Exhibit E

Public Correspondence Received as of July 28, 2025

Public comments addressed to ODFW on its draft ESMP for SRO

From: mike miller
Sent: Wednesday, July 2, 2025 9:11 AM
To: TAKATA Howard K * ODFW
Subject: orcas
Do everything humanly possible to protect this and all species in the ocean and on land.
thank you

Summary of testimony from ODFW's July 9, 2025 public meeting:

Emma Helverson (Wild Fish Conservancy)

- Appreciates work of Oregon Fish and Wildlife Commission and ODFW and that Oregon is "jumping in and rolling up their sleeves" on SRO recovery
    - A coastwide coalition is needed
- There is a new report from an independent science panel (ISP) on SRO recovery
    - Current recovery actions are inadequate and should be changed or modified
    - Prey remains the primary constraint for SRO
- ODFW should compare actions in its ESMP to those recommended in ISP report
- Timeline for ESMP development seems short; should take the time to get it right
- Some consistencies between ESMP and ISP report on habitat restoration and toxins, but there are two major inconsistencies:
    - Lack of information in ESMP on fishery harvest impact on SRO
        - In contrast, all six of ISP recommendations related to increasing prey for SRO in the short term are related to fishery harvest
        - Recent research paper by Williams et al. (2024) argues that ocean salmon fisheries (Pacific Salmon Treaty [PST] fisheries in particular) are largest source of prey interception/loss for SRO
    - ESMP references ODFW's support for Amendment 21 of the Pacific Coast Salmon Fishery Management Plan and the PST, but ISP report says that these management frameworks are harming SRO
        - Amendment 21 allows harvest to increase when Chinook abundance increases, but share of Chinook for SRO doesn't change
- Increasing hatchery salmon production is the short-term strategy currently being used in WA to enhance prey availability for SRO but there are two concerns:
    - WA and federal government (NMFS) did not evaluate this strategy thoroughly enough before implementation
    - Enhanced hatchery production may only benefit fisheries and not SRO

Aimee Aguilar

- Appreciates Oregon's efforts on behalf of SRO
- Believes that Oregon and Washington are different in many ways
    - Environment of Salish Sea different from ocean off Oregon coast
        - Oregon ocean fisheries seem to catch many more Coho than Chinook
    - Soundwatch program in Salish Sea educates boaters on SRO; Oregon doesn't have a program like that and many people that come to the coast to see whales are from other parts of the state or different states and not very familiar with them
    - Oregon may require a different approach to SRO recovery than actions taken in Washington
- There have been restoration success stories in Oregon (e.g., Salmon River estuary), but what is Oregon going to do that is better than what we've done before?

From: Dr. Marisa Trego - NOAA Federal
Sent on: Wednesday, July 9, 2025 9:13:56 PM
To: TAKATA Howard K * ODFW <Howard.K.TAKATA@odfw.oregon.gov>
Subject: Re: ODFW Draft Management Plan for Southern Resident Orcas

Hi Howard,

It was great to have you at our meeting yesterday. We just had a few informal suggestions to send your way. It mentions engaging with different contaminant focused groups but not the Columbia River Basin Restoration Project toxics monitoring subgroup. It seems like something you could consider, though perhaps this may be highlighted in other plans in development by different state agencies?

Our colleague who works more on prey also wanted to pass along this priority prey report in case it is helpful to highlight the importance of Columbia river Chinook to SRKW.

Cheers,
Marisa

STATE OF WASHINGTON

July 14, 2025

Howard Takata
Oregon Department of Fish and Wildlife
4034 Fairview Industrial Dr SE
Salem, OR 97302

Dear Mr. Takata,

Thank you for this opportunity to comment on ODFW's draft Endangered Species Management Plan (ESMP) for Southern Resident killer whales (SRKW). These comments represent feedback from agencies representing Washington's SRKW recovery effort, including the Governor's Salmon Recovery Office (GSRO) with technical support from the Washington Department of Fish and Wildlife (WDFW).

We commend ODFW and the Oregon Fish and Wildlife Commission for designating SRKW as endangered at the Oregon State level, and we are excited to have Oregon join the SRKW recovery effort by outlining actions and plans for how Oregon agencies including ODFW will support SRKW recovery. With only 73 individuals, the forecast for the SRKW population is dire, and it will take sustained, multi-pronged effort across all the major threats to SRKW from Federal, State, Tribal, and Local government partners all rowing together if we hope to tip the scales away from extinction and towards recovery. While no *one* partner can have "enough impact over time to move a species towards de-listing," Oregon's contribution to SRKW conservation is highly valuable to the broader regional effort.

Your colleagues in Washington send this letter of support and encouragement and appreciate the identified current actions as well as the new actions and hope to support Oregon's efforts through increased coordination and collaboration.

We want to highlight what we see as existing work that contributes to SRKW recovery or potentially new opportunities to spotlight SRKW recovery efforts, grow partnerships, and further lean-in on SRKW recovery.

Prey Availability

ODFW is already conducting several other efforts that support prey availability that you might call out:

- Highlight Oregon's ongoing efforts around predation affecting salmon recovery, including avian and pinniped predation management, the Northern Pikeminnow

Sport Reward Program, and efforts to reduce non-native fish that prey on species in SRKW's food web.
- Include Oregon Watershed Enhancement Board as another partner in salmon habitat restoration and acquisitions and emphasize opportunities to work in highly productive or potentially productive salmon watersheds that support prey for SRKW.
- Consider including Oregon's efforts with invasive species management that impact salmon recovery.

Contaminants

Related to understanding and addressing contaminants in the SRKW environment and food web:

- ODFW could seek funding to track whether contaminants of emerging concern (CECs) besides 6PPD-q are present in orca prey, especially new POPs, which would be persistent and bio-accumulative.
- Similarly to Oregon's DEQ, Washington's Department of Ecology plays a central role in addressing water quality. However, WDFW's Toxics Biological Observation System (TBiOS) team contributes valuable research and monitoring of toxic contaminants in fish and other organisms. This could be a model that ODFW explores, and ODFW is encouraged to reach out and explore collaborative opportunities with Washington's TBiOS team.

Vessels

Following are some initiatives in Washington that may be appropriate to consider as you develop messaging, management or policy around vessels:

- Add efforts to address Oil Spill preparedness and response, including a potential role for ODFW to coordinate deterrence of SRKW from oil spills as part of a regional oil spill response strategy. Consider partnering with WDFW regarding existing best practices and opportunities for collaboration.
- Related to boater education, consider the use of Be Whale Wise messaging for increasing awareness of viewing Southern Resident orcas. Also encourage land-based whale watching opportunities such as the Whale Trail in outreach efforts.
- We do not recommend promoting a voluntary 100-yard vessel setback from SRKW, which has the potential to do more harm than good by drawing vessels too close to SRKW.
    - The science shows us that vessels within 400 yards have drastic effects on foraging success, and even vessels going 1-2 knots within 1600+ yards of SRKW affect the ability of SRKW to forage and communicate. Even vessels under sail and nonmotorized vessels like kayaks and paddle boards can impact whale behavior.
    - In Washington, NMFS prohibits vessels from approaching killer whales within 200 yards in inland waters and from parking in the path of whales, and Washington State has a new law requiring a 1,000-yard vessel setback distance from SRKW in Washington waters.
    - NOAA expanded critical habitat in 2021 to the outer coast, and there has not yet been a rule update to reflect any further federal protection.

- We encourage messaging around *avoiding* Southern Residents or promoting a voluntary 1,000-yard avoidance area and 7-knot speed limit around SRKW until either NMFS finalizes new federal vessel regulations or Oregon adopts protective vessel regulations at the state level.
- Assess and consider impacts in Oregon waters from other vessel types, including commercial vessels. Consider partnering with Washington's Quiet Sound or Canada's ECHO program to consider measures such as slowdowns, whale detection technology, and/or quieter vessel technology.

Thank you for this opportunity to review the Endangered Species Management Plan for Southern Resident killer whales. We look forward to collaboration opportunities to recover this endangered species which has profound regional significance in the Pacific Northwest.

Sincerely,

Tara Galuska
Orca Recovery Coordinator
Governor's Salmon Recovery Office
Recreation and Conservation Office

Cc: Owen Rowe, Senior Policy Advisory, Governor's Office
Julie Watson, Killer Whale Policy Lead, Washington Department of Fish and Wildlife

From: stacey c
Sent on: Tuesday, July 15, 2025 5:36:18 AM
To: TAKATA Howard K * ODFW <Howard.K.Takata@odfw.oregon.gov>
Subject: SRO management comment

Dr Mr Takata

I'm writing to request you continue with the protection plan in place for endangered Southern Resident orcas. Would also like to recommend added protections for boater/ watercraft distances to help protect their safety and ability to forage without risk of injury or disruption as they transit Oregon waters. Working with an organization such as Bewhalewise.org to help promote education.

These endangered killer whales are a unique population to our area and we need to take steps to continue to maintain and advance protections for them.

Respectfully yours,
Stacey Crofoot

From: Christine Stepper-Coulter
Sent on: Tuesday, July 15, 2025 2:42:41 PM
To: TAKATA Howard K * ODFW <howard.k.takata@odfw.oregon.gov>
Subject: Strong Support - SRO Management Plan

Dear Mr. Takata

I'm writing in strong support of Oregon's Southern Resident Orca Management Plan—and to urge you to take bold, meaningful steps that go beyond contribution toward a truly comprehensive conservation commitment.

Southern Resident orcas are not just iconic animals—they are indicators of ocean health and deeply tied to the culture, identity, and ecological balance of the Pacific Northwest. While Oregon's plan is a welcome step, it must not be limited to supporting regional efforts. Oregon has a unique opportunity—and responsibility—to lead.

This means fully integrating orca conservation into state priorities by:

- Restoring salmon populations, especially in key Oregon rivers, to support the orcas' primary food source
- Reducing toxic pollution and runoff that harms both orcas and the fish they rely on
- Protecting critical habitat through stronger land-use protections and ecosystem restoration
- Educating and engaging Oregonians in long-term stewardship

We cannot afford to delay or take half-measures. The Southern Residents are critically endangered, and their survival depends on immediate, coordinated, and bold action. Oregon should not simply play a supporting role—we must lead in building a future where these orcas can thrive.

Thank you for your work on this issue and for considering a more assertive path toward true conservation.

Sincerely,
Christine Stepper-Coulter

From: Tammy Somers
Sent on: Tuesday, July 15, 2025 3:03:55 PM
To: TAKATA Howard K * ODFW <Howard.K.Takata@odfw.oregon.gov>
Subject: Subject: SRO Management Plan Comment

Dear Mr. Takata,

Thank you for Oregon's effort to create a plan for Southern Resident orcas. I strongly support the state taking action, but ask that this plan be strengthened to meet the urgency of the moment:

- Oregon must go beyond just "contributing" and commit to full conservation.
- Give the 7 proposed actions clear timelines, funding, and accountability.
- Implement & enforce a minimum 1000-yard vessel buffer like Washington has... voluntary guidelines aren't enough.
- Partner with Be Whale Wise to research, implement and educate regarding laws and best vessel practices.
- Expand hatchery Chinook production responsibly, while restoring salmon habitat and supporting dam removal.
- Tackle contaminants like PCBs and tire chemicals that move up the food chain and harm orcas.
- Don't rely solely on anecdotal sightings... fund science and monitoring.
- Collaborate across state and tribal borders to ensure unified, enforceable protections.

Oregon's actions today will decide the fate of these whales. Please make this plan strong, enforceable, and urgent.

Sincerely,

Tammy Sierp
Indianapolis, IN
Frequent visitor to Beautiful Florence OR!

July 15, 2025

Oregon Department of Fish and Wildlife
4034 Fairview Industrial Drive SE
Salem, OR 97302

Re: Oregon Department of Fish and Wildlife Endangered Species Management Plan for Southern Resident Orcas

Thank you for the opportunity to review the draft Endangered Species Management Plan (ESMP) for Southern Resident Orcas (SRO). On behalf of the signatories of this letter, we respectfully submit the following comments based on our review and look forward to working with you and the other participating agencies on developing and implementing the best possible combined ESMP.

Sections 4.A.1 & 2 (Maintain Current Actions: Restore Salmon Habitat & Improve Fish Passage)

We recommend the Oregon Department of Fish and Wildlife (ODFW and Department) update the policies and procedures in programs referenced in both the "Restore Salmon Habitat" and "Improve Fish Passage" sections to account for SROs, where relevant. For example, as part of ODFW's Statewide Priority Barrier List,[1] SRO could be added into the equation determining priority barrier rankings as a species that would benefit from certain fish passage projects.[2] We also recommend ODFW include references to SRO, where relevant, to future updates to all the policies and procedures for programs referenced in both sections.

Sections 4.A.4 & 4.B.1 (Maintain Current Actions: Maintain Existing Hatchery Salmon Production & Implement New Actions: Potentially Increase Hatchery Chinook Salmon Production)

While we acknowledge that expanded hatchery production may need to be part of short term solutions to help the Southern Resident orcas recover, it is not guaranteed to result in the orcas consuming more salmon. We recommend ODFW include language explaining that any maintenance or expansion of existing hatchery salmon production is conducted in accordance with the best available science and is regulated with the intent to ensure that it is done for the benefit of SRO. As such, in Section 4.B.1., we encourage ODFW to add a

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[1] *2025 Statewide Fish Passage Barrier Priority List,* OREGON DEP'T OF FISH AND WILDLIFE (2025), https://www.dfw.state.or.us/fish/passage/docs/inventories/2025%20Fish%20Passage%20Priority%20List%20Methods.pdf.

[2] *See* Section 3.1 Improving quality, abundance and access to prey for an additional assessment of major fish passage barriers to chinook salmon within Oregon. *Strengthening*

recovery actions for Southern Resident killer whales, INDEPENDENT SCIENCE PANEL ON SRKW RECOVERY (March 2025), https://davidsuzuki.org/wp-content/uploads/2025/07/UNEMABRGOED_SRKW-Science-WorkshopSummary-Report.pdf

new step to their proposed "two-step process" where the Department evaluates whether any increase in hatchery fish production will benefit SRO. As part of this evaluation, ODFW can factor in the following items:

1. Ensure that all expanded hatchery programs adhere to the best available science.
2. Where possible, incorporate emerging methods of determining prey origin (hatchery vs. wild) in the Southern Residents' diet.
3. Institute a clear and transparent process for public review of any potential increase in production.

To ensure that an increase in hatchery production benefits the orcas, we recommend that, in addition to the above steps, ODFW consider allocating Chinook salmon for the SRO when setting fishing quota recommendations for commercial and recreational fishing to the Oregon Fish and Wildlife Commission. If SROs are not getting enough calories (as evidenced by poor body condition), then ODFW should consider reducing harvest or closing fishing when SROs are in Oregon waters.[1]

Section 5 (Monitoring ESMP Implementation)

We recommend ODFW identify and include measurable, outcome-based indicators and goals specific to SRO population recovery throughout relevant sections of this plan. The inclusion of these indicators will help the public and ODFW evaluate actions related to SRO recovery. We recommend that failure to meet these goals be a variable triggering the review and reassessment of the ESMP in Section 6 of this plan. Moreover, when possible, we encourage ODFW to align monitoring indicators and goals with the standards adopted by Washington State, British Columbia, and the scientific community.

Section 7 (Relation to Other ESMPs, Federal Recovery Plans, and Recovery Efforts)

[1] John Ryan, *Fragmented conservation efforts leaving Northwest orcas at risk, report warns*, OPB (July 12, 2025), https://www.opb.org/article/2025/07/12/northwest-orcas-conservation-report/ ("The orcas' population and the health of surviving members have both been trending the wrong way. Drone images of southern residents taken between July and November 2024 revealed that 22 out of 73 orcas were in "poor body condition," researchers' term for whales that are exceptionally thin. It was the highest number of skinny orcas that researchers had detected in 17 years of analyzing the whales' shapes from aerial photos. They just aren't getting the energy, the caloric intake, they need," said Holly Fearnbach, marine mammal research director with the Washington nonprofit Sealife Response, Rehabilitation, and Research.").

We understand that, under OAR 635-100-0140, the state land-owning or managing agencies with a role to play in SRO conservation – ODFW, Oregon Parks and Recreation Department, and Department of State Lands (DSL) (proprietary component) – are required to submit separate management plans due to their differing missions, structures, funding sources, and relationships to the recovery of SRO. However, we strongly recommend that ODFW use its ESMP to clearly outline how it will collaborate with the five state non-land owning or managing agencies involved in SRO conservation – Department of Environmental Quality, Department of Land Conservation and Development, Oregon State Marine Board, Oregon State Police and DSL (non-proprietary component) – even though these agencies are not required to submit full ESMPs.[4] Interagency coordination is essential to avoid a siloed approach and to ensure that efforts are complementary, not duplicative or conflicting

We urge the Department to include specific mechanisms for coordination, including joint planning, data sharing, and shared implementation timelines. In addition, we encourage ODFW and its agency partners to convene recurring meetings or workshops to review progress, align priorities, and adapt strategies based on each Department's role, capacity, and available resources. Regular coordination will be critical to maximizing the effectiveness of Oregon's collective recovery efforts. We encourage ODFW to continue to invite the public and NGO stakeholders to participate in these meetings or workshops.

Based on input from independent researchers and scientists who have studied the SRKWs for decades, we recommend that ODFW review the recent "Strengthening recovery actions for Southern Resident killer whales report"[5] released on June 7 by 31 experts from Canada,
Europe, and the United States. In this report, these experts provided many recommendations for ways to recover SROs.[6]

Sincerely,

David Bain
Chief Scientist
Orca Conservancy

Brady Bradshaw
Senior Oceans Campaigner
Center for Biological Diversity

Ian Giancarlo
Oceans Advocate
Environment Oregon

Annie Merrill
Marine Conservation Manager
Oregon Shores

Colin Reynolds
Senior Advisor, Northwest Program
Defenders of Wildlife

John Rosapepe
Pacific Northwest Representative
Endangered Species Coalition

Amie Kusch
Master's Student, Marine Affairs
University of Washington

Teri Wright
Forest/Salmon/Orca Advocate

[4] OAR 635-100-0150(3).

[5] *Strengthening recovery actions for Southern Resident killer whales*, INDEPENDENT SCIENCE PANEL ON SRKW RECOVERY (March 2025), https://davidsuzuki.org/wp-content/uploads/2025/07/UNEMABRGOED_SRKW-Science-Workshop-Summary-Report.pdf

[6] *New science report identifies roadmap to aid in the recovery of endangered Southern Resident killer whales*, RAINCOAST CONSERVATION FOUNDATION (July 7, 2025) https://www.raincoast.org/press/science-report-recovery-srkw-100919/

COMMENTS ON THE DRAFT OREGON DEPARTMENT OF FISH AND WILDLIFE SOUTHERN RESIDENT ORCA ENDANGERED SPECIES MANAGEMENT PLAN

Submitted by Dr. David Bain, Chief Scientist, Orca Conservancy July 15, 2025

The ESMP should address all threats to southern residents, not just the top three. While limited resources are unlikely to allow completely addressing all threats immediately, a recovery budget from the whales' perspective should be developed in cooperation with other agencies involved in SRO recovery. That is, to maintain the whales' genetic diversity, a target recovery rate of the population doubling every 25 years should be established. Then, the package of proposed recovery actions should be evaluated in terms of population impact and time delays in achieving that impact. E.g., changes in fishery practices and reductions in disturbance can have immediate impact. Increases in hatchery production are likely to make more prey available to the whales after a few years when salmon will mature and return to spawn. Dam removal could start to show increases in prey availability after several years, with further increases occurring over decades as increased in-river survival leads to population growth and restoration of riparian habitat proceeds. Addressing toxic chemicals may take decades to show net benefits, as toxins already in biomass bioaccumulate in southern residents and increase severity of problems, but slowing the addition of new toxins into the environment will reduce the negative impact of toxins compared to what would be the case if no action were taken. The package can then be evaluated in terms of whether enough is being done, and financial budgeting can be set accordingly (as opposed to whether everything is being done, or only an inadequate selection of "best bang for the buck" actions are being taken).

The top three threats addressed in the draft ESMP are prey availability, disturbance, and toxins. Additional threats ODFW could address include disease, oil spills, incidental takes, invasive species, harmful algal blooms, climate change and ocean acidification.

Prey availability can be addressed through the familiar four H's (hatcheries, harvest, hydropower and habitat) and the increasing threat of human-enhanced predation. Disturbance can be addressed through regulation of intentional interactions with whales, which needs to be stricter than current federal rules, and education of stakeholders to encourage voluntary adoption of best management practices where ODFW lacks regulatory authority (e.g., commercial shipping). It can also be addressed through permitting conditions (or declining to permit) activities such as offshore energy production, coastal construction, seismic surveys, and military exercises.

Toxins need to be addressed at many levels, including toxins that directly affect southern residents, toxins that directly affect their prey, and toxins that have impacts lower on the food chain (e.g., herbicides and insecticides).

PREY AVAILABILITY

Hatcheries

Hatchery policy can play a significant role in recovery of southern residents. However, hatchery management policies need to be carefully constructed to ensure the long-term survival of wild salmon runs and southern residents, while meeting treaty obligations to Native Americans.

Hatcheries have not contributed to the recovery of wild runs, and have offered minimal though non-negligible benefits to southern residents. There are several reasons for this. Policy changes could allow increasing wild runs and overall salmon returns.

Competition between wild and hatchery salmon is one reason hatcheries negatively impact wild runs. This impact could be reduced by delaying release of hatchery salmon until most wild salmon are out at sea. The synchronous release of large numbers of salmon attract predators that would not be attracted to lower densities of juvenile salmon. This impact could be reduced both by delaying the initial release of hatchery salmon and increasing the time period over which salmon are released.

The main purpose of hatchery production is to allow additional fishing effort. To maximize this goal while trying to protect wild runs, catch and release fisheries are authorized. Hook and line catch and release fisheries tend to result in mortality of approximately 20% of the wild fish caught and released. However, failing to implement selective fisheries can result in a proportion of hatchery origin spawners reaching spawning grounds that is too high to maintain the genetic integrity of wild runs.

To address this issue, catch and release fisheries based on weirs rather than hook and line could be employed. Using fin clips as marks to distinguish wild from hatchery salmon, salmon can be sorted to allow retention of hatchery origin salmon and release of wild salmon unharmed. Hatchery origin salmon could be harvested commercially, used for hatchery production, released alive in rivers where wild runs have been extirpated, released where tribal treaty rights to harvest are not being met, placed dead in spawning grounds to fertilize streams for future generations of salmon, or released to support in river fisheries. Adaptive management will be needed to ensure enough hatchery salmon are removed to prevent too many of the salmon from increased hatchery production from reaching spawning grounds.

Hatchery salmon have different spatial and temporal distribution than wild salmon. Thus, reliance on hatchery runs doesn't allow the continuous distribution of salmon in space and time that wild runs historically provided, and that southern residents need. However, existing hatcheries can be managed with these considerations in mind, and if new hatcheries are established, they could be located and operated to address this concern.

The nutritional value of hatchery fish tends to be lower than wild salmon. Reduced

fitness resulting from captive breeding tends to result in smaller and less nutritious adults (they don't need to be large enough to reach upper watersheds nor defend redds). Hatchery salmon tend to return at younger ages. This contributes to returning adults being smaller than wild adults that return at older ages. Further, spending fewer years at sea means the standing crop of non-returning subadults is available for a shorter period of time to SRO. For these reasons, the long-term welfare of southern residents will be better served by wild runs. Until wild runs recover, hatchery management practices could be modified to select for larger, older salmon returns.

That said, K and L pods rely on Oregon chinook in winter and spring, which is the time of year lactating females need 2-4 times as much food as non-lactating females, so increasing hatchery production of spring Chinook would be an appropriate priority until wild runs rebuild.

Under PFMC management, Amendment 21 calls for minimizing harvest when run size drops below a minimum. Conversely, that suggests more harvest will be allowed when runs are large. As a result, increased hatchery production may not reach southern residents unless Amendment 21 is modified to allow increased production "for southern residents" to increase the floor established in Amendment 21. Also, fisheries in Alaska and British Columbia may harvest Oregon fish before they reach southern resident habitat. Further, a recovering population will need more food than the floor established in Amendment 21, which is intended to attempt to maintain a population of 70 SRO. So, revising harvest management will be essential for increased hatchery production to benefit SRO.

Harvest

Changes to harvest practices could allow more salmon to be available to southern residents without significantly reducing total harvest. Oregon has two approaches it can use to achieve this goal. First, many Oregon salmon are harvested before they return to Oregon. Thus, ODFW needs to be actively involved in setting out of state harvest policies. This includes addressing both bycatch and directed catch quotas set by the NPFMC, State of Alaska, Canada and the PFMC. ODFW will need to coordinate with WDFW as well. ODFW should try to play a significant role in negotiating the Pacific Salmon Treaty with Canada.

Another approach is to move toward terminal fisheries. In addition to allowing reliance on weirs to remove excess hatchery salmon, terminal fisheries maintain higher salmon densities in areas where southern residents forage. However, it is important that the movement to terminal fisheries does not interfere with place-based fishing rights of Native Americans. The goal of the ESMP should be to increase salmon available to both whales and people, not just changing the share of decreasing runs reserved for the whales.

Hydropower (and other barriers to migration)

Dams, culverts and other migration barriers limit access to spawning and rearing areas. Dam removal, as was recently accomplished on the lower Klamath River, can quickly restore access to habitat. Similarly, upgrading culverts to become fish passable can immediately restore access to habitat. This can be a much faster process than habitat restoration, which requires time for vegetation to grow to ecologically functional size.

Improving fish passage at dams is better than nothing, but should not be seen as a cure-all where passage at multiple dams is involved. E.g., while improvements in downstream passage survival of juvenile salmon along the Lower Snake and Columbia rivers reduced mortality to around 4% within one half-mile of each dam, the cumulative mortality after passing all the dams is approximately 28%. Total mortality along over 400 miles of migration can be as low as 35%, suggesting dams can be responsible for up to 80% of in-river mortality, despite accounting for less than 2% of the migration route. Thus dam removal, where feasible, both within Oregon and in outside jurisdictions Oregon collaborates with, should be a priority of the ESMP (we recognize that some dams provide essential services to humans and will not be removed).

Habitat

Preservation of high quality habitat is commonly identified as the habitat action that is most cost effective. However, preserving existing habitat only prevents further decline and does not provide for recovery. In addition to the improvements to access to habitat discussed above, it will be important to improve habitat.

Restoration of riparian habitat will be an essential element of the ESMP. Reforesting riparian areas provides shade that can help reduce water temperatures. Over time, forests create very permeable soil, allowing winter rains to penetrate the soil and reach streams as cool water to enhance summer and fall flows as salmon return. Forests also provide habitat for macroinvertebrates, whose aquatic larvae and terrestrial adults provide nourishment for juvenile salmon. Forests can trap toxins before they reach streams. Carbon capture in forests helps limit climate change and ocean acidification. Reconnection of flood plains is another component of habitat restoration.

Volunteers can play a significant role in habitat restoration. Relying primarily on volunteers rather than paid staff significantly reduces the cost of restoration. By minimizing the ongoing maintenance costs of restored habitat, it becomes feasible for local governments to own additional land without significant increases in staff costs. Volunteerism provides a mechanism for the public to play a significant role in southern resident recovery. Land acquisition can have significant costs. However, some land owners are willing to donate land. Others are willing to provide conservation easements on the ecologically significant portions of their properties. Land banks are well set up to receive conservation easements. However, they tend to limit their activities to large

properties. Facilitating small, local non- profits becoming recipients of small conservation easements could be an important contribution to southern resident recovery.

Human-enhanced predation

While salmon evolved to deal with natural mortality, and natural mortality is taken into account when managing fisheries, anthropogenic modification of salmon habitat has led to increased natural mortality in many ways.

Some introduced fish species have become invasive species. E.g., introduced mid-western game fish have become voracious salmon predators. Washington has eliminated harvest limits on these species to allow sport fishers to reduce their populations. Smaller predatory fishes need to be harvested professionally, although public assistance can reduce the cost of such actions (e.g., school groups can help remove invasive species, and collect data in the process for use in math and science classes).

Birds have taken advantage of human structures such as artificial islands and bridges to increase their foraging efficiency in inland habitats. These structures could be made less bird friendly (e.g., by making bridges unsuitable as perches), and restoration of habitat for avian predators such as bald eagles is another action that could reduce bird predation on juvenile salmon.

Marine mammal predation has also been increased by human structures (dams, docks, buoys, etc.) in some places. While lethal removal has been used in some locations to protect specific salmon runs, humane killing has become less effective as predatory species develop strategies to avoid being trapped. Non-lethal means, such as acoustic deterrence and striking pinnipeds with objects such as water can also partially reduce salmon mortality. Making it more difficult for pinnipeds to haul out on built structures such as docks, buoys, and booms is another approach to reduce pinniped predation. Physical barriers that allow salmon passage but not pinniped passage may be another way to reduce predation.

General Comments on Prey Availability

Overall, there is an important difference between managing salmon as prey for southern residents and for preventing salmon extinction. For salmon recovery, rebuilding a run from 1,000 to 10,000 fish is important. Rebuilding a run from 100,000 to 200,000 is not. However, for southern residents, rebuilding a run from 100,000 to 200,000 is more valuable in the short- term than the former. The former may become more important in the long-run, as it preserves locally adapted genetic diversity for additional population increases in the future. ODFW needs to keep both whale and salmon recovery efforts in mind when managing salmon, as Oregon's ESA fails to

consider impact on critical habitat not occupied where the deciding agency has control (e.g., ODOT projects inland would affect habitat quality at sea, and hence southern resident survival, even though the Oregon ESA only requires ODOT to consider the effects of their work on salmon).

DISTURBANCE

Disturbance can come from many sources. While federal regulations exist for preventing disturbance, they are inadequate to protect southern residents. These regulations fail due to having thresholds that do not adequately protect southern residents and exemptions of certain sources of disturbance.

Federal regulations try to limit noise exposure to 165 dB for intermittent sounds (such as impact pile driving) and 120 dB for continuous sounds. However, exposure of resident orcas to received levels of 105 dB result in easily measured changes in behavior. Further, exposure to noise near ambient levels can reduce echolocation range and foraging efficiency. These regulations apply to activities like offshore energy, military exercises, coastal construction and some scientific research.
Federal regulations have not been applied to commercial shipping. Rather than expanding regulations to commercial ships, the industry has agreed to self-regulate within the Canadian and US portions of the Salish Sea. Voluntary compliance has been high.

Small boats have their own regulations. NMFS is overdue in responding to a petition to apply best available science to whale watching regulations. In the meantime, Washington State has adopted the strictest regulations protecting SRO, while Canada has adopted regulations intermediate between Washington and the US government.

Project oriented regulations

Limited term activities like coastal construction should be regulated by the state, due to inadequate federal regulation. Both intermittent and continuous sounds should be limited to received levels below 105 dB. This would require protected species observers to determine whether SRO are present, and suspension of activities while southern residents pass by. This should not be a major inconvenience, since SRO typically pass through Oregon waters fairly quickly, and are not present at all the vast majority of days. Regulating levels to below 100 dB might be justified, but ambient noise levels on the Oregon coast are higher than in the inshore waters of Washington and British Columbia where data showing changes in behavior, including the inhibition of foraging, have been collected.

Commercial shipping

Commercial shipping is considered an essential service, so NMFS has not developed

regulations for shipping. However, the shipping industry has acknowledged their noise issue and agreed to take action to reduce it. Slowing down has been the main approach taken. Most ships are quieter at lower speeds, so this reduces source levels, although it increases the duration of noise exposure. Slowdowns are a minor inconvenience, as they add less than an hour to multi- day voyages. Ships could be asked to do the same in Oregon waters, when Southern Residents are present (determining whether southern residents are present is addressed below under Research).

An option not available in the narrow waters of the Salish Sea would be to move offshore of the whales. Increasing the distance between ships and whales reduces received levels, and would have the advantage of not increasing the period of exposure. A buffer of 10 miles between ships and whales should be adequate.

Small vessels

Small vessels, such as whale watching boats, fishing boats, and other recreational vessels, can be quite numerous when whales are present. Small boats typically have source levels around 165 dB, so received levels of 105 dB or less are typically reached at about 1000 yards or meters, or ½ nautical mile (it is unlikely that anyone could be expected to tell the difference between the similar distances expressed in these different units). Effective this year, Washington enacted a 1000 yard buffer rule.

While such a rule would be scientifically supported for Oregon, as a practical matter, it will be difficult to implement. With the higher wave heights typically found in the offshore waters of Oregon than in the Salish Sea, it will be difficult for small boat operators to detect SRO far enough away to maintain the 1000 yard distance.

Rather, the Washington law could be implemented as a best practice. Boaters who are aware of whale locations while over 1000 yards away should remain that far away. Boaters who become aware of whale locations between 400 and 1000 yards away should slow down (preferably to no wake speed) and move out of the path of the whales until they are 1000 yards away. Boaters who do not become aware of the whales until they are within 400 yards should reduce to idle speed and point their vessel in a direction to maintain navigational safety (or turn their engine off if sea conditions permit). Education rather than enforcement is the suggested mechanism to obtain compliance with the 1000 yard distance.

As for legal prohibitions, turning to approach SRO while within 1000 yards should be illegal, unless necessary for navigational safety.

TOXINS

DDT and PCBs are known to negatively affect marine mammals. These chemicals were banned about 50 years ago, so aside from cleaning up hazardous waste sites, there is

not much for ODFW to do about them. PBDEs (flame retardants) and PFAS (commonly referred to as "forever chemicals) are contemporary issues. Preventing these chemicals from reaching the biosphere is challenging, as they easily get into wastewater. The use of sludge as fertilizer facilitates these chemicals reaching the living environment. Banning the most toxic of these in favor of less toxic congeners might help, although there's no guarantee the toxicity in lab models will be the same as in SRO.

Flame retardant use might be reduced. E.g., flame retardants make it more likely residents can safely escape a burning building. However, the use of sprinkler systems could achieve the same goal without the use of flame retardants. For non-smokers, the use of flame retardants is less likely to have value than for smokers, so they should have access to products made from flame retardant-free fabrics.

Cetaceans seem to be better at detoxifying heavy metals such as mercury than humans are, so this class of chemicals may be less of a concern for whales than people.

Salmon are especially vulnerable to copper and 6PPDQ. Banning the use of copper in things like brake pads and anti-fouling paint would be a way to reduce the presence of copper in the environment. Different salmon species have different vulnerability to 6PPDQ. King County, WA has been working on a model relating traffic levels and water flow to in stream 6PPDQ levels, and they plan to test the model over the next year. The results of this study should be informative for how Oregon should manage 6PPDQ. 6PPDQ is easily filtered out of stormwater, and WSDOT is working with NGOs to determine whether volunteers can effectively maintain filters. If successful, this could minimize the cost of managing 6PPDQ.

Salmon are dependent on macroinvertebrate prey while rearing. The use of insecticides can reduce prey availability, so their use should be strictly limited. Herbicides can impact riparian vegetation, so their use near water should be strictly regulated.

OTHER THREATS

Disease

Diseases such as morbillivirus, which killed half the bottlenose dolphins on the East Coast and over 10,000 dolphins in the Mediterranean pose an existential threat to SRO. Diseases can be diagnosed and successfully treated, as evidenced by the rescue and rehabilitation of A73 (a northern resident female who was treated as a two-year old and returned to her natal range where she's grown up to produce 3 viable calves so far). ODFW could prepare for addressing disease outbreaks by developing contingency plans for diagnosis and treatment of diseases in SRO. Establishing a revolving fund to pay for rescues that could be supported by private contributions would be a way to minimize cost to state government. Disease outbreaks are rare, so contingency planning and updating the plan occasionally, rather than making disease mitigation a day-to-day

activity, should be sufficient. Another step in addressing diseases is to improve the barrier between terrestrial diseases and the marine environment. A study of potential pathogens collected from SRO in Washington showed that about a dozen species were collectively resistant to about a dozen different antibiotics, suggesting antibiotic resistance developed within people, pets, and farm animals was reaching the marine environment. To deal with this, the ESMP could include ODFW working with other agencies to improve sewage treatment and reduce access of domestic animals to streams.

Oil spills

Oil spills pose an existential threat to southern residents. The Exxon Valdez oil spill was associated with increased orca mortality, and will result in extinction of the AT1 ecotype, as no females of reproductive age or younger remain in the population. The New Charissa oil spill on the Oregon Coast occurred at the time of a spike in SRO mortality, although no data are available to address whether there was a cause-effect relationship.

Oil spill prevention will play a crucial role in SRO recovery. In the event of an oil spill, keeping SRO out of oil will be essential to the recovery of the species. ODFW should be actively involved in updating oil spill contingency plans and response training to minimize the impact of spills on SRO and their food web. E.g., WDFW facilitates annual HAZWOPER training to prepare wildlife care personnel to safely handle oiled wildlife. Oil spill response gear has been pre-positioned to facilitate response in the event of a spill. Some Marine Resource Committees are making small spill kits available to boaters to absorb spilled fuel.

Incidental takes

Incidental takes of SRO in fisheries or by ship strikes have likely been a small problem. However, changes in fishing practices and interactions can result in spikes in mortality, as occurred in Alaska in 2023. ODFW should take risk of incidental takes into account when considering changes to fishing practices.

Invasive species

Invasive species primarily impact SRO indirectly through impact on their prey, and hence ODFW already has programs addressing invasive species. Updating the plans with consideration of the indirect impacts on SRO of invasive species should be incorporated into this ESMP.

Harmful algal blooms

Harmful algal blooms have become a problem for marine mammals in Southern

California. As climate changes these could become a problem in Oregon. Water quality is also a factor in the likelihood of harmful algal blooms, so proactive changes in wastewater and stormwater management practices should be included in the ESMP.

Climate change and Ocean acidification

Climate change poses a significant threat to salmon survival. Expediting reforestation of riparian areas to improve salmon habitat and perform carbon capture should be promoted. Reforestation also enhances climate change resilience. However, since ODFW's jurisdiction is extremely limited on the scale of activities that affect global climate, working with other agencies to build awareness of the importance of climate to survival of salmon and whales and asking them to consider the impact of their decisions on these species should be ODFW's main activity on this issue.

Reducing atmospheric carbon dioxide will also address ocean acidification. On small scales, it will be possible to enhance the environment for resilience to acidification. E.g., placing crushed shells in bays may allow mollusks to settle in places where ocean pH would otherwise be too low. The larvae produced as a result of successful settlement will be an important component of the food web leading to SRO.

RESEARCH

Acoustic tracking can be a cost-effective way to document SRO presence. Two approaches have been used. Bottom mounted recorders can archive 6-12 months of acoustic data before being retrieved. Live-streamed hydrophones can produce real-time detections. The Orcasound model in Washington involves low-cost hydrophones live-streamed to the public and cloud-based AI in real-time. Detections can be reported to people who need to know. E.g., field biologists could be notified so they could collect data on SRO. Ships could be notified so that they could reduce noise output as they pass by SRO. In the event of an oil spill, acoustic tracking could help determine when or whether SRO are going to be at risk.

NOAA began developing a model to rate the relative importance of different river systems to SRO, but listed a number of caveats rather than completing it. One of the gaps in the model was the absence of predation data south of the Columbia River. Scale samples collected along the Oregon Coast could be analyzed to determine the importance of specific Oregon rivers to SRO, and the likely impact of salmon enhancement projects on SRO. Better knowledge of the distribution of Oregon salmon at sea could lead to better understanding of the overlap of salmon and whale habitat.

Satellite tracks provided preliminary data on use of Oregon waters by SRO. Acoustic and visual tracking could refine this information, which could in turn be used to assess risk imposed by offshore energy production, shipping, fishing, etc.

EDUCATION

Education can be focused on what people can do to recover SRO. Volunteering on habitat restoration projects is a good way for people to engage in recovery. Life-style changes to minimize environmental impact, such as minimizing driving, use of chemicals in lawns and gardens, and water and energy use, are another good education topic. Collaboration with environmental education groups is a cost-effective way to educate the public. The Orca Regulation Communication Advisory panel in Washington extensively studied communication approaches, and its work could be a model for some educational activities in Oregon. Educating boaters how to behave around SRO should help, although responsible boating around SRO will be more challenging on the Oregon Coast than in the sheltered waters of the Salish Sea. Finally, educating the public about why the actions in the ESMP are important to SRO recovery would help generate support for those actions.

Thank you for the opportunity to comment. We welcome Oregon's expanded participation in southern resident recovery efforts and wish to offer our support if you have any questions or would like our assistance in fleshing out recovery actions. Orca Conservancy was one of the original petitioners for the federal endangered species listing, so has been actively involved in recovery planning for over 25 years.

Public comments addressed to the Commission on SRO

From: Jana Seeliger
Sent: Wednesday, July 16, 2025 2:22 PM
To: ODFW Commission * ODFW
Subject: Orcas, beavers, salmon

Hi there!

I've been learning that the southern population of Orcas are declining and so are some food sources, specifically the salmon. For 5 years I ran the Salmon Watch program in my area, Linn and Benton Counties.

What can we do to help both populations? It's tricky because people like to fish, too. I do not know the best answer. I am hoping more beaver populations can be introduced and supported on the land to preserve the waterways and support salmon populations. (Thus providing a better food stream for the Orcas). Shipping also impacts the Orcas, and I do not know a good way to help protect whales from the ships or from getting hung up in nets and other gear.

I hope you have plans you hope will provide improved conditions for the salmon, orcas and beavers.

Thank you,
Jana Seeliger
Corvallis, Oregon

From: Brad Keller
Sent: Saturday, July 26, 2025 9:58 AM
To: ODFW Commission * ODFW <odfw.commission@odfw.oregon.gov>
Subject: Orca management comments

In general, I support any work done to focus attention to the many issues facing the southern resident orca (SRO) population.

Specifically, given the research on the SRO reproduction and general health, it seems obvious that the availability of food is the one area that should be laser focused on.

While there are numerous reasons for the limits on the availability of chinook salmon, efforts should be focused on those impacts that most significantly negatively chinook salmon populations, and it appears to me that uncontrolled commercial trawler ocean fishing in international waters, including illegal by catch, and dam management on the Columbia River are two huge impacts.

Brad Keller