehalis Basin is a vibrant and important ecosystem

The Chehalis River is the second largest river in Washington State and one of the few undammed major rivers on the west coast. The Chehalis Basin is the largest watershed that originates entirely within Washington, containing 180 lakes, ponds and reservoirs, and over 3,000 miles of rivers and streams. The Basin supports a wide variety of wildlife that are all part of a healthy and functioning ecosystem, including 31 salmonid stocks.¹ None of these are currently listed under the U.S. Endangered Species Act (ESA), although a petition to list Washington Coast spring-run Chinook salmon as threatened or endangered is currently under review.²

Chehalis Basin salmon are in decline and would be negatively impacted by the Proposed Project

Pacific salmon have been extirpated from at least 40% of their historic habitat, and populations return at less than 3% of their historic numbers each year.³ The development and alteration of watersheds, estuaries, and nearshore environments is one of the primary causes of salmon decline, and increasing ocean warming and acidification compound stressors on salmon and can impede their survival.⁴ Climate change impacts are expected to cause an additional 22% loss of current salmon habitat.⁵ Increasing ocean warming and acidification compound stressors on salmon and can limit their survival. The Cascade Mountains have had a 25% decrease in snowpack since 1950 due to increasing global temperatures, and summer streamflow has decreased up to 15%.⁶ Lower streamflow in the summer can increase water temperatures to levels deadly for salmon, decrease suitable habitat, and impede migration.⁷ For example, drought conditions in 2015 were amplified by changes to river flows caused by dams, resulting in a massive die-off of sockeye salmon in the Columbia River, and the marine heat wave of 2015/2016 increased water temperatures in inland Washington, causing the loss of an estimated 1.5 million juvenile fish in overheated streams and rivers.⁸

Although salmon in the Chehalis Basin are not yet listed under the ESA, these once-abundant runs are at risk. They have seriously declined due to overfishing, habitat degradation from unregulated timber harvest, destruction of estuaries, wetlands and floodplains, and development without adequate fish passage.⁹ Spring Chinook runs are estimated at just 23% of what they were historically, and other salmonid species are at less than 50%. It is estimated that the Basin's spring-run Chinook could be functionally extinct by the year 2080 unless action is taken, and climate change and future development are projected to affect aquatic species such as salmon through further habitat degradation.¹⁰ The Proposed Project poses unacceptable increased risk to these already-vulnerable salmon populations. A Washington Department of Fish and Wildlife (WDFW) report from December 2017 stated that "The Chehalis River basin above RM 108.2 supports spawning of wild spring

¹<https://chehalisbasinpartnership.org>

² [Petition To List the Washington Coast Chinook Salmon As Threatened or Endangered Under the ESA.](#)

³ Lackey, R.T. 2000. "Restoring Wild Salmon to the Pacific Northwest: chasing an illusion?" pp. 91-145 in "What We Don't Know about Pacific Northwest Fish Runs? An Inquiry into Decision-Making." P. Koss and M. Katz, editors. Portland State University, Portland, Oregon; Levin, P. and M. Schiewe. 2001. "Preserving salmon biodiversity." *Am. Sci.* 89, 220-227.

⁴ NOAA Fisheries. Chinook salmon: <https://www.fisheries.noaa.gov/species/chinook-salmon-protected>

⁵ USGCRP, 2018: Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II

⁶ Governor's Salmon Recovery Office, "State of Salmon in Watersheds 2019," Governor's Salmon Recovery Office, Olympia, WA, 2019; G. M. a. J. Casola, "State of Knowledge, Climate Change in Puget Sound," Climate Impacts Group.

⁷ Budy, P et al. 2002. Evidence linking delayed mortality of Snake River Salmon to their earlier hydrosystem experience. *N. Am. Journal of Fisheries Management* 22:35–51; Gustafson, R.S. et al. 2007. Pacific salmon extinctions: Quantifying lost and remaining diversity. *Conserv. Biol.* 21, 1009-1020; Levin, P. and M. Schiewe. 2001. Preserving salmon biodiversity. *Am. Sci.* 89, 220-227; Schaller, H. A. et al. 2014. Evaluating river management during seaward migration to recover Columbia River stream-type Chinook salmon considering the variation in marine conditions. *Canadian Journal of Fisheries & Aquatic Sciences*, 71, 259-271.

⁸ Snover, A.K. et al. 2019. "No Time to Waste. The Intergovernment Panel on Climate Change's Special Report on Global Warming of 1.5C and Implications for Washington State." University of Washington Climate Impacts Group, Seattle, WA; Washington State Southern Resident Orca Task Force. 2019. Final Report and Recommendations. Available: <https://orca.wa.gov/>

⁹ www.chehalisleadentity.org

¹⁰ Chehalis Basin Strategy, Aquatic Species Restoration Plan, 2019, pp. 19-20, 211.

Chinook, fall Chinook, Coho, and Steelhead, during most of the year from mid-September to mid-June. This area of the watershed is diverse enough to provide spawning and pre-spawn holding habitat for each of these four species. All four species of salmonids could be affected with the introduction of a dam that creates an inundation footprint the size of the flood retention flow augmentation dam alternative”.¹¹ Another WDFW report from May 2018 stated that “valuable juvenile salmon and steelhead habitat, which is already limited in the Chehalis River, is likely to be negatively impacted by the construction of a dam and result in negative ramifications on the freshwater rearing portion of salmon and steelhead life cycles in this part of the river.”¹²

The DEIS states that the construction and operation of the flood retention facility would have significant impacts on spring-run and fall-run Chinook salmon, coho salmon, steelhead and other native fish due to degraded habitat, water temperature increases of up to 9 degrees, decreased dissolved oxygen, elimination of spawning areas, and reduced fish passage survivability. Population modeling shows that salmon and steelhead above Crim Creek would experience significant adverse impacts during construction and the change in abundance of spring-run Chinook in particular could decrease by as much as 41% to 60%. Salmon and steelhead numbers would fall even further below 70% of historical abundance (Washington State’s salmon recovery target) than the reductions predicted from climate change alone. Modeling also predicts that the Proposed Project would result in significant impacts to one of three important spring-run Chinook spawning areas, and reduced genetic diversity among salmon populations across the Chehalis Basin.¹³ Genetic diversity of salmon stocks is key to maintaining their productivity and resilience to environmental variation.¹⁴ The DEIS states that fewer fish would survive passage around the flood retention facility due to debris accumulation or temporary backwatering and when the reservoir is holding water, salmon would be required to move upstream via a fish ladder or would be transported via a trap-and-transport process. Studies have shown that trap-and-transport can result in increased stress, migration delays, failure to complete smoltification, impacts to swimming performance, lowered disease resistance, and increased infection risks.¹⁵

The Proposed Project would negatively impact endangered Southern Resident orcas

Southern Resident orcas (Southern Resident killer whales, SRKW) are a genetically, acoustically, socially, and culturally distinct population of orcas/killer whales and they do not interact or interbreed with other orca populations.¹⁶ They are part of the fish-obligate “resident” ecotype, and rely almost exclusively on salmon as their primary prey.¹⁷ They were listed as endangered under Canada’s Species at Risk Act (SARA) in 2003, in Washington State in 2004, under the U.S. Endangered Species Act (ESA) in 2005, and endangered in Oregon in 2024. In 2015, they were identified as one of NOAA Fisheries’ Species in the Spotlight, an initiative focused on increasing attention and resources toward highly at-risk species.¹⁸ Southern Residents are continuing to decline despite two decades of protection and recovery actions and the population is currently at just 74 animals.¹⁹

¹¹Ashcraft, S., C. Holt, M. Zimmerman, M. Scharpf, and N. Vanbuskirk. 2017. Final Report: Spawner Abundance and Distribution of Salmon and Steelhead in the Upper Chehalis River, 2013-2017, FPT 17-12. Washington Department of Fish and Wildlife, Olympia, Washington.

¹²Winkowski, J.J., E.J. Walther, and M.S. Zimmerman. 2018. Summer riverscape patterns of fish, habitat, and temperature across the Chehalis River basin. Washington Department of Fish and Wildlife. Olympia, Washington. FPT 18-01.

¹³ Revised Draft Environmental Impact Statement summary. November 2025.

¹⁴Crozier L.G. et al. 2008. Potential responses to climate change in organisms with complex life histories: evolution and plasticity in Pacific salmon. *Evol Appl.* 1(2):252–70. <https://doi.org/10.1111/j.1752-4571.2008.00033.x>; Utter F. et al. 1989. Genetic population structure of chinook salmon (*Oncorhynchus tshawytscha*), in the Pacific Northwest. *Bulletin of the United States Bureau of Fisheries*. 1989;87(2)

¹⁵ Kock T. et al. 2020. Review of trap-and-haul for managing Pacific salmonids (*Oncorhynchus* spp.) in impounded river systems.

¹⁶Hoelzel, A.R. et al. 2007. Evolution of population structure in a highly social top predator, the killer whale. *Molecular Biology and Evolution* 24: 1407-1415.

¹⁷Foote, A. D. et al. 2016. Genome-culture coevolution promotes rapid divergence of killer whale ecotypes. *Nat. Commun.* 7:11693 doi: 10.1038/ncomms11693.

¹⁸ <https://www.fisheries.noaa.gov/species/killer-whale/spotlight>

¹⁹ Population data from [Center for Whale Research](#)

Their main threats include a lack of available prey, namely due to a decline in their primary prey, Chinook salmon; environmental contaminants, particularly bio-accumulative organochlorines such as DDT, PBDEs, and PCBs; and physical and acoustic disturbance, as well as increased potential for oil spills and disease.²⁰ Southern Residents are facing an accelerating risk of extinction according to a population viability analysis from 2024 that tested the sensitivity of this orca population to variability in age structure, survival rates, and prey-demography functional relationships. The paper's authors state that the SRKW population shows lower recovery potential than previously estimated, due to reduced leverage of prey availability. The analysis showed that no single scenario can help Southern Residents reach the recovery objective, but any successful multi-threat mitigation scenario must include ambitious salmon recovery actions, and protecting Southern Residents appears to be impossible without restoring diminished populations of Chinook salmon.²¹

The DEIS states that the Proposed Project would have a less than significant adverse impact on Southern Resident killer whales, but then goes on to say that the Southern Resident killer whales depend on spring-run Chinook salmon as a food source, that the overall number of these fish has been decreasing throughout the region, that the degree to which the decline of salmon from the upper Chehalis Basin resulting from construction of the flood retention facilities is uncertain, and that marine predators such as Southern Resident killer whales could be affected by a change in salmon population.²² The reality is that Chehalis River Chinook are an important source of prey for Southern Resident orcas. Data collected by NOAA from satellite-tagging studies, dedicated surveys, and passive acoustic monitoring, established that all three pods in the Southern Resident population use the coastal waters of Washington year-round and continue to target Chinook as their primary prey, with the highest use occurring during the winter and early spring.²³ The data indicate that, of the total time the orcas spend in coastal habitat each year, approximately 50% of that time is spent off the coast of Washington (in Area 1 - see Figure 1), and NOAA has identified this as a high-use foraging area for the population.²⁴ The movement of the orcas in coastal waters is likely driven by the timing of seasonal Chinook runs, and the concentration of the orcas in the area between Grays Harbor and the Columbia River is likely due to salmon returning to the Chehalis and Columbia River Basins (Figure 2).²⁵ Chinook originating in the Chehalis River are part of a Washington Coast evolutionarily significant unit (ESU) group included in the list of Southern Resident Killer Whale Priority Chinook Stocks.²⁶

²⁰National Marine Fisheries Service. 2008. Recovery Plan for Southern Resident Killer Whales (*Orcinus orca*). National Marine Fisheries Service, Northwest Region, Seattle, Washington

²¹Williams R. et al. 2024. Warning sign of an accelerating decline in critically endangered killer whales (*Orcinus orca*). Communications Earth & Environment. Available: <https://www.nature.com/articles/s43247-024-01327-5>

²² Revised Draft Environmental Impact Statement summary. November 2025.

²³Proposed Revision of the Critical Habitat Designation for Southern Resident Killer Whales: Draft Biological Report. National Marine Fisheries Service, September 2019. Available: <https://www.fisheries.noaa.gov/action/critical-habitat-southern-resident-killer-whale>

²⁴*Ibid*; Hanson, M.B., E.J. Ward, C.K. Emmons, and M.M. Holt. 2018. Modeling the occurrence of endangered killer whales near a U.S. Navy Training Range in Washington State using satellite-tag locations to improve acoustic detection data. Prepared for: U.S. Navy, U.S. Pacific Fleet, Pearl Harbor, HI. Prepared by: National Oceanic and Atmospheric Administration, Northwest Fisheries Science Center under MIPR N00070-17-MP-4C419. 8 January 2018. 33 p.

²⁵ Proposed Revision of the Critical Habitat Designation for Southern Resident Killer Whales: Draft Biological Report. National Marine Fisheries Service, September 2019. Available: <https://www.fisheries.noaa.gov/action/critical-habitat-southern-resident-killer-whale>

²⁶ *Ibid*; NOAA Fisheries and Washington Department of Fish and Wildlife 2018. Southern Resident Killer Whale Priority Chinook Stocks Report. Available: <https://www.fisheries.noaa.gov/west-coast/endangered-species-conservation/southern-resident-killer-whale-priority-chinook-salmon>

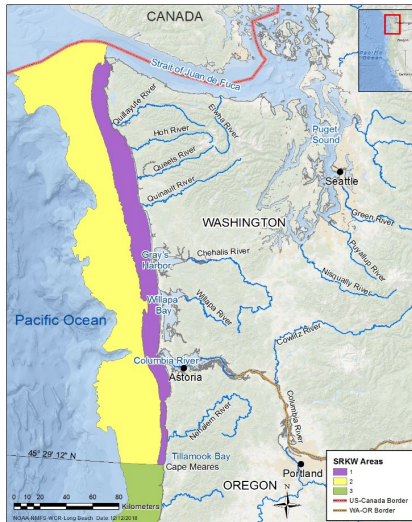


Figure 1 (left): Critical habitat Areas 1 and 2 for Southern Resident orcas have been identified by NOAA as “high-use foraging areas” and include Grays Harbor, the mouth of the Chehalis River.²⁷

Figure 2 (right): Satellite-tagging data from 2015 shows concentrated movement between Grays Harbor and the Columbia River, supporting the “high use foraging” determination of this area.²⁸

A 2021 paper analyzing feces and prey remains from October to May 2004–2017 identified Chinook salmon as an important prey item year-round, ranging from 50% of their diet in the fall to nearly 100% in the spring. The paper states that coastal prey limitations may be particularly acute for K and L Pods, which have a more southern winter range and have historically exhibited lower fecundity than J Pod, and that conservation efforts to increase availability of Chinook salmon that inhabit the whales’ winter range may be an effective conservation strategy for this population.²⁹ Recognizing the importance of these coastal waters, in 2021 NOAA expanded critical habitat for Southern Resident orcas to include the U.S. West Coast from the Washington/British Columbia border to Point Sur, California.³⁰

Although Southern Residents continue to frequent coastal waters when these historic spring Chinook runs are returning, the decline of Chinook has had a significant impact on them. A lack of prey throughout their range is widely recognized as the primary limiting factor to their immediate survival and future recovery, with increased mortality and decreased fecundity shown to be correlated with coastwide indices of Chinook salmon abundance.³¹ Salmon depletion has led to changes in their social structure, decrease in presence in their core

²⁷Proposed Revision of the Critical Habitat Designation for Southern Resident Killer Whales: Draft Biological Report. National Marine Fisheries Service, September 2019. Available: <https://www.fisheries.noaa.gov/action/critical-habitat-southern-resident-killer-whale>

²⁸Map and tagging data from Northwest Fisheries Science Center satellite tagging blog. Available: <https://www.noaa.gov/sites/default/files/legacy/document/2020/Oct/07354626789.pdf>

²⁹ Hanson MB. et al. 2021. Endangered predators and endangered prey: Seasonal diet of Southern Resident killer whales. Available: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0247031>

³⁰ National Marine Fisheries Service. 2021. Endangered and Threatened Wildlife and Plants; Revision of Critical Habitat for the Southern Resident Killer Whale Distinct Population Segment Available: <https://www.fisheries.noaa.gov/action/critical-habitat-southern-resident-killer-whale#9>

³¹Ford, J.K.B, G.M. Ellis, and P.F. Olesiuk. 2005. “Linking prey and population dynamics: Did food limitation cause recent declines of ‘resident’ killer whales (*Orcinus orca*) in British Columbia.” Fisheries and Oceans; Ford J.K.B et al. 2010. “Linking killer whale survival and

summer feeding areas, an increase in stress hormones and a miscarriage rate of almost 70%.³² The small population size has led to loss of genetic diversity and potential inbreeding depression.³³ Photogrammetry studies show that the Southern Residents are experiencing a decline in body condition between October and May, when they are spending the majority of their time in coastal waters.³⁴ For their immediate survival and future recovery, the Southern Resident orcas need abundant, diverse, and accessible Chinook salmon prey throughout their range.³⁵

The DEIS states that the number of fish likely impacted by the Proposed Project represents a small proportion of the overall diet of the Southern Residents but underestimates the potential effect of further declines of prey availability to the orcas. Salmon from all rivers within the orcas' range are not available to the orcas on a year-round basis but instead are critical to their survival during specific seasons. The spatiotemporal distribution of Chinook runs within the orcas' range means that different runs are more available, and therefore more important, to the Southern Residents at different times of the year. Chehalis Basin Chinook provide an important source of food and nutrition during the late winter and early spring. Current conditions in river and marine ecosystems are not adequate to support salmon quality and quantity sufficient for Southern Resident orcas. Projects that would further reduce salmon abundance pose significant additional risk, especially in a portion of their range and a season when the orcas are more likely to be in poor body condition and nutritionally-stressed.

A paper from Orca Behavior Institute using sighting data from their research encounters, Orca Network, Pacific Whale Watch Association and experienced observers showed that decreased spring usage of the Salish Sea habitat (recognized as their core summer area) by Southern Residents correlates with declines in Chinook salmon from the Fraser River.³⁶ Their use of this core critical habitat has been decreasing for several years and observations from the Center for Whale Research and Canada's Department of Fisheries and Oceans has shown them to be foraging off the coast during the summer months.³⁷ This change in habitat use shows that Southern Resident orcas may adapt their foraging patterns when food becomes scarce, spending more time in the coastal portion of their established home range, further underscoring the importance of salmon recovery throughout their habitat. With Fraser River salmon runs continuing to decline, the coastal sources of salmon runs will likely become more important to the immediate survival and eventual recovery of the Southern Resident community.

prey abundance: food limitation in the oceans' apex predator?" *Biology Letters*, 6:139–142; Ward E.J, E.E. Holmes, and K.C. Balcomb. 2009. "Quantifying the effects of prey abundance on killer whale reproduction." *Journal of Applied Ecology*, 46: 632–640; National Marine Fisheries Service 2008. "Recovery Plan for Southern Resident Killer Whales (*Orcinus orca*)."; Proposed Revision of the Critical Habitat Designation for Southern Resident Killer Whales: Draft Biological Report. National Marine Fisheries Service, September 2019. Available: <https://www.fisheries.noaa.gov/action/critical-habitat-southern-resident-killer-whale>.

³²Data from the Center for Whale Research; Wasser S.K. et al. 2017. Population growth is limited by nutritional impacts on pregnancy success in endangered Southern Resident killer whales (*Orcinus orca*).

³³Ford, M. et al. 2018, Inbreeding in an Endangered Killer Whale Population. *Animal Conservation*, 21(5):423-432. DOI: 10.1111/acv.12413

³⁴Fearnbach, H. et al. 2018. Using aerial photogrammetry to detect changes in body condition of endangered southern resident killer whales. *Endang. Species Res.* 35:175-180. <https://doi.org/10.3354/esr00883>

³⁵ Washington State Southern Resident Orca Task Force. 2019. Final Report and Recommendations. Available: Final Report and Recommendations:

³⁶Shields, M.W. et al. 2018. Declining spring usage of core habitat by endangered fish-eating killer whales reflects decreased availability of their primary prey. Shields, M.W. 2023.2018–2022 Southern Resident killer whale presence in the Salish Sea: continued shifts in habitat usage. <https://peerj.com/articles/15635/>

³⁷Data from Center for Whale Research.

Conclusion

Flooding is a natural process in the Chehalis River basin and it plays an important ecological role in the watershed. Habitat destruction from logging and development have likely intensified the impacts of flooding in more recent times, and as a result flood mitigation remains an important aspect of future planning in the Chehalis Basin. However, construction and operation of the proposed flood retention facility would lead to further loss of salmon habitat and would exacerbate climate change impacts to the river ecosystem as well as the ability of Chehalis Chinook to respond to environmental changes.

Southern Resident orcas rely on Chehalis River Chinook for at least part of the year and especially during times when they are nutritionally stressed. Abundant and available salmon throughout their range is necessary if this unique, iconic community is to survive and thrive. In 2018, Washington's Governor Inslee called on all Washingtonians to do what they can to help save the Southern Resident orcas. He issued an Executive Order and created the Southern Resident Orca Task Force consisting of around 50 members from various organizations, agencies and stakeholder groups. The process ultimately resulted in 49 recommendations, many of which were aimed at salmon recovery on behalf of the Southern Residents. Orcas are Washington's official Marine Mammal, and the state has taken significant action in recent years to halt the decline of this population and ensure their recovery. The construction of a dam is in direct opposition to that goal.

In place of the Proposed Project, we urge the Department of Ecology to develop a comprehensive, proactive restoration plan that incorporates elements of the Local Actions-Non Dam Alternative proposal, providing natural flood control solutions while supporting salmon, Southern Resident orcas, Tribal resources, and the health of the watershed. We need a plan that does not cause significant adverse impacts but supports ecosystem recovery while protecting communities from the impacts of catastrophic floods.

Sincerely,

Cindy Hansen
Education & Advocacy Coordinator
Orca Network

Joseph Bogaard
Executive Director
Save our Wild Salmon Coalition

Miguela Marzolf
Conservation Policy Manager
Seattle Aquarium

Rein Attemann
Puget Sound Senior Campaign Manager
Washington Conservation Action

Whitney Neugebauer
Director
Whale Scout

Hannah Epstein
Marine Conservation Manager
Oregon Shores

Gail Cabahug
Advocacy & Policy Manager
Puget Soundkeeper

Lovel Pratt
Marine Protection and Policy Director
Friends of the San Juans

Caroline Genther
Assistant Stranding Coordinator
Whale and Dolphin Conservation - North America

Margaret E. Townsend
Senior Freshwater Attorney | Endangered Species
Program
Center for Biological Diversity