

SOUTHERN RESIDENT KILLER WHALE (SRKW) TASK FORCE MEETING

Monday September 9, 2019
Vern Burton Community Center
308 E 4th St, Port Angeles, WA

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SOUTHERN RESIDENT KILLER WHALE (SRKW) TASK FORCE

AGENDA

Monday September 9, 2019 | 9:30 am-5:00 pm
 Vern Burton Community Center | 308 E 4th St, Port Angeles, WA

Doors will open and coffee and pastries will be served at 9:15. The meeting will start promptly at 9:30 a.m.

Time*	Agenda Item (Action items are marked with "!")	Objective & Reference Materials	Presenter(s)
9:30 (30 mins)	Welcome & Introductions, Agenda Review <ul style="list-style-type: none"> Tribal welcome Welcome by co-chairs Introductions Review agenda 	Information <i>Reference materials:</i> <ul style="list-style-type: none"> Agenda 	<ul style="list-style-type: none"> Tribal Leader Les Purce, Co-chair Stephanie Solien, Co-chair Susan Gulick, Facilitator
10:00* (30 mins)	Updates <ul style="list-style-type: none"> Orca Health Population Growth: Sub-Committee Update Nutrients Lower Snake River Dam Stakeholder Process 	Information <i>Reference materials:</i> <ul style="list-style-type: none"> Nutrient Management Recommendations Lower Snake River Dam Stakeholder Process 	<ul style="list-style-type: none"> Lynne Barre, NOAA Gretchen Muller, Consulting team project manager Heather Bartlett, Ecology JT Austin, Governor's Office
10:30* (60 mins)	Climate Change <ul style="list-style-type: none"> Draft report and recommendations 	Information, Discussion, Decision <i>Reference materials:</i> <ul style="list-style-type: none"> Draft report language 	<ul style="list-style-type: none"> Marc Daudon, Consulting team Susan Gulick, Facilitator
11:30* (15 mins)	Life After the Task Force <ul style="list-style-type: none"> Sub-committee update Review of options under consideration Post-it note exercise (to complete during lunch) 	Information <i>Reference materials:</i> <ul style="list-style-type: none"> Life After Task Force Survey Results PSEMP Letter to Task Force 	<ul style="list-style-type: none"> Gretchen Muller, Consulting team project manager
11:45* (45 min)	LUNCH BREAK <i>Lunch will be provided for Task Force members and staff</i>		
12:30* (30 mins)	Report from Working Groups <ul style="list-style-type: none"> Prey Vessels Contaminants 	Information <i>Reference materials:</i> <ul style="list-style-type: none"> Rec. 27 – Justification and Problem Statement 	<ul style="list-style-type: none"> Working Group Leads Susan Gulick, Facilitator
1:00* (60 mins)	Northwest Indian Fisheries Commission Recommendations <ul style="list-style-type: none"> Overview of recommendations Co-Chair response 	Information <ul style="list-style-type: none"> Letter from NWIFC Co-Chair reply 	<ul style="list-style-type: none"> Tribal Representative Stephanie Solien, Co-chair
2:00*	15 MINUTE BREAK		
2:15* (1.75 hours)	Task Force Report to Governor <ul style="list-style-type: none"> Key themes and messages New recommendations Next Steps 	Information, Discussion <i>Reference materials:</i> <ul style="list-style-type: none"> Discussion Guide Task Force Recommendations 	<ul style="list-style-type: none"> Task Force Members Susan Gulick, Facilitator
4:00* (10 mins)	Wrap-up and Next Steps <ul style="list-style-type: none"> Other 	Information	<ul style="list-style-type: none"> Gretchen Muller, Consulting team project manager
4:10* (50 mins)	Public Comment	Information	<ul style="list-style-type: none"> Public/observers Susan Gulick, Facilitator
5:00*	Closing and Adjournment by Co-Chairs		<ul style="list-style-type: none"> Les Purce, Co-chair Stephanie Solien, Co-chair

* All times are estimates and subject to change.

[Puget Sound Nutrient Reduction for Southern Resident Killer Whale](#)

Ecology, working with stakeholders, partners and experts, identified the following near-term actions will put us on a pathway to achieve significant reductions of regional human nutrient sources, and provide the greatest water quality and environmental benefits for salmon, orcas, and people. These recommendations support implementation of Ecology's Puget Sound Nutrient Source Reduction Project (PSNSRP¹), the Marine Water Quality Implementation Strategy for Puget Sound, and Puget Sound Action Agenda.

Nutrient Reduction Recommendation #1 Develop a NPDES permit framework for wastewater treatment in Puget Sound

Ecology should explore ways to use its National Pollutant Discharge Elimination System (NPDES) regulatory authority to address point sources of nutrients and recently announced a preliminary determination to develop a Nutrient General Permit that applies to wastewater treatment plants in Puget Sound. Significant nutrient reductions can be achieved with implementing advanced wastewater technology.

Nutrient Reduction Recommendation #2: Better align existing nonpoint programs with nutrient reduction activities and explore new ways to achieve the necessary nonpoint source nutrient reductions.

There are existing nonpoint programs that can be expanded to address known problems from nutrient runoff from agricultural, urbanized, and rural land use activities. We should continue working with stakeholders and continue using state-of-the-art modeling to develop an integrated approach to point source and non-point nutrient. Minimum requirements for nonpoint nutrient reduction actions will help us meet water quality standards.

Recommendation #3: Collect high-quality, nutrient data in watersheds to fill key knowledge gaps of baseline conditions

We can improve our understanding of the timing, and magnitude of nutrient discharges from watersheds with modest enhancements to existing long-term watershed monitoring networks. Monitoring is critical to establish baseline conditions and measure progress as nutrient reduction actions are implemented on the landscape. Nutrient management decisions in watersheds depend on quality science and data to understand complex interactions between human sources and freshwater and marine water quality.

Why these recommendations are important now

Making science-based nutrient management decisions depends on having the right tools and quality data. The Salish Sea Model² is our best tool for understanding the marine waters of Puget Sound, and figuring out the best suite of nutrient load reductions necessary to achieve water quality standards.

As we continue to grow in population, our wastewater infrastructure and land-use activities must adapt to accommodate that growth while minimizing our impact on water quality and ecological resources. Strategically dealing with these issues now is cheaper and more efficient in the long-run. As a region, we need to start now on improvements that will take a decade or more to build and implement.

¹ <https://ecology.wa.gov/Water-Shorelines/Puget-Sound/Helping-Puget-Sound/Reducing-Puget-Sound-nutrients>

² <https://ecology.wa.gov/Research-Data/Data-resources/Models-spreadsheets/Modeling-the-environment/Salish-Sea-modeling>

The Department of Ecology has been working with federal partners and others to develop the tools and data to understand how human sources of nutrients (i.e. wastewater, agriculture, stormwater, and others) affects water quality in Puget Sound.

Reducing human nutrient inputs to Puget Sound will improve water quality, support diverse nearshore habitats, and create a healthy, nutritious marine food web to support forage fish, salmon, and orcas. We have the science that confirms human impacts on DO. We are confident that technology exists to reduce nitrogen from Puget Sound WWTPs and advanced treatment can significantly improve marine water quality. But the science is also clear that nonpoint nutrient reduction in watersheds are necessary.

We have looked at other US coastal estuaries experiencing similar excess nutrient problems and there are clear lessons those states learned, including:

- Engagement and collaboration between stakeholders and regulatory authorities is key to implementing actions to better manage or reduce nutrient discharges to waterbodies.
- General permits are an efficient and effective way to manage changes at wastewater treatment plants that contribute to excess nutrients.
- Nutrient reduction solutions touch on a wide-range of point and nonpoint source human land-use activities.

There has been more than a decade of implementing activities to reduce or better manage nutrients in watersheds draining to these coastal estuaries. They have had the most success with nutrient reductions from advanced wastewater treatment to reduce nitrogen loads while also reducing nonpoint sources in watersheds. Marine water quality has improved in Long Island Sound³ and Chesapeake Bay^{4,5} and aquatic species that depend on healthy nearshore eelgrass habitats are on the rebound⁶ because of those actions. We need to take similar actions to protect and restore Puget Sound water quality and populations of iconic species like Chinook salmon and the Southern Resident Killer Whales.

³ https://www1.nyc.gov/html/dep/html/press_releases/17-001pr.shtml#.XUyHwmBYZaQ

⁴ <https://www.umces.edu/content/chesapeake-bay-report-card-shows-steady-bay-health-recovery>

⁵ <http://www.baltimoresun.com/news/environment/bs-md-chesapeake-bay-improving-20180612-story.html>

⁶ <https://www.opb.org/news/article/npr-grass-is-back-in-the-chesapeake-and-crabs-will-follow/>

Helpful links:

- [Water Quality Permits to control nutrients in Puget Sound](#)
- [Advanced wastewater treatment](#)
- Ecology's [Puget Sound Nutrient Source Reduction Project website](#)

Lower Snake River dams stakeholder process

August 21, 2019

Background

In the fall of 2018, the Governor's Southern Resident Killer Whale Task Force identified the need to further investigate the impacts of removing or breaching the lower Snake River dams (LSRD) as a way to provide more salmon for Southern Resident orcas to eat. The task force received hundreds of public comments about removing or breaching the dams. The task force did not have adequate time to fully consider all the issues raised by commenters so they recommended a separate engagement process.

In response to this recommendation, the Washington State Legislature provided funding to the governor's office in the 2019-21 operating budget:

...to contract with a neutral third party to establish a process for local, state, tribal and federal leaders and stakeholders to address issues associated with the possible breaching or removal of the lower Snake River dams in order to recover the Chinook salmon populations that serve as a vital food source for Southern Resident orcas.

At the same time, the U.S. Army Corps of Engineers, the federal Bureau of Reclamation, and Bonneville Power Administration – as co-lead agencies – are preparing an environmental impact statement (EIS). The EIS was ordered by the U.S. District Court for Oregon and is being conducted in accordance with the National Environmental Policy Act. The EIS will evaluate the operations, maintenance and configurations of the four lower Snake River dams as part of the review of 14 federal projects in the Columbia River System. The draft EIS is scheduled to be publicly available in February 2020 and a final EIS completed in June 2020. Washington state is not a co-lead of this process.

Engagement Process

To conduct the engagement process approved by the Legislature, the Washington State Governor's Office has hired a contractor team of Ross Strategic, Kramer Consulting, White Bluffs Consulting and Anchor QEA. The team will provide neutral facilitation and evaluation services. They will convene and meet with local, state, tribal, and federal leaders, stakeholders and collect public comment. They will then submit a report detailing the potential positive and negative impacts (social, economic, environmental) and opportunities gained and lost from the potential breaching or removal of the LSRD, as well as from retaining the dams.

Gov. Inslee supports this process to hear from diverse voices and collect the range of views in Washington State in regards to the LSRD. He plans to use this information to help craft his potential recommendations to the federal court-ordered EIS.

What the Process Will Accomplish

The engagement process and report will:

- Provide a Washington State-focused summary of the effects of both retaining and breaching or removing the LSRD.
- Allow stakeholders, tribes and citizens an opportunity to express their opinions in a structured, neutral, facilitated process.
- Help inform the state of Washington position on the federal court-ordered EIS on Columbia River System operations.

What the Process Will Not Do

The engagement process and report will not:

- Recommend whether the LSRD should be removed or breached.
- Develop new or prioritize potential mitigation options, although it will reflect a range of stakeholder thoughts and existing information on this subject.
- Provide recommendations on the best way to address costs and benefits from removing or breaching or retaining the LSRD.
- Utilize a stakeholder board to review and approve the draft or final report.
- Provide a summary of the effects on retaining or breaching/removal of the LSRD in Oregon, Idaho or Montana.

Process Details

The work of the consultant team will consist of the following components:

- ***Gather and summarize previous analysis related to LSRD retention, and removal or breaching:*** The consultant will review and summarize publicly available information sources related to LSRD retention, and removal or breaching. Those sources include documents and reports issued by the U.S. Army Corps of Engineers, Bonneville Power Administration, conservation organizations, scientific publications, business organizations, tribal governments, fisheries, sport and commercial fishing organizations, and other groups.
- ***Engage with stakeholders, tribes, states, federal agencies, legislators and congressional delegation:*** The consultants will interview individual stakeholders and stakeholder groups, experts and governmental officials to identify the effects, concerns and issues with retaining, breaching or removal of LSRD. Given the extensive interest and impacts surrounding the dams, the consultant will not be able to interview all people with interest in the issues. The goal is that all interested parties have confidence their perspective is considered and represented, whether they were interviewed or not. The governor's office will lead engagement of impacted tribes including the Columbia River Inter-Tribal Fish Commission (CRITFC), and Upper Columbia United

Tribes (UCUT) as well as engagement with the states of Oregon, Idaho and Montana. The governor's office will brief legislators, the state congressional delegation and federal agencies.

- **Produce report:** The consultant will complete a draft and final report summarizing publicly available information and the results of the stakeholder interviews, tribal and state consultation, and public comment.
- **Gather public input:** Following completion of the draft report, the consultant will host an open public workshop on each side of the state, most likely in Vancouver, Wash. and the Tri-Cities area. Pre-identified focus groups representing different interests will provide perspectives in the workshops to assist the public in considering and preparing their written input on the draft report. The general public will be able to attend the public workshops as well as submit written input on the draft report.

Timeline

- **August – Mid-November 2019** – Contractor gathers publicly available information and interviews stakeholders. Governor's office conducts tribal consultation with consultant support. Governor's office consults with the states of Oregon, Idaho and Montana. Governor's office will also brief legislators, the state's congressional delegation and federal agencies.
- **Early December 2019** – Draft report available for public written comment.
- **Early December 2019** – Public workshops. Governor's office conducts tribal consultation as well as with the states of Oregon, Idaho and Montana.
- **Late December 2019** – Public input period ends.
- **Mid-February 2020** – Final report complete and submitted to the governor and legislature.

Questions?

You can contact:

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Impacts of climate change and ocean acidification

Introduction

Changes in the climate and increasing ocean acidification are imperiling Southern Resident orcas and Chinook salmon—the primary prey species on which they subsist—pushing them to the brink of extinction. Species like the orcas and Chinook are highly endangered, making them especially sensitive to changes in their environment. Climate change and ocean acidification compound the stressors already limiting their survival and undermine ongoing recovery efforts.

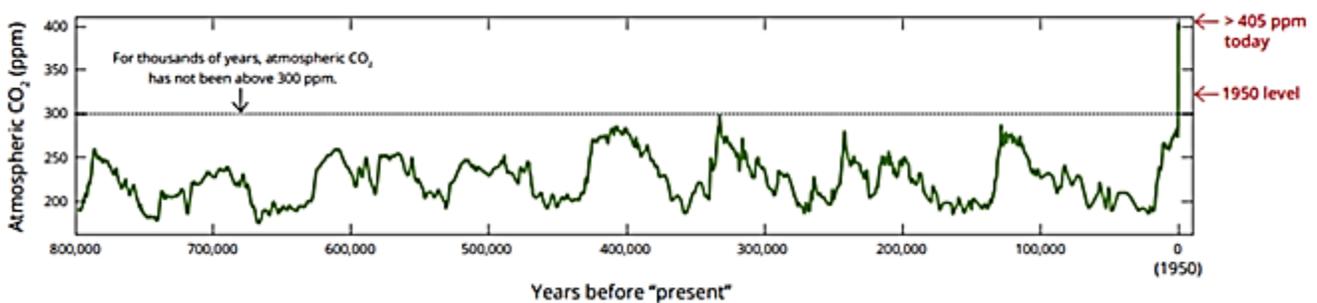
The extinction of the Southern Resident orcas would be an unacceptable and foreboding loss. As a top predator, they serve as an indicator of the overall health of our ecosystem; if the orcas are unable to survive, it portends trouble for all inhabitants of this region, including humans. Swift, bold, and effective actions are urgently needed to sustain the Southern Resident orca population and restore the ecosystem upon which we all depend.

This task force calls for immediate and aggressive action in Washington State and beyond to reduce human-caused greenhouse gas emissions, consistent with best available science, and to increase the resilience of our ecosystem to climate-induced change. Findings and recommendations related to addressing the impacts of climate change and ocean acidification on Southern Residents are presented below, along with cross-cutting recommendations that address the root cause and increase resiliency.

Human-caused emissions

As shown in **Figure 1**, the level of carbon dioxide (CO₂) in the atmosphere remained below 300 parts per million (ppm) for thousands of years prior to 1950 [1]. Human activities related to transportation, electricity, industry, and consumption have increased accumulation of CO₂ in the atmosphere to 405 ppm, causing climate change with global temperatures rising by about 1°C above pre-industrial levels [1]. About 25% of these CO₂ emissions are absorbed by the ocean, resulting in ocean acidification, the lowering of oceanic pH [1]. Human activity is also causing the release of other potent greenhouse gasses, such as methane, which are increasing in the atmosphere, and major drivers of climate change.

Figure 1: Atmospheric CO₂ (ppm) over past 800,000 years [1].



While the effects of climate change are already observable due to this 1.0°C increase in global temperature, human activities continue to add around 0.2°C to global average temperatures each decade [1]. Scientists project catastrophic and irreversible changes to life on Earth when global warming surpasses 1.5°C, with even greater consequences after 2.0°C. For example, 1.5°C of warming is projected to cause marine fisheries to decline by 4.5 million metric tons, while 2.0°C of warming is projected to cause a 6.0 million metric ton decline (1.3 times worse) [1]. Without significant reductions in emissions of CO₂ and other greenhouse gases, global average warming will likely reach 1.5°C between 2030 and 2052 [1].

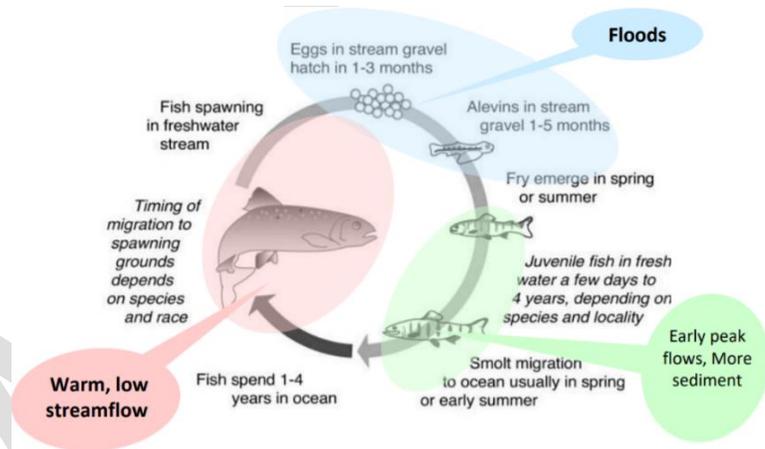
To limit warming to 1.5°C, we must reduce global CO₂ emissions by 45% from 2010 levels by 2030 and reach net zero by around 2050 [1]. To limit warming to 2.0°C, we must reduce global CO₂ emissions by 25% from 2010 levels by 2030 and reach net zero by around 2070 [1].

Climate change effects on Southern Residents

Climate change is already exacerbating existing stresses on Southern Residents, salmon, forage fish, and the ecosystems upon which orcas depend. As temperatures continue to rise, Southern Residents will be affected primarily through their food web, impacting salmon habitats and populations at each life stage (Figure 2).

The Cascade Mountains have seen a 25% decrease in snowpack levels since 1950, and increasing global temperatures cause this snow to melt earlier [3]. At the same time, heavier winter rainstorms caused by a warming climate lead to flooding and other high-flow events. These conditions cause more water to enter streams during the winter (nearly a 20% increase since 1950 [3]), which can scour riverbeds and destroy or smother salmon redds (nests), increasing egg and fry mortality. Flooding can also increase the amount of sediment entering streams, burying spawning gravels.

Figure 2: Effects of climate change on salmon throughout their lifecycle (modified from The Wilderness Society, 1993).

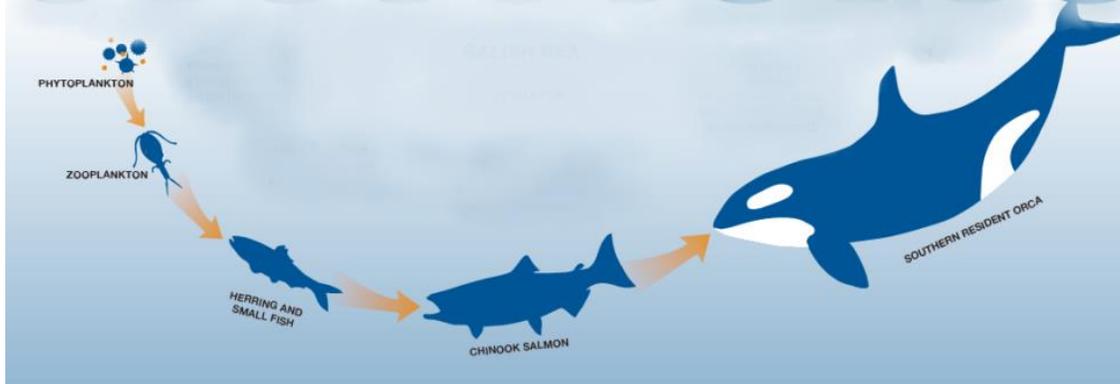


Less snowpack and changing precipitation patterns caused by the warming climate are lowering summer streamflows. Even as winter streamflows continue to increase, summer streamflows have decreased up to 15% since 1950 [3]. Lower streamflows in the summer increase water temperature, decreasing suitable habitat, shifting salmon upstream, and impeding migration. Increasing stream and ocean temperatures place further metabolic demands on salmon, which depletes their energy reserves, reduces growth, increases disease susceptibility, impedes migration, and increases vulnerability to predators. The end result is fewer salmon in our streams, rivers, and oceans—and consequently—less food for the Southern Residents.

In the marine environment, warming ocean temperatures can affect the base of the orca food web, changing the phytoplankton and zooplankton composition to lower calorie species (Figure 3) [10, 11]. Higher temperatures decrease oxygen levels and promote the abundance of harmful algal blooms, toxic to fish, and plankton grazers such as jellyfish, which are a caloric dead end in the food web due to their few predators [12, 13]. These issues can precipitate up the food web and affect the growth and survival of juvenile salmon and forage fish. Forage fish support both salmon and higher order predators such as piscivorous fish, marine mammals and seabirds. When forage fish abundance is limited, these predators can increase predation on juvenile salmon.

Warmer ocean temperatures can also bring more predators into the region, favoring warm-adapted nonnative fishes, like Pacific hake and mackerel, that can outcompete or prey on salmon [14]. Meanwhile, warmer ocean temperatures increase metabolic demands on salmon and reduce their size and return rates. They also reduce kelp abundance, resulting in a loss of critical fish habitat [6, 16]. Similarly, sea level rise caused by climate change drives permanent inundation and loss of coastal habitat, important for juvenile salmon and their prey. It also reduces habitat and spawning grounds available to forage fish that spawn in the intertidal and shallow subtidal.

Figure 3: Southern Resident orca food web (adapted from Orcas Love Raingardens diagram [8]).



Increased ocean temperatures also promote new pathogen and disease vectors that could be harmful for orcas, while accelerating the rate at which excess human nutrients change the base of the marine food web. Further, as sea levels rise, long-buried, legacy shoreline waste sites are likely to become inundated, resulting in a new source of toxics entering the marine environment and inland waters. Combined sewer overflows (CSO) and overflows from sewage treatment facilities occur more frequently with flooding and high-flow events, increasing the quantity of toxic substances that enter water bodies. The region is already experiencing an increase in CSO events and untreated sewage entering marine and inland waters. As orcas starve from insufficient prey due to climate change, they metabolize more of the toxics stored in their bodies, increasing their potential to experience neurological problems and disease.

Collectively, these impacts compound existing stressors on Chinook, further reducing their abundance and leaving Southern Residents hungry. Many of these changes have already been observed in the Pacific Northwest. For example, during the drought of 2015, average air temperatures were approximately 2.7°C warmer than pre-industrial averages and Washington state snowpack was 70% below normal, [1]. These conditions led to low summer streamflow and warm waters, resulting in lethal strandings, fishery closures, and die-offs of salmon and steelhead across the Pacific Northwest, including over 250,000 Columbia River sockeye salmon [1]. In 2015-2016, the region also experienced a marine heat wave (the "blob") with ocean temperatures up to 7°C warmer than average, triggering the largest and most persistent harmful algal bloom ever recorded on the West Coast, and contributing to weak salmon returns.

If current trends continue, the University of Washington Climate Impacts group projects that 1.5°C of warming could be reached as soon as 2030 and will result in...

- 67% more days above 90°F.
- 38% decrease in snowpack.
- 16% increase in winter streamflows.
- 23% decrease in summer streamflows.

These changes will lead to further deterioration in conditions for the Southern Residents and their prey, underscoring the urgency of action to limit emissions and stabilize global temperatures.

Ocean acidification effects on Southern Residents

While the changes described above are due primarily to CO₂ accumulation in the atmosphere, approximately 25% of CO₂ emissions are absorbed by the ocean. CO₂ reacts with marine waters to form carbonic acid, which increases hydron ion (H⁺) concentrations and results in lower oceanic pH (ocean acidification). Ocean acidification is happening 10 to 100 times faster than the previous 50 million years, outpacing the ocean and its inhabitant's ability to adapt and evolve to the changes [4].

Pacific Northwest waters are particularly vulnerable to ocean acidification due to several contributing factors:

- Atmospheric CO₂ in the Puget Sound area is increasing faster than the global average [17].
- Waters are colder and fresher than the global average, allowing CO₂ to dissolve more effectively [4].
- Natural upwelling mixes deep waters with the already acidified surface water layer [5]. These deep waters carry increasing amounts of legacy human-generated CO₂ from 30 to 50 years ago when the water was last in contact with the atmosphere [5]. As a result, conditions will continue to acidify from upwelled waters for several decades due to the existing carbon-load [5].
- Ocean waters receive freshwater discharge from surrounding rivers and streams. Freshwater is typically more acidic than the ocean and carry dissolved nutrients like nitrogen, phosphorous, and organic carbon. These nutrients enter the marine environment and contribute significantly to ocean acidification in certain areas of Puget Sound by adding CO₂ to the water as a product of microbial decomposition [5]. Scientific studies suggest that nutrients can also stimulate harmful algal blooms, which may produce more toxins under acidified conditions [5]. Human sources of nutrients such as sewage treatment plants, septic systems, and runoff from land practices (e.g., fertilizers and livestock) are a significant contributor to acidification in many parts of Puget Sound.

Ocean Acidification and Climate Change

While ocean acidification and climate change share a common cause (increases in CO₂ in the atmosphere), climate change encompasses the effects associated with changes in the Earth's heat budget (due to the greenhouse effect of CO₂ and to a lesser extent other climate reactive gases), which cause global warming and changes in weather patterns. Ocean acidification specifically refers to the lowering of ocean pH resulting from its absorption of human-released CO₂ from the atmosphere. Ocean acidification does not include the warming of the ocean.

— Christopher L. Sabine, Supervisory Oceanographer, NOAA Pacific Marine Environmental Laboratory, USA

Ocean acidification primarily impacts Southern Residents and salmon through their highly interconnected food web (Figure 3 above). Pteropods and copepods (such as the phytoplankton and zooplankton) that support the base of the orca food web, providing sustenance for forage fish and juvenile salmon, grow more slowly in acidified waters [5]. Recent studies on juvenile coho salmon exposed to low level pH, representing projected future scenarios, showed disruption of olfactory driven behaviors and related neural signaling pathways. Although the salmon's ability to smell remained intact, their response to alarm odors was indifference, versus a typical fear and avoidance response. Olfaction plays a central role in salmon survival, navigation and reproduction. These neural signaling pathways are highly conserved across many species, indicating other salmon species could be at risk as well [15]. Although few studies exist on the direct effects of ocean acidification on Pacific salmon species, studies of projected future ocean acidification scenarios on tropical reef fish showed reduced growth, behavioral changes and decreased survival [18, 19].

Ocean acidification increases the bioavailability of metals in orcas, including iron and copper, which has the potential to adversely affect the food web and, potentially, orcas over time. Further, ocean acidification extends the spatial spread of underwater noise (for frequencies up to 10kHz), making it more difficult for orcas to communicate [7, 16]. Over time, ocean acidification will 'amplify' underwater noise by reducing natural sound absorption of sound at lower frequencies, allowing for sounds to propagate further and making it harder for orcas to locate their prey [7, 16].

Existing stressors on endangered Southern Residents and Chinook have already increased their likelihood of extinction. Without intervention, the compounding effects of changing ocean conditions due to climate change will continue to exacerbate these stressors, pushing our beloved salmon and orcas even closer to the tipping point.

Recommendations

Goal 5: Reduce the threat from climate change, including ocean acidification, to Southern Residents, the region's biodiversity, and ultimately, the wellbeing of Washington's people and economy.

The task force urges aggressive and sustained action in Washington State and beyond to (1) reduce human-caused emissions, consistent with best available science, limiting planetary warming to 1.5-2.0 °C, (2) limit the causes and consequences of ocean acidification, and (3) act aggressively to increase the resiliency of the habitat and ecosystems that orcas and salmon depend upon for their survival. State agencies responsible for implementation of Task Force recommendations should adopt a 'climate lens' to ensure that actions and investments are made based on best available science, focusing on increasing resiliency and adapting to impending changes. Incorporate climate projections and modeling into decision-making.

GREENHOUSE GAS EMISSIONS

Recommendation A: *Take aggressive, comprehensive, and sustained action to reduce human-caused greenhouse gas emissions, with the goal of achieving net zero emissions by 2050.*

- At the individual, organizational, and community levels and across the public, private, and not-for-profit sectors, take immediate action to reduce greenhouse gas emissions.
- Build on existing policies and initiatives and advance policies at the state and local government levels to increase investments, regulatory frameworks, and incentives that lead to a systematic and sustained reduction in emissions over the next 30 years.
- Monitor emission reductions over time; take additional actions consistent with the goal of limiting planetary warming to 1.5- 2 degrees C.
- At the state level, work collectively with other states, the private sector, and civil society to advance national and international solutions to reduce emissions.
- Inform and engage the public, stakeholders, and decision makers on the connection between orcas, salmon, climate change, and, ultimately, human well-being.

Implementation Details:

With a focus on a vision of a thriving Southern Resident population, the Task Force supports immediate, aggressive, and sustained action to reduce greenhouse gas emissions locally, regionally, and globally. Actions can occur at the local, state, and national/international levels undertaken by individuals, organizations, and governments across the public and private sectors and civil society. While it is beyond the Task Force's expertise to define specific policies and actions to reduce emissions, the science is clear that planetary warming must be stabilized at 1.5 – 2 degrees C above pre-industrial levels to limit the consequences of climate change to southern residents, humankind, and biodiversity [1, 20]. Most of the greenhouse gas emissions in Washington State are from transportation, electricity generation, or associated with the residential, industrial, commercial, and agricultural activities ([Figure 4](#)).

A sampling of actions that can be taken within Washington to reduce emissions are summarized in [Table 1](#) below. While not endorsing any specific activities, the Task Force urges all members of the Washington community, to examine their own contribution to the problem and take forceful action to reduce their emissions.

Figure 4: Washington GHG emissions - three-year average (2013-2015) [9].

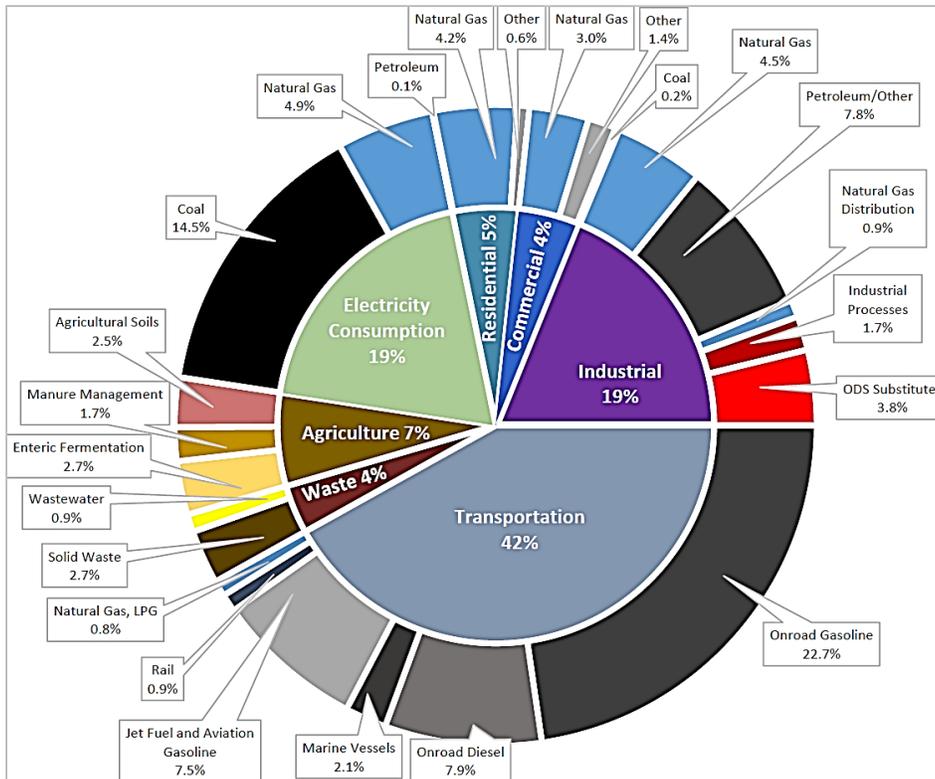


Table 1: Methods for reducing carbon footprint [21, 22, 23].

Activity	Ways to reduce emissions
Transportation	<ul style="list-style-type: none"> Walk, bike, bus, or use rail instead of driving Use electric vehicles Telecommute/teleconference Carpool Switch to low carbon fuels (e.g. biodiesel)
Building heating and cooling	<ul style="list-style-type: none"> Maximize use of carbon free, efficient energy (e.g., heat pumps) Source clean, carbon free electricity (e.g., wind, solar)
Food	<ul style="list-style-type: none"> Reduce food waste Reduce consumption of carbon-intensive food sources (e.g., meat)
Consumption and waste	<ul style="list-style-type: none"> Reduce overall consumption Maximize reuse and recycling
Industrial	<ul style="list-style-type: none"> Electrify energy sources Maximize efficiency Source lower carbon inputs
Agriculture and forestry	<ul style="list-style-type: none"> Practice no-till agriculture and regenerative farming techniques Improve soil health for carbon sequestration Improve forest health to increase carbon sequestration and reduce emissions from wildland fires

In terms of government action, the legislature and local and regional governments and agencies must continue to advance/adopt policies, investments, incentives, and regulatory frameworks that can catalyze dramatic reduction in emissions generated in Washington over the next 30 years. In addition to individual actions, a policy framework and investment is needed to restructure the economy, ensure equity, address dislocations to workers and businesses, and accelerate the transition to a low carbon future. In 2018, the Washington State legislature passed significant policies, such as SB 5116 the 100% Clean Electricity bill, that will lead to clean energy investments and emission reductions over time. More action, however, is needed to establish policies and frameworks to 1) reduce emissions in the transportation, building, commercial and industrial sectors, 2) encourage sequestration and emission reduction in the agriculture and forestry sectors, and 3) incentivize innovations that will achieve deep de-carbonization over the longer term. Possible state actions include developing a comprehensive plan to achieve reductions across all major sectors of economy and legislative direction to create legal accountability to achieve the associated targets.

To benefit Southern Residents, actions that both reduce emissions and improve resiliency warrant priority consideration. These include investments in forest health, riparian and habitat restoration, and agricultural practices that both sequester carbon and reduce runoff.

In addition to state and local action, Washington state should continue to work collectively with other states, the private sector, and civil society to advance national and international solutions to reduce emissions to scientifically determined safe levels. State level action is not enough. Washington and leading state-based businesses and organizations, and elected officials must join together to advocate for and advance policies at the regional, national, and international levels.

The successor to the task force should maintain a focus on the impact of climate change and ocean acidification on orcas and support the leadership of the Governor, legislature, and state agencies to advance policies and solutions to reduce emissions. Support could include providing science-based information on the link between climate change and orca health, advocating for policy action to reduce emissions, and educating the public about the imperative of reducing emissions to the survival of the orca.

OCEAN ACIDIFICATION

Recommendation B: Increase Washington's ability to understand, reduce, remediate, and adapt to the consequences of ocean acidification.

- Reduce local land-based contributions to ocean acidification. Reducing inputs of nutrients and organic carbon from local sources will decrease acidity in affected marine waters, decreasing the effects of ocean acidification on marine species in the area.
- Reduce Washington's carbon dioxide emissions quickly and aggressively. Reducing carbon dioxide emissions will decrease future acidification and help protect marine species (see Recommendation A).
- Implement measures to adapt to and remediate the impact of ocean acidification.
- Continue to invest in Washington's ability to monitor ocean acidification and its effects. This investment will enable effective responses to ocean acidification.
- Inform, educate, and engage stakeholders, decision makers, and the public in addressing ocean acidification. Engage and dialogue is essential to building support for investment in and implementation of effective actions.
- Maintain a sustainable and coordinated focus on ocean acidification.

Implementation Details:

Washington was an early leader addressing ocean acidification and the first state to develop a comprehensive plan for tackling ocean acidification in 2012 through the Marine Resources Advisory Council. Since its inception, MRAC has provided a sustainable and coordinated focus on implementing the actions in the state's plan, and updated it in 2017. The task force supports continued implementation of actions in the state's Ocean Acidification Action Plan and MRAC's recommended priorities, including:

- **Reducing local carbon dioxide emissions more aggressively.** Current projections indicate sharp declines in pH in Puget Sound over the next 30 years, if we do not reverse course. Our local emissions contribute to local acidification and, therefore, must be part of the solutions advanced.
- **Accelerating actions that reduce human sources of nutrients.** Local human sources of nutrients are contributing significantly to ocean acidification causing low oxygen and threatening marine life, particularly in parts of Puget Sound. Management and policy actions that reduce nutrients from wastewater treatment plants, septic systems, and from other land-based sources will improve marine water quality for marine species. Department of Ecology's Puget Sound Nutrient Reduction Project is evaluating and advancing such actions, including developing a general permit for wastewater treatment plants.
- **Improving resiliency of the ecosystem.** Protect and enhance kelp and eelgrass, which may reduce acidification locally and provide areas of refuge for marine species.
- **Continue investing in science and collaboration** that underpin our actions and provide a sustainable and coordinated focus for our state to address and lead on this issue.
- **Update communication material and conduct strategic outreach** to increase understanding and connect with key audiences.

Beyond these action at the state and local levels, Washington should continue leading, collaborating, and advocating for and advancing policies at the regional, national and international levels in partnership with leading state-based businesses and organizations, elected officials, and others.

PREY AND RESILIENCY

Recommendation C: *Mitigate the impact of a changing climate by accelerating and increasing action to increase the resiliency and vitality of salmon populations and the ecosystems on which they depend.*

- Fully implement and fund salmon recovery plans to improve climate resiliency against sea level rise, changes in precipitation, increased stream temperatures, and ocean acidification. Where needed, adaptively manage and incorporate climate adaptation and resilience strategies in the regional and watershed scale recovery plans.
- Increase fish access to cold water habitats and refugia. Selectively remove, design, and retrofit infrastructure (e.g., dams, culverts, dikes, rail lines, hatcheries, fish passage) to ensure climate resiliency for the future changes in flows and water temperatures.
- Significantly increase the scale and scope of investment in habitat protection and restoration investments that focus on habitat diversity and complexity and increase the diversity and resiliency of wild and hatchery salmon stocks.
- Adaptively manage hatcheries to account for and mitigate against climate change impacts, such as water flow, water temperature, and sea level rise. Changes may affect location, type, or operation of hatchery facilities.

Implementation details:*Funding and investments*

Fully fund salmon recovery plans as written to ensure implementation. Increase funding as needed and look for opportunities to frontload investments to address urgency of climate change, which exacerbates existing threats to salmon. Identify new funding sources, in addition to WDFW funding. Prioritize restoration investments in nearshore marine areas and estuaries, floodplains and riparian areas, culverts and infrastructure, and areas that increase access to cold water refugia.

Cold water habitat and refugia

Enhance existing efforts to increase access to cold water habitat and refugia. Identify opportunities to reintroduce species to habitats with cooler waters. Ensure that any losses in hydropower are replaced with other carbon-free sources and consider other potential conservation impacts.

Increasing stock diversity and resiliency

To buffer against climate change and increase stock resiliency, increase diversity and complexity of habitats throughout geographic range, and restore associated life histories. While increasing stock diversity, identify resilient salmon species with sufficient populations throughout the state that have sufficient abundance and habitat diversity/complexity to adapt to climate change (also referred to as anchor populations or strongholds), for example—unlisted species along the coast.

Hatcheries

Account for the impacts of sea level rise, increasing water temperatures, and changes in streamflows when assessing upgrades and modifications to hatchery facilities. Consider facility water temperature and availability, river access, and disease management. Hatchery managers should assess stock selection, growth rates, diversity, and release timing as tools for reducing climate impacts to salmon. Ensure that these changes do not further exacerbate climate impacts on wild fish.

In addition to the recommendations above, Task Force Recommendations 1-9 address (a) preserving, restoring, and protecting habitat, (b) expanding hatchery production, (c) re-establishing salmon runs above existing dams, (d) increasing spill over dams, and (e) establishing a stakeholder process to examine the future of the lower snake river dams. These recommendations further the resiliency and productivity of the ecosystem and salmon populations, while providing a buffer against future adverse impacts of increased air and water temperatures, changing stream flows, and sea level rise.

VESSELS

Recommendation D: *Provide leadership to reduce emissions and noise from vessels.*

- Incentivize low-carbon or zero-emission, low-impact vessels in state waters. Target vessels with the greatest cumulative emissions impacts, based on vessel type and operational profile.
- Support the annual operating budget of the WA Maritime Blue scope of work to implement WA State's Strategy for the Blue Economy as it relates to the goals of the SRKW Task Force.

Implementation details:

Vessels are a significant source of carbon dioxide emissions contributing directly to climate change and must be reduced over time to meet international and science-based goals to stabilize temperatures. The task force recommends a targeted approach to emissions reduction, focusing on reducing emissions from the vessels spending the most amount of time and making the highest number of trips in local waters.

While reducing emissions is a top priority, ocean acidification extends the spatial spread of underwater noise (for frequencies up to 10kHz), making it more difficult for orcas to communicate. The task force recognizes that while some emerging vessel propeller technologies may reduce emissions, they can also increase underwater sounds at frequencies that interfere with orca communication and echolocation. Addressing this trade-off will require research, innovation, and investment to develop and deploy technologies that both reduce noise and carbon emissions.

To catalyze this research and innovation, the Task Force recommends supporting Washington Maritime Blue, a strategic alliance for maritime innovation and sustainability. Maritime Blue is an independent, non-profit partnership between industry, public sector, research and training institutions, and community organizations, tasked with implementing Washington State's Strategy for the Blue Economy. As part of this recommendation, the Task Force requires that Maritime Blue create space in its governance structure (e.g., a dedicated board member seat or subgroup) to address Southern Resident Killer Whale issues.

CONTAMINANTS

Recommendation E: *Identify and mitigate increased threats to southern residents from contaminants due to climate change and ocean acidification. Prioritize actions that proactively reduce exposure where the increased impacts are expected to be most severe.*

- Identify vulnerabilities of existing storm and wastewater infrastructure (stormwater management systems, CSO, WWTP, port and rail facilities) to sea level rise, flooding, and other high-flow events. Retrofit or otherwise mitigate facilities at high risk.
- Identify and prioritize the timely clean-up and remediation of legacy toxics and waste sites that are likely to be exposed by sea level rise, flooding, and high-flow events caused by climate change.
- Include the impacts of a changing climate and ocean acidification as a criteria when developing a prioritized list of chemicals of concern for orcas.
- Address new contaminants entering marine and inland waters associated with the increase in wildland fires associated with climate change. These include PAHs (polycyclic aromatic hydrocarbons) from smoke, flame retardants, and increased runoff from erosion.
- Ensure that the National Pollutant Discharge Elimination System (NPDES) permit processes are adaptable and responsive to climate related impacts.
- Support the Department of Ecology's ongoing nutrients work and initiatives.

Implementation details:

As runoff is anticipated to increase as climate change drives increased precipitation, flooding and sea level rise, additional work is needed to address increasing levels of contaminants in the state's waters. Nutrient loadings will increase with these events and exposure to other toxics could increase as well. Increased bioavailability of toxics will accumulate up the food chain, ultimately threatening chinook. In addition, the increased quantity and intensity of flows due to climate change are highly problematic, impacting the hydrology of basins and water systems and destroying forage fish and chinook habitat.

In the near term, efforts to address this threat should focus on identifying storm and wastewater infrastructure and other facilities including legacy waste sites most at risk and taking action to mitigate those risks. Actions include prioritizing and adapting stormwater retrofits to account for the impacts of climate change, accelerated clean-up of toxics and waste sites, modifying or moving treatment facilities to withstand sea-level rise and increased flooding, and increasing protection around low-lying infrastructure facilities (without hardening adjacent shorelines). Over time, responsible agencies and entities will need to monitor how increased intensity and duration of rainfall events, sea level rise, and flooding as well as warmer temperatures and ocean acidification

affect toxics mobility and contaminants in the ecosystem, proactively and adaptively managing to address expected future conditions.

To address PAHs and other contaminants associated with increased wildland fire, smoke, and suppression, support the efforts of DNR, USFW, and other agencies to identify and implement effective management and mitigation strategies. Accelerate investments and activities to improve forest health and reduce wildland fire risks currently being undertaken by DNR and USFW to ultimately reduce the intensity and extend of large catastrophic fires and associated smoke as well as the consequent need for flame retardants.

With disease susceptibility in salmonids, and other critical species likely to increase with warmer temperatures, targeted toxics reduction strategies should remain a focus for SRKW recovery. Additionally, the state should work to better understand emerging toxics threats to determine how effects might be amplified and synergized with changes in climate, water temperature, and chemistry.

Regarding including climate change considerations into the NPDES permit process, incorporate the resiliency of WWTP, CSO, and stormwater facilities to maintain treatability in the event of sea level rise, extreme flooding, and high-flow events.

Regarding nutrient management, Ecology recommends 1) developing a NPDES permit framework for wastewater treatment in Puget Sound, 2) developing a watershed nutrient management model and decision support tool, and 3) collecting high-quality, nutrient data in watersheds to fill key knowledge gaps related to baseline conditions. These recommendations will address current threats from nutrient loadings to the health of the Puget sound ecosystem, salmon, and orcas as well as the increase that will result from the impacts of climate change [24].

DRAFT

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Discussion Questions for September 9th Task Force Meeting

Please provide detailed edits and wording revisions via email.

- 1.) Do you support the draft recommendations?
- 2.) What revisions would you suggest and should be discussed at today's TF meeting?
- 3.) Do you have other high-level suggestions about the draft report?

Welcome

Thank you for taking the time to complete this survey, which should take approximately 10 minutes to complete. Your responses will help us understand the Task Force's preferences and capacity for continuing orca recovery work beyond 2019. Responses will be summarized and discussed during the next Task Force meeting on September 9th.

Purpose of continuing Task Force work beyond 2019

In 2018, the SRKW Task Force committed to ensuring a healthy and resilient ecosystem that supports a thriving Southern Resident orca population and protects Southern Resident orcas from extinction. Task Force members participating in the "Life after the Task Force" subgroup identified the following potential gaps in achieving this goal when the Task Force in its current form dissolves:

- Coordination among lead entities, organizations, advocacy groups, interest groups, etc.
- Implementation, monitoring, and adaptation of Task Force recommendations (YR1, YR2, and beyond).
- Communication and public education.
- Funding Task Force coordination and implementation efforts beyond 2019.

Potential paths forward

For your consideration, the "Life after the Task Force" subgroup developed the following four preliminary options for continuing this work beyond 2019 (an additional write-in option is provided as well). These options will be further refined and expanded based on feedback received through this survey and through the discussion during the September 9th Task Force meeting.

A. Status quo:

Agencies continue existing programs and work streams related to orca recovery. YR1 Task Force recommendations already implemented/funded move forward under the direction of their respective lead agency. No synthesized reporting process, formal coordination, or authorized convening body.

B. Leverage existing governance structure(s):

Leverage the Puget Sound Partnership's Recovery System to conduct science and monitoring, adaptively manage Task Force recommendations, and coordinate messaging about orca recovery. Identify and request additional agencies to lead efforts on the Columbia and the coast.

C. Create a hybrid structure of existing governing bodies plus a new governing body:

Leverage the Puget Sound Partnership's Recovery System. Identify and request additional agencies to lead efforts on the Columbia and the coast. Propose that the Governor continues to fund the Task Force, which will meet at some frequency (e.g., once or twice a year) to continue adaptively managing recommendations and catalyzing implementation. Task Force would get briefed on status of recommendations from different boards, councils, and work groups and could change course, adaptively manage, and provide direction.

D. Create a new structure or governing body:

Propose that the Governor convenes and funds a new structure or governing body that would report to the Governor. This new structure/governing body should be a tribal-public-private effort and should draw from existing work happening in Washington to avoid duplicating efforts.

E. Write-in option:

Write-in option if you believe the Task Force should consider an alternative to the options previously described.

Q1 - Please let us know your name and affiliation: n = 24



How would you rate the **effectiveness of the option on the following criteria?**

[rank from 1 to 5; 1 = not at all effective, 5 = very effective]

- **Communication** and public education.
- **Implementing, monitoring, and adapting** Task Force recommendations (YR1, YR2, and beyond).
- **Coordination** among lead entities, organizations, advocacy groups, interest groups, etc.
- Achieving a **thriving Southern Resident population**.

How would you rate the **feasibility of the option on the following criteria?**

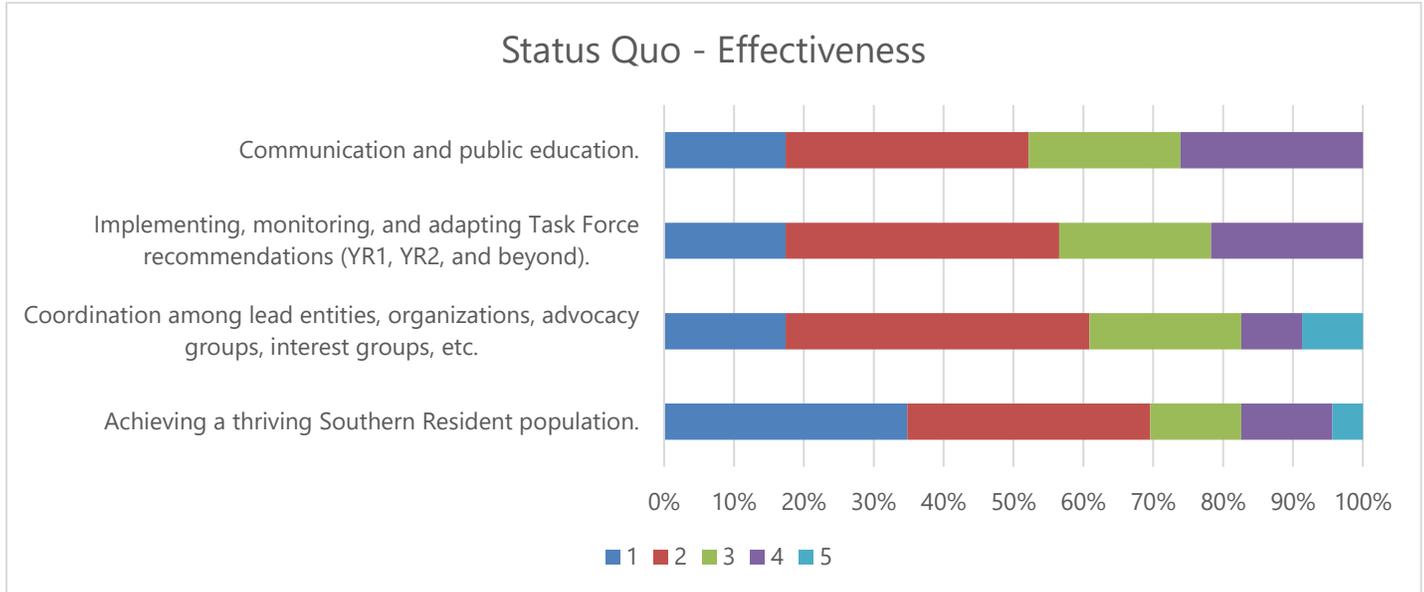
[rank from 1 to 5; 1 = not at all feasible, 5 = very feasible]

- Obtaining **authorization**.
- Obtaining **adequate funding** for coordination and implementation efforts beyond 2019.

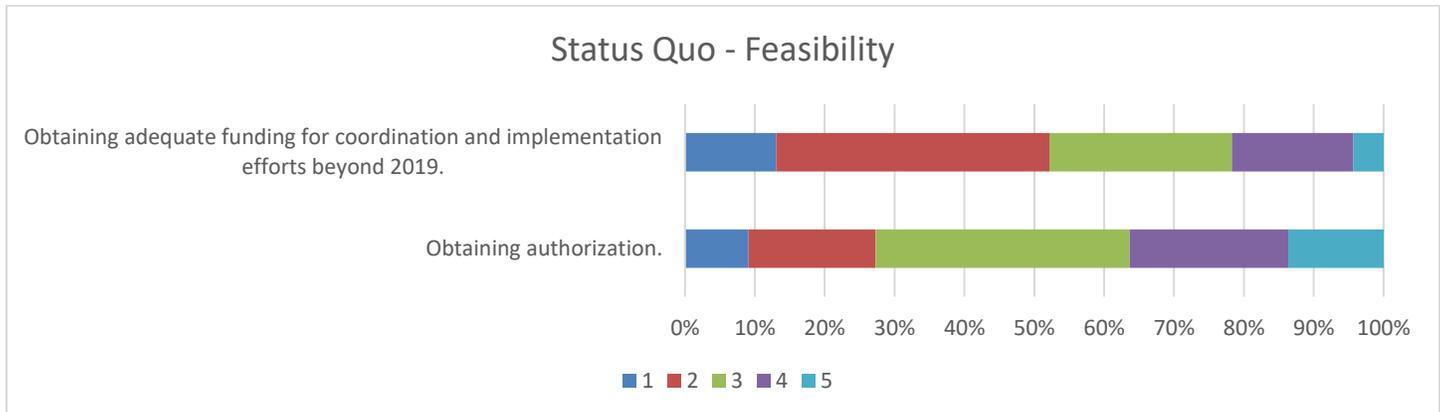
A. Status quo.

Agencies continue existing programs and work streams related to orca recovery. YR1 Task Force recommendations already implemented/funded move forward under the direction of their respective lead agency. No synthesized reporting process, formal coordination, or authorized convening body.

Q2 - How would you rate the effectiveness of the STATUS QUO on the following criteria?



Q3 - How would you rate the feasibility of the STATUS QUO on the following criteria?



Q4 - What comments or suggestions do you have about the STATUS QUO option?

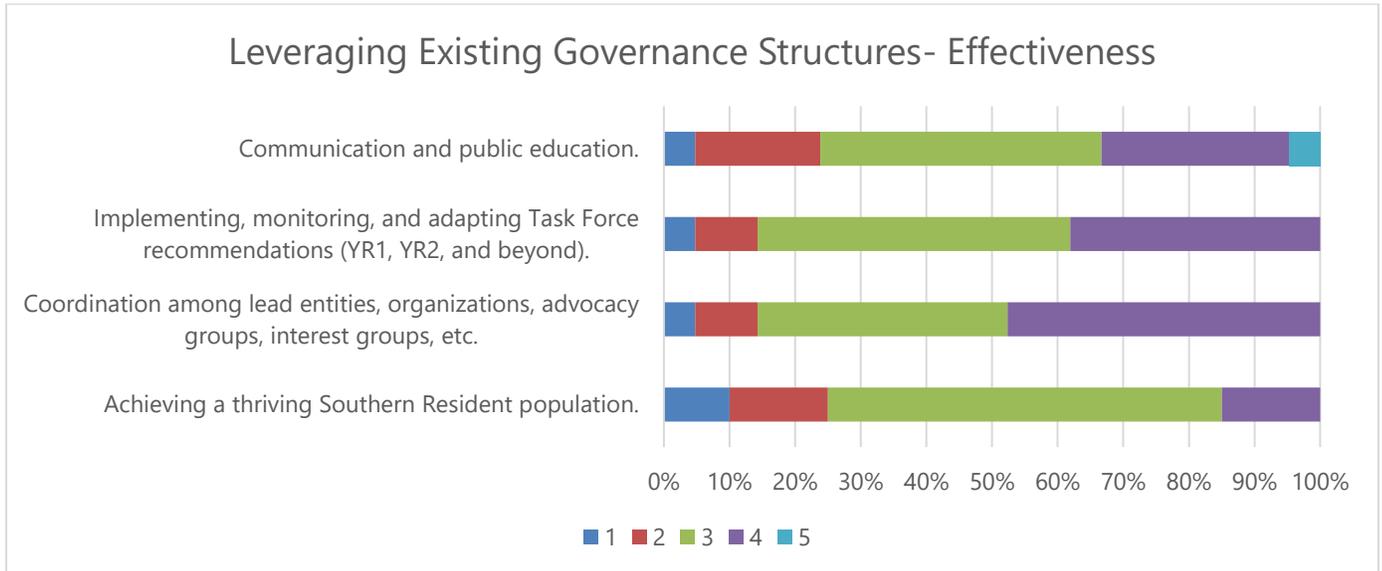
Open-Ended Response
The status quo won't work long term. We need to improve coordination with salmon recovery efforts
Without some sort of overseeing body, and ecosystem-based goals between all agencies, I find it hard to imagine there will be much positive impact.
This model would have little accountability to and input from key stakeholders like the NMTA.
Worried that without additional funding the Status Quo could be well intentioned without being effective.
The decisions to do anything were developed in state agencies and were designed to fund their existing program options, rather than accept new bold ideas.
This could work but would require us to put less into existing organizations that frankly have had little success.
We already tried status quo - it didn't work. The public expects more, and status quo moving forward would be a clear failure - politically, environmentally, and morally.
We need a lead agency to facilitate coordination and communication. The status quo option will not be effective to achieve this outcome.
That funding pursues hatchery production for the orcas.
My concern is that state agencies can't advocate in the legislature for more funding. They can only advocate for what's included in the Governor's budget

B. Leverage existing governance structures.

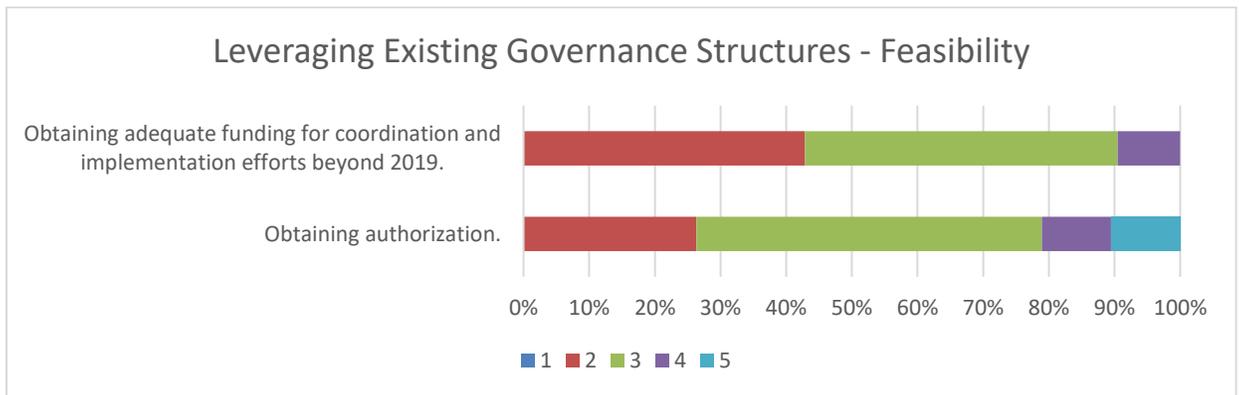
●**Phase 1:** Leverage the Puget Sound Partnership’s Recovery System to conduct science and monitoring, adaptively manage Task Force recommendations, and coordinate messaging about orca recovery.

●**Phase 2:** Identify and request additional agencies to lead efforts on the Columbia and the coast.

Q5 - How would you rate the effectiveness of LEVERAGING EXISTING GOVERNANCE STRUCTURES on the following criteria?



Q6 - How would you rate the feasibility of LEVERAGING EXISTING GOVERNANCE STRUCTURES on the following criteria?



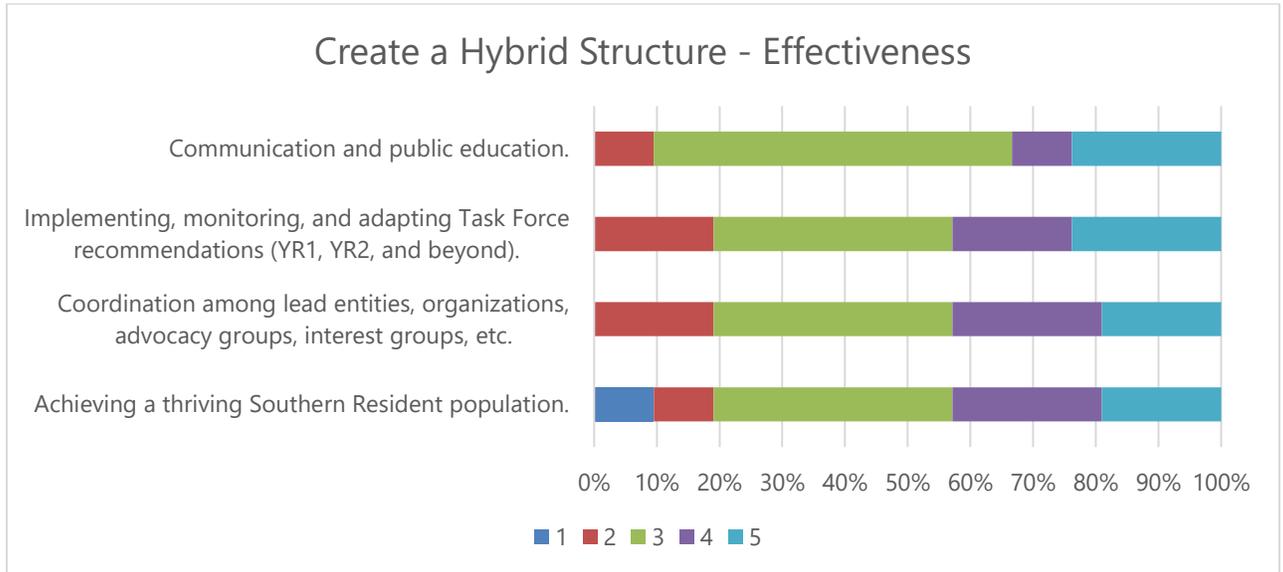
Q7 - What comments or suggestions do you have about the **LEVERAGING EXISTING GOVERNANCE STRUCTURES option?**

Open-Ended Response
This seems like the lowest cost, ensures that we are creating efficiencies and continues to build coordination among agencies
A new oversight committee just for Orca's
The Puget Sound Partnership has its own mission and agenda, that includes some but not all pieces of orca recovery. Orca recovery is urgent, and I fear it will not get the attention, focus, or funding it needs when balanced among the Partnership's other priorities.
Implementation of SRKW policy and regulations is too important for NMTA to not be more involved.
Again, without funding it is going to be hard for the PSEMP marine mammal group to do anything but make plans and talk to people; they can't enact actions and don't have a super strong legislative arm
I am worried about the statewide efforts -- consistency and coordination.
I think we could utilize the Governor's Salmon Recovery Team to help lead this effort as they are statewide, and their work significantly overlaps with SRKW TF goals.
I believe the existing organization might get bogged down by its own bureaucracy and priorities.
PSP is *the* backbone organization here and strengths must be leveraged. However, we need even higher executive-level attention at the groups currently convened so did not rate this option as highly. For example, need Director's office at DFW, ECY, DNR, RCO as well as the staff engaged.
We need to spend funding on raising fish for the orcas.
The PSP and other orca salmon related state agencies can be very effective if given the adequate funding they need to do the science, monitoring, recommendation management and communication. But they never have sufficient funding from the legislature. My concern is they need other respected tribal, private sector, local government and NGO partners engage in oversight and implementation of the SRKW task force recommendations. These outside partners can be very helpful in educating policy makers in Olympia and helping broaden public outreach and education out what Orcas and salmon need. These outside partners can also help advocate for the funding these state agencies need to do their jobs effectively.
Our single focus should be on Chinook salmon recovery. Coordinated and FOCUSED efforts is the only way to get us there.

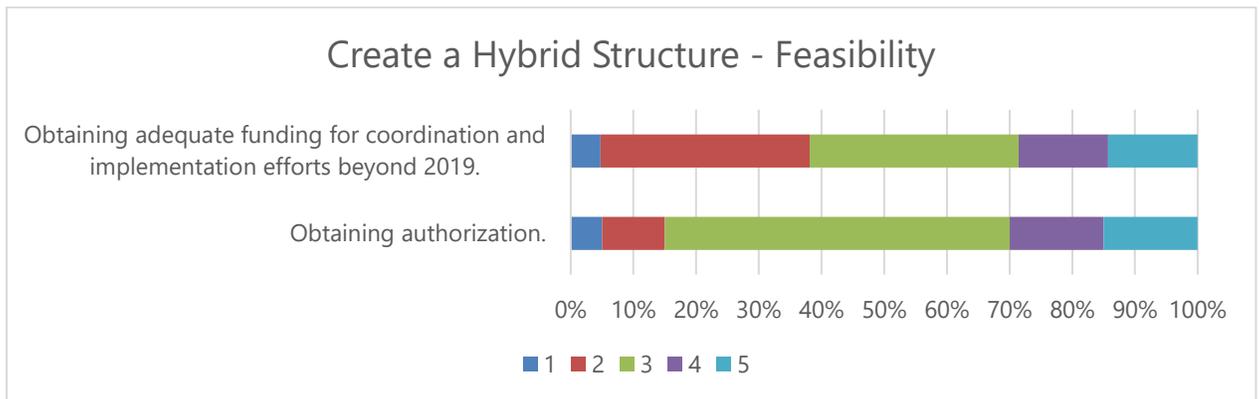
C. Create a hybrid structure of existing governing bodies and new governing body.

Leverage the Puget Sound Partnership’s Recovery System. Identify and request additional agencies to lead efforts on the Columbia and the coast. Propose that the Governor convenes and funds a Task Force-like structure that meets at some frequency (e.g., once or twice a year) to continue adaptively managing recommendations and catalyzing implementation. Task Force would get briefed on status of recommendations from different boards, councils, and work groups and could change course, adaptively manage, and provide direction.

Q8 - How would you rate the effectiveness of **CREATING A HYBRID STRUCTURE on the following criteria?**



Q9 - How would you rate the feasibility of **CREATING A HYBRID STRUCTURE on the following criteria?**



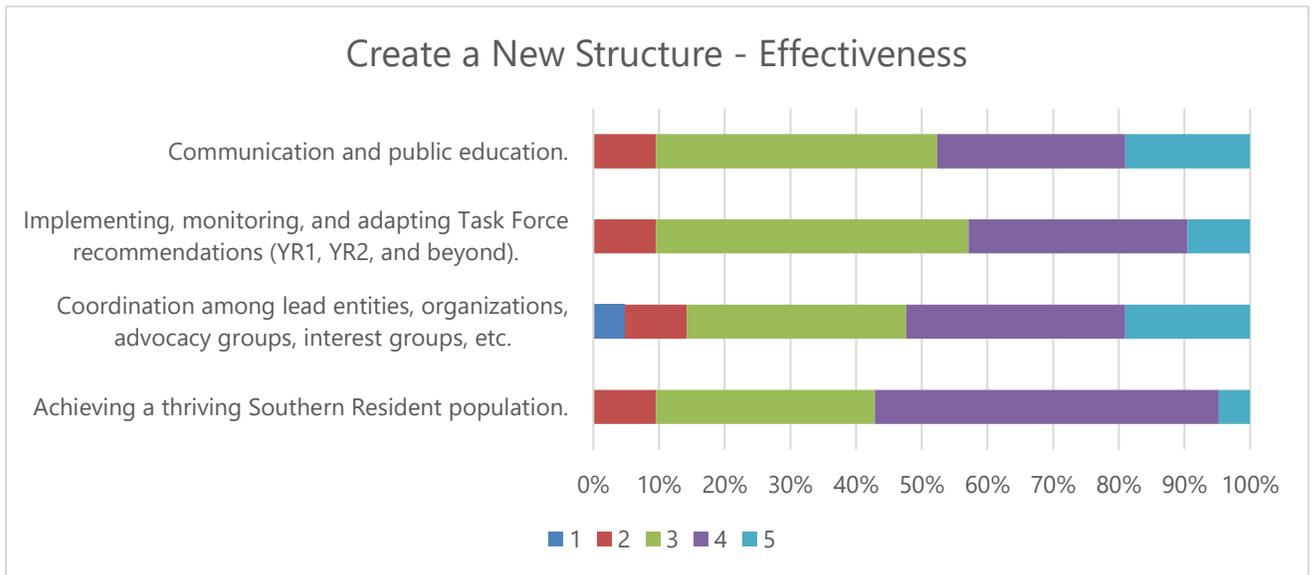
Q10 - What comments or suggestions do you have about the [CREATING A HYBRID STRUCTURE](#) option?

Open-Ended Response
This is also an excellent option, though likely will require more work to implement and maintain, has a greater chance to keep recommendations moving.
I believe comprehensive coordination between all state agencies involved is the best, and most potentially beneficial path forward.
No Puget sound partnership should deal with Orcas
The Task Force summited a robust set of recommendations to recover the southern resident orcas. The strength of the task force - its size and diversity - could be a liability in the implementation of those goals. The Task Force has accomplished its mission and should sunset as planned. I think it would be most appropriate and effective to replace it with an Orca Recovery Council - analogous to the Salmon Recovery Council - that would be smaller, more nimble, and effective at decision-making. (See my description in option E.)
NMTA would request to be part of this task force.
Again - does this come with funding that can be put towards action items like restoration? Will the legislature be looking for recommendations to take action on and fund in 2021?
What about beefing up an existing entity that has statewide authority and adding a steering committee. Example might be the current Governor's Salmon Recovery Office. Change to the Governor's Salmon and Orca recovery office. It would need funding. and a clear direction.
I like the idea of calling the task force together twice a year.
This is clearly the best option moving forward, and we have the public expecting more action for orcas and salmon. Executive-level attention is critical to rise above the constant demands on the time of agencies, tribes, and others. We also have structure in place like PSP that should be programmatic leaders that bring information forward. However, we still need a body that includes govt and non-govt entities to make the kind of change we need for the survival of salmon and orcas and the communities that depend on them.
We do not need a top-heavy agency that uses a large overhead. PSP should not be that group.
I believe this is one of the most effective post task force options, because it includes the science, monitoring and implementation expertise of the state agencies and the political and communications skill and clout of a diverse group of committed and knowledgeable stakeholders who care deeply about recovery the southern resident orcas.
Less focused approach. Task force viewed by some as temporary.

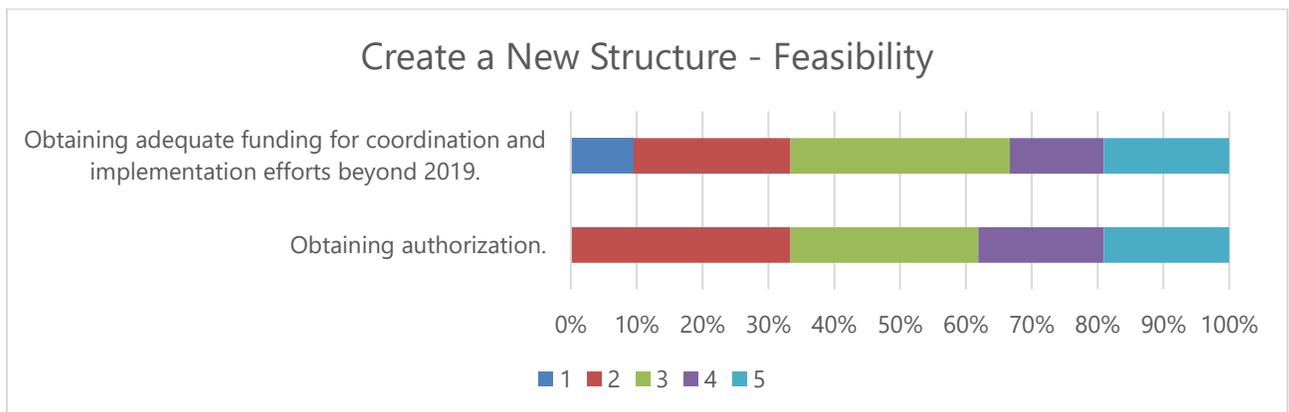
D. Create a new structure or governing body.

Propose that the Governor convenes and funds a new structure or governing body that would report to the Governor. This new structure/governing body should be a tribal-public-private effort and should draw from existing work happening in WA to avoid duplicating efforts.

Q11 - How would you rate the effectiveness of **CREATING A NEW STRUCTURE OR GOVERNING BODY on the following criteria?**



Q12 - How would you rate the feasibility of **CREATING A NEW STRUCTURE OR GOVERNING BODY on the following criteria?**

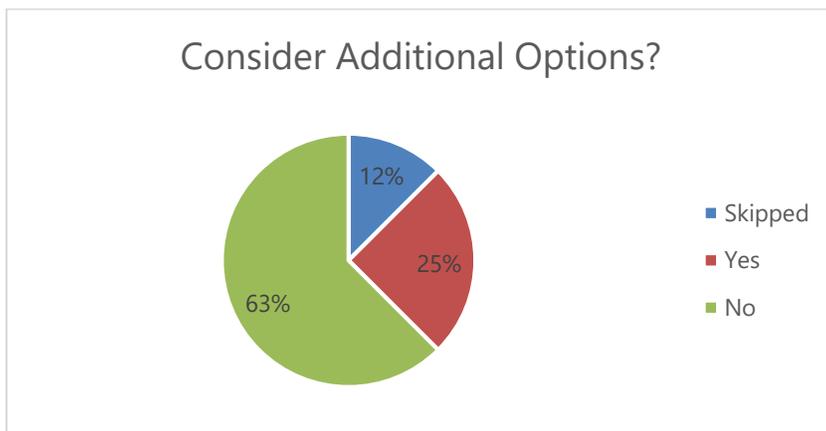


Q13 - What comments or suggestions do you have about the **CREATING A NEW STRUCTURE OR GOVERNING BODY option?**

Open-Ended Response
A new Government body is the only way to go along with the tribes
This model crates the most accountability, oversight and opportunity for input from a key stakeholder like NMTA.
A small lean team of tribal members and experts (that are funded) could be most effective.
It would need clear authority and funding.
We already have too many groups working on recovery. Using existing structures to the extent possible is cost-effective and efficient.
I really want to see the momentum continued. The orca as the focus is helpful. They are the greatest advocates for the health of the Salish Sea!
It's hard to evaluate this option without more detail.
We could formalize the membership of the current Orca Task Force.
Focus on hatchery production to feed the orcas.
I believe both option 3 and option 4 can be very effective post SRKW task force implantation and oversight groups.
This option starts to get very political. Let the funding battles ensue.

E. Write-in option.

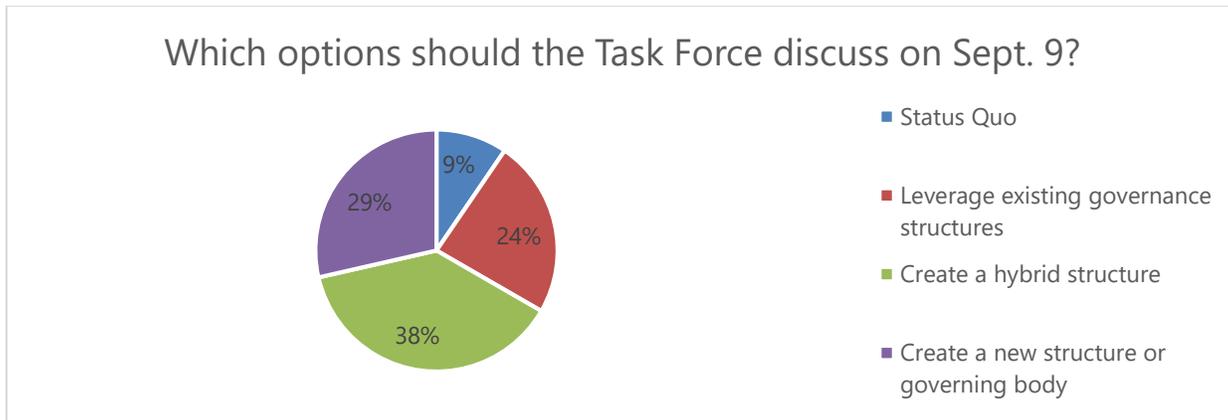
Q14 - Should the Task Force consider an additional option outside of the ones previously described during the next Task Force meeting on September 9th?



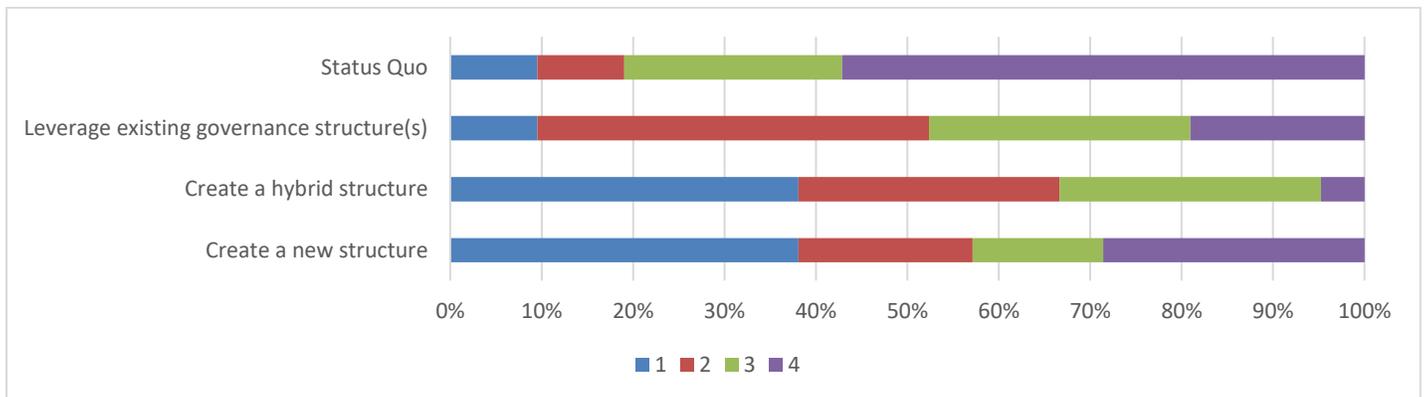
Q15 - Please use this opportunity to describe the additional option you believe the Task Force should consider:

Open-Ended Response	Effectiveness				Feasibility		Comments
	Thriving pop	Coord	Adapt. Mgmt.	Comm & Ed	Auth	Funding	
Remove this from the PSP and have an organization that focuses on making more food for the orcas.	4	4	3	4	4	4	Focus on re-establishing hatchery production
I don't have one, but I think the task force should be open to hearing other members new ideas at our September 9 meeting. I am concerned we are not looking at any options to work with our partners in Canada. Life after the task force needs some Washington/Canada monitoring and implementation strategy. We also need to work actively with our federal partners and congressional delegation in support of Congressmen Heck and Kilmer's SOS bill.							
This is a two-part recommendation: 1.) Create an Orca Recovery Council, analogous to the Salmon Recovery Council. Report to the Governor, as the Council of Environmental Quality advises the President. Should be led by a scientist who has experience recovering marine mammal populations. Team size should be small and nimble. Responsibilities would include prioritizing and tracking recommendations and working with legislators towards implementation. Evaluate and make new recommendations based on population need and response. Serve as a gold standard resource to Governor, Legislators, and citizens. 2.) Keeping the working groups intact and have them serve as think tanks for the Orca Recovery Council. Working groups would be led (or co-led) by members of the Council. Different than current groups in that the lead would have responsibility for the work products and drive the process to answer key scientific questions. Working groups should be representative and diverse (tribal/public/private) participation and could meet every other month or as necessary.	5	5	5	5	5	5	It will work!
Transboundary and statewide focus on salmon and orcas - could be a modification of #3 hybrid option, but we also need US/Canadian engagement as well as engagement with Alaska, Idaho, Oregon, and California if we are serious about restoring salmon throughout the range of the Southern Resident orcas	4	3	3	2	3	3	This could be in addition to, rather than instead of #3.
Utilizing the Governor's Salmon Recovery Office to lead the Orca Recovery, as their work overlaps with most of the work of the Task Force. They also have a statewide presence today.	4	4	4	3	4	3	
Bring NOAA salmon people along with WDFW salmon managers and tribal	5	4	4	4	5	4	

Q19 - Which option(s) should the Task Force continue discussing during the next Task Force meeting on September 9th? (Select all options you are interested in discussing further):



Q20 - Please rank the options below in order of your preference (1 being your most preferred option).



Q21 - Are you (or another representative from your organization) willing and able to continue participating in orca recovery efforts beyond 2019?

- Yes. I am willing and able to **increase** my level of participation. **n = 8**
- Yes. I am willing and able to **continue my current level** of participation. **n = 10**
- Yes. I am willing and able to **decrease** my level of participation. **n = 2**
- No. I am **not willing or able** to continue my participation. **n = 1**

August 30, 2019

Southern Resident Orca Task Force
Attn: Stephanie Solien and Les Purce, Chairs

In Re: Supporting adaptive management and monitoring of Task Force recommendations

Dear Ms. Solien and Mr. Purce:

The Science Panel and Puget Sound Ecosystem Monitoring Program (PSEMP) Steering Committee appreciate the accomplishments and leadership of the Southern Resident Orca Task Force. We support the conclusions and recommendations that were developed to improve conditions for Southern Resident killer whales in the short term, while building towards long-term recovery of the population. As you consider the two future governance options that would involve our organizations (as outlined in the recent “Life after the Task Force” survey), we urge you to include the development and implementation of a monitoring and adaptive management framework in your final recommendations.

Task Force Recommendation #35 called for “*research, science and monitoring to inform decision making, adaptive management and implementation of actions to recover Southern Residents.*” We believe that **developing a monitoring and adaptive management framework with clear objectives is a necessary first step.** In our experience and review of other efforts, this works most successfully when the key decision-makers do the following:

1. Identify the governance organization or forum responsible for determining and making the key decisions that can be informed by monitoring and research, and that is accountable for acting on that information once delivered;
2. Designate a lead group, comprised of the implementing agencies and tribes, that is responsible for organizing monitoring and assessment of the Task Force recommendations, and;
3. Provide for adequate budgets to plan, coordinate, implement, and report the information.

The Science Panel and PSEMP are well positioned and willing to assist. We support and represent a wide variety of scientific expertise, recovery programs, and research and monitoring efforts that inform the recovery of the Puget Sound ecosystem and its key species and habitats. We work through an established Management Conference, and we are committed to transboundary coordination.

The Science Panel provides independent, nonrepresentational scientific advice to the Puget Sound Partnership’s effort to oversee the restoration of the Puget Sound, guided by the Action Agenda. It is the only organization charged with integrating state-sponsored Puget Sound science programs with the Puget Sound science activities of federal agencies, tribes, universities, local governments, and NGOs. The Science Panel consists of experts from natural and social sciences and engineering disciplines chosen for their leadership in conservation and management. Consequently, the Science Panel is well-suited to provide the objective scientific review that is necessary to ensure that the adaptive management framework is credible, relevant, and legitimate.

Many different organizations conduct research and monitoring in the Puget Sound region. PSEMP’s strength is in its network of experts who work together to develop products through facilitated work groups. PSEMP convenes an expansive, collaborative network of subject matter experts and practitioners from many different agencies, tribes, and monitoring organizations who work on different parts of the ecosystem. They work together to organize, synthesize, and communicate scientific information across different groups to address questions critical to recovery of the ecosystem. The collaboration outside of traditional disciplinary and organizational silos results in a more comprehensive and integrated understanding of ecosystem condition and trends in relation to recovery efforts than would happen otherwise. The [PSEMP website](#) and [Strategic Plan](#) contain more details.

PSEMP work groups are already engaged in the priority issues of the Task Force or represent a foundation that could easily be built upon, including monitoring, research, reporting, and communication related to:

- [Puget Sound Vital Sign](#) status and trend indicator tracking
- Salmonids and their habitats, including Puget Sound Chinook populations and watersheds
- Marine mammals, including all SRKW key risk factors (prey, toxins, and vessel effects), as well as pinnipeds and other species that may affect availability of SRKW prey
- Forage fish populations and food web dynamics, including zooplankton monitoring
- Toxics and stormwater, including development of reduction strategies and effectiveness studies for legacy contaminants (e.g. PCBs) and contaminants of emerging concern
- Physical, chemical, and biological conditions of marine waters, including climate change impacts
- Nearshore habitats, including eelgrass, shoreline armoring, estuaries, and floodplains
- Diseases and disease impacts on Puget Sound's biota
- Freshwater quality conditions, including instream flows, impairments, and biotic integrity
- Marine bird populations and habitats, and interactions throughout the Salish Sea ecosystem
- Integrated modelling and spatial data coordination to support ecosystem recovery decisions

Together, the Science Panel and PSEMP can leverage our networks to inform decision-making and guide adaptive management of Task Force recommendations. These bodies represent an excellent pre-existing network that brings together many of the practitioners and experts that would be critical to successfully implementing Recommendation #35. To be successful, moving forward, we need clear objectives for recommendations and adequate funding for the monitoring programs themselves to collect, analyze, and report their data and engage in the adaptive management process.

To realize the ultimate goal of ensuring a healthy and resilient ecosystem that supports a thriving Southern Resident killer whale population, an organized monitoring and adaptive management approach is essential. It should provide transparent accounting and evaluation of the substantial investments made by the Legislature and citizens of Washington State to support the Task Force recommendations, and for effective and efficient use of resources going forward.

The Science Panel and PSEMP stand ready to discuss how we can contribute by leveraging our networks and expertise. We recognize that the Task Force will soon sunset and we offer our assistance in support of the transition to a new phase of governance.

Sincerely,



John Stein
Chair
Puget Sound Partnership Science Panel



Jerry Joyce
Chair
PSEMP Steering Committee

CC: Gretchen Muller, Project Manager, Cascadia Consulting Group

Justification and Problem Statements Supporting the Need to Implement the Southern Resident Killer Whale Task Force Recommendation 27 – Prepared by Lovel Pratt (Friends of the San Juans) and Cyrilla Cook (DNR), and edited by Todd Hass (as Chair, PSP) for the Vessels Working Group

The Southern Resident Killer Whale Task Force’s Vessels Working Group was asked by the Governor’s Office for Regulatory Innovation and Assistance (ORIA) to provide one or more clear problem statements to help the State identify potential opportunities to advance Southern Resident Killer Whale Task Force Recommendation 27: Determine how permit applications in Washington State that could increase traffic and vessel impacts could be required to explicitly address potential impacts to orcas.ⁱ

Marine terminal projects that increase vessel traffic in the Salish Sea negatively impact natural resources.ⁱⁱ Southern Resident Killer Whales are listed as Endangered under the Federal Endangered Species Act, citing three primary risk factors: lack of the whales’ preferred prey, Chinook salmon; chronic and acute underwater noise and physical disturbance from vessel traffic which reduces foraging efficiency; and bioaccumulation of contaminants.ⁱⁱⁱ Large commercial ships impact the Southern Residents’ ability to communicate and successfully hunt (using echolocation) for scarce prey.^{iv} Other vessel traffic impacts include direct vessel strikes,^v hearing loss, behavioral changes,^{vi} and oil spill impacts. A recent population viability analysis states, “The population is fragile, with no growth projected under current conditions, and decline expected if new or increased threats are imposed.” While limited prey availability is the most important factor affecting Southern Residents, reducing vessel impacts has a significant role in population recovery. The population viability analysis further states, “Reducing acoustic disturbance by 50% combined with increasing Chinook by 15% would allow the population to reach 2.3% growth.”^{vii}

Southern Resident Killer Whales were listed as Endangered under the Endangered Species Act, in part, because of concerns about potential oil spill impacts.^{viii} A report from the National Marine Fisheries Service states, “Their small population size and social structure also puts them at risk for a catastrophic event, such as an oil spill, that could impact the entire population.”^{ix}

The following recent examples illustrate the need for improved regulatory oversight and permitting processes in WA State that require applicants for new or expanding projects as well as any changes to existing operations to clearly identify and address any increases in vessel traffic and associated increased impacts to Southern Resident Killer Whales (SRKW).

1) Permit issued by Skagit County for the Tesoro (now Marathon) Refinery to manufacture and export xylene

On June 22, 2015 the Tesoro Anacortes Refining and Marketing Company LLC (Tesoro (which changed its name to Andeavor in August 2017 and was then purchased by Marathon Petroleum in October 2018)) submitted an application for the “Tesoro Clean Products Upgrade Project.”^x The project application included supplying cleaner local transportation fuels and manufacturing 15,000 barrels per day of a new product, xylene, for export to Asian markets. The manufacture

and export of xylenes were projected to increase vessel traffic at the Tesoro wharf by up to five vessels per month (60 vessels or 120 transits per year). Skagit County issued a Determination of Significance under State Environmental Policy Act, which required the preparation of an Environmental Impact Statement.^{xi}

To manufacture the high purity mixed xylenes, Tesoro would need to receive reformat (approximately 6,716,000 barrels per year) from other West Coast refineries via an additional 40 articulated tug and barges per year^{xii} as well as potentially 12 additional barges (one barge per month) delivering reformat from other WA State refineries. The xylene, manufactured from reformat and other ingredients that would be trucked to the refinery, would then be exported to Asia via 20 tankers per year. The project's vessel traffic route includes the Designated Critical Habitat for Southern Resident Killer Whales.^{xiii}

The Final EIS includes no mitigation measures that specifically address project impacts to SRKW. The Final EIS concludes:

The primary concern for cumulative impacts to the Southern Resident killer whale, based on available information, is the sound from small, fast-moving vessels moving in close proximity to the whales and targeting the whales (NMFS 2010). While small, fast-moving vessels are not part of the proposed project, due to the status of the Southern Resident killer whale as a federally endangered species, and one of eight Spotlight species, there is a potential for cumulative impacts due to the proposed project. This additional analysis confirms the conclusions of the Draft EIS—increases in vessel traffic could contribute to cumulative impacts.^{xiv}

On December 7, 2017 the Skagit County Hearing Examiner issued a decision approving the Shoreline Substantial Development Permit and concluded that a Shoreline Conditional Use Permit was not required. Six environmental non-profit organizations (Friends of the San Juans, Evergreen Islands, Stand.earth, RE Sources for Sustainable Communities, Friends of the Earth, and Puget Soundkeeper Alliance) are appealing this decision in regard to Skagit County's lack of compliance with the Shoreline Management Act and the State Environmental Policy Act. An appeal hearing is scheduled in Thurston County Superior Court on Friday, October 11, 2019 at 1:30pm.

2) Par Pacific's Purchase of the US Oil & Refining Co. with the stated intent to increase vessel traffic

Par Pacific recently purchased the US Oil and Refining Co. in Tacoma WA. Par Pacific made a presentation on November 27, 2018 (titled U.S. Oil Acquisition Presentation) which clearly states Par Pacific's intent to change operations and increase vessel traffic to and from this Washington State refinery.^{xv} Par Pacific's intent to increase vessel traffic includes the transport of North American crude oil and intermediate products from Tacoma, WA to the Par Pacific refineries in Hawaii and the transport of refined products between WA State and Hawaii.^{xvi}

September 5, 2019

An estimate of additional vessel traffic based on crude oil transport only: Aframax transport of 50% of the Hawaii refineries' capacity (74,000 barrels per day) would total 72 new tanker transits per year.

Creating an Integrated Downstream Network

HAWAII^{1,2}

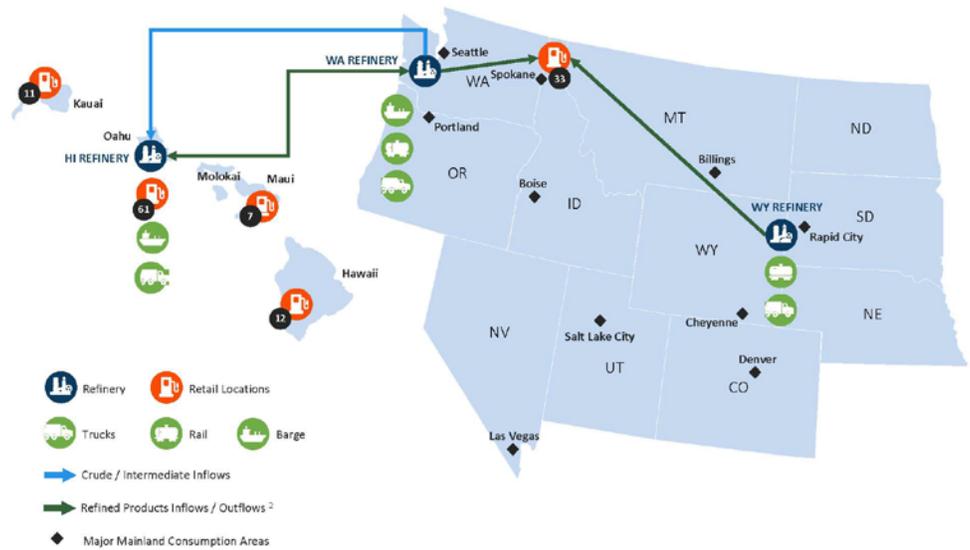
HI Refining Capacity (Mbdpd)	148
HI Retail Locations	91
Storage Capacity (MMbbls)	5.4
Barges	3
Miles of Pipeline	27
Single Point Mooring	✓
Truck Rack	✓

PACIFIC NORTHWEST³

WA Refining Capacity (Mbdpd)	42
NW Retail Locations	33
Storage Capacity (MMbbls)	2.9
Barges	3
Miles of Pipeline	14
Marine Terminal	✓
Unit Train Facility	✓
Truck Rack	✓

ROCKIES

WY Refining Capacity (Mbdpd)	18
Storage Capacity (MMbbls)	0.7
Miles of Pipeline	180
Truck / Rail Rack	✓



9

Par Pacific

¹ Pro forma for closing of IES and Washington Refinery transactions that are expected to close in late 2018 and January 2019, respectively.
² Does not include product outflows from Oahu to neighbor islands via barge.
³ Excludes terminalling, storage and throughput assets owned or operated by third parties.

WASHINGTON REFINERY ACQUISITION, NOVEMBER 2018 (page 9)

Emails sent to the Department of Ecology resulted in this response from Sally Toteff, Regional Director for Ecology's Southwest and Olympic Peninsula Region:

The company at present has not submitted or indicated changes to their facility to us. That could happen in the future and if so, we will review the information and determine what it means in terms of regulatory steps. It is likely the City of Tacoma would be the SEPA lead agency.^{xvii}

And from James DeMay, Ecology's Industrial Section Manager:

You had a question about whether or not a permit would be required for any possible changes to US Oil's Operations. Well it's not a simple yes or no. Changes to US Oil's operations that would change or alter wastewater characteristics would likely require an NPDES permit modification. Also new operations not currently permitted could also trigger additional permits. Through the permitting process, SEPA review would occur. The City of Tacoma is usually the SEPA lead for actions in the Port of Tacoma. Ecology also has the opportunity to review projects where the City of Tacoma is SEPA lead.^{xviii}

Comments from environmental non-profit organizations that addressed Par Pacific's intent to increase vessel traffic were submitted to the U.S. Army Corps of Engineers regarding the Tacoma Harbor, WA Navigation Improvement Project; and to the Department of Ecology regarding the U.S. Oil Refining Co National Pollutant Discharge Elimination System Permit.

3) Mitigated Determination of Non-Significance Issued by Whatcom County to Phillips 66 Ferndale Refinery

On July 19, 2019 Whatcom County issued a Mitigated Determination of Non-Significance (MDNS)^{xix} for the construction of new storage tanks needed to manufacture a new product, low sulfur marine fuels. Phillips 66 Ferndale Refinery did not quantify the additional vessel traffic associated with this project, despite Whatcom County's repeated requests for this information. As a result, Whatcom County's MDNS did not address the potential adverse impacts to Southern Resident Killer Whales from the proposed project's additional marine vessel traffic.

The SEPA checklist did include detailed information regarding the increased truck traffic associated with the construction of the new storage tanks. The mitigating conditions addressed the additional truck traffic, requiring a truck traffic control plan and also the requirement for a variance if noise levels exceed thresholds in state law or if construction takes place outside normal construction hours. There were no mitigating conditions that addressed the potential adverse impacts from the marine vessel traffic associated with this project or the vessel traffic's specific impacts to Southern Resident Killer Whales.

On August 6, 2019 Whatcom County communicated the following with the 28 commenters:

Thank you for your timely comments on SEPA 2019-00033 (Phillips 66 MDNS). We have reviewed your comments and provided them to the applicant as well. We have requested that the applicant provide additional information in the form of a revised environmental checklist to address some of the issues raised. Based on our review of the comments and per WAC 197-11-340(2)(f), the SEPA Responsible Official anticipates issuing a modified or revised MDNS with a revised checklist and, if necessary, identification of potential additional mitigation measures to address any likely significant adverse environmental impacts.^{xx}

Hopefully, Whatcom County's modified or revised MDNS will include additional mitigation measures that address the impacts to SRKW from the proposed project's additional vessel traffic.

SUMMARY AND PROBLEM STATEMENTS

Currently, the SEPA checklist solicits a much greater level of detail for project-related *land*-based traffic and associated impacts (soliciting quantitative information) than marine-based traffic (soliciting "general" information) and there is no standardized method for local or state agencies conducting review of development proposals to obtain quantitative information on potential increases or changes in vessel traffic that the project may generate. Furthermore, even if/when reviewers have access to such information, they are not generally aware of the most applicable or beneficial measures to suggest as mitigation options. The main problems can be characterized as follows:

(A): Coastal planners and environmental permit review staff need additional training, tools, and resources to assess and suggest mitigation options or alternatives for the potential impacts of increased vessel traffic on SRKWs and their habitat.

(B): Although “water” (-based) traffic is a required “element of the environment” requiring assessment during SEPA review, many lead agencies (counties, cities, ports, Ecology) do not appear to solicit descriptions of mitigation measures or alternatives for the potential, adverse impacts of increasing waterborne traffic on SRKWs and other marine species or habitats.

And Par Pacific exemplifies problem **(C): that certain changes in operations, ownership or other activities might greatly increase vessel traffic from a facility, but not be subject to formal permit review or governmental approval.** Is there an existing regulatory tool that could be applied to trigger review of such significant potential changes more consistently?

CONCLUSIONS AND RECOMMENDATIONS

Increases or changes in vessel traffic pose increased risks to southern resident killer whales (SRKW) and other marine species. Existing state regulations for critical areas require that SRKW habitat be protected as fish and wildlife habitat conservation areas, yet many state and local agencies may not be aware of or understand the link between increasing vessel traffic and potential SRKW impacts.

The State should coordinate vessel traffic issues with local governments and tribes and increase transboundary coordination with Canada. State agencies should identify the most efficient and consistent method for state and local agencies to obtain vessel traffic information from project proponents during SEPA review and/or the application process.

Potential Implementation Details:

The Governor should direct Ecology and request DNR and WDFW, in consultation with ORIA, to identify the best method to obtain vessel traffic information (number, type, frequency, and routes) from project proponents during SEPA environmental review and/or application process to ensure consideration of the potential impacts to SRKW.

This information should also be used to coordinate with local governments, tribes and others to identify potential mitigation measures related to such projects, and increase transboundary coordination to address impacts from projects initiating in Canada (such as Roberts Bank Terminal 2). The agencies should report to the task force by October 7, 2019.

Potential avenues for adding requirements to provide vessel traffic information to application or environmental review processes include:

- Updating the State Environmental Protection Act checklist to include a vessel traffic question and specifically require that potential impacts to SRKW be addressed.
- Updating the Joint Aquatic Resources Permit Application form to provide information on vessel traffic and specifically require that potential impacts to SRKW be addressed.
- Updating air quality permit applications to include potential vessel traffic impacts to Southern Resident orcas.
- Making additional technical resources available to coastal planners and environmental staff to identify and mitigate potential impacts of increased vessel traffic and associated with facilities on SRKW.
- Exploring options for identifying, assessing, and mitigating cumulative vessel impacts in cases where vessel traffic changes are exempt from permit or governmental approvals.

ⁱ Southern Resident Orca Task Force Report and Recommendations. November 16, 2018.

https://www.governor.wa.gov/sites/default/files/OrcaTaskForce_reportandrecommendations_11.16.18.pdf (accessed August 12, 2019).

ⁱⁱ Gaydos JK, Thixton S, Donatuto J (2015) Evaluating Threats in Multinational Marine Ecosystems: A Coast Salish First Nations and Tribal Perspective. PLoS ONE 10(12): e0144861. doi:10.1371/journal.pone.0144861

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

^{iv} Veirs S, Veirs V, Wood JD. 2016. Ship noise extends to frequencies used for echolocation by endangered killer whales. *PeerJ* 4:e1657 <https://doi.org/10.7717/peerj.1657>

^v Ferrara, G.A., T.M. Mongillo, L.M. Barre. 2017. Reducing disturbance from vessels to Southern Resident killer whales: Assessing the effectiveness of the 2011 federal regulations in advancing recovery goals. NOAA Tech. Memo. NMFS-OPR-58, 76 p.

Fisheries and Oceans Canada. July 22, 2019. Necropsy results: Southern Resident Killer Whale J34.

<https://www.pac.dfo-mpo.gc.ca/fm-gp/species-especes/mammals-mammiferes/j34-eng.html> Accessed July 25, 2019.

^{vi} Holt, M.M. 2008. Sound exposure and Southern Resident killer whales (*Orcinus orca*): A review of current knowledge and data gaps. U.S. Dept. Commer., NOAA Tech. Memo. NMFS-NWFSC-89, 59 p.

^{vii} R. C. Lacy, R. Williams, E. Ashe, K. C. Balcomb III, L. J. Brent, C. W. Clark, D. P. Croft, D. Giles, M. MacDuffee and P. C. Pacquet, "Evaluating anthropogenic threats to endangered killer whales to inform effective recovery plans," Sci Rep., 2017. Page 1.

^{viii} Endangered and Threatened Wildlife and Plants: Endangered Status for Southern Resident Killer Whales, Federal Register Vol. 70, No. 222 (November 18, 2005) 69903 – 69912

^{ix} National Marine Fisheries Service. *Southern Resident Killer Whales (Orcinus orca) 5-Year Review: Summary and Evaluation*. (National Marine Fisheries Service West Coast Region, Seattle, 2016) http://www.westcoast.fisheries.noaa.gov/publications/status_reviews/marine_mammals/kw-review-2016.pdf.

^x Tesoro Refining & Marketing Company LLC application for a Shoreline Substantial Development Permit. June 22, 2015. [https://www.skagitcounty.net/PlanningAndPermit/Documents/Tesoro/CPUP%20SSDP%20App%20\(Jun-2015\).pdf](https://www.skagitcounty.net/PlanningAndPermit/Documents/Tesoro/CPUP%20SSDP%20App%20(Jun-2015).pdf) (accessed August 12, 2019).

Tesoro Refining & Marketing Company LLC. Tesoro Clean Products Upgrade Project SEPA Checklist. June 2015. https://www.skagitcounty.net/PlanningAndPermit/Documents/Tesoro/CPUP_SEPA_Jun_2015.pdf (accessed August 12, 2019).

^{xi} DETERMINATION OF SIGNIFICANCE AND REQUEST FOR COMMENTS ON SCOPE OF ENVIRONMENTAL IMPACT STATEMENT FOR TESORO CLEAN PRODUCTS UPGRADE PROJECT. <https://www.skagitcounty.net/PlanningAndPermit/Documents/Tesoro/Tesoro%20CPU%20DS%20and%20Request%20for%20Scoping%20Comments.pdf> (accessed August 12, 2019).

Tesoro Anacortes Clean Products Upgrade Project ENVIRONMENTAL IMPACT STATEMENT. Final July 2017. https://tesoroanacorteseis.blob.core.windows.net/media/Default/Library/2017_07_10_Tesoro_Anacortes_CPUP_Final_EIS.pdf (accessed August 12, 2019).

^{xii} Tesoro Anacortes Clean Products Upgrade Project ENVIRONMENTAL IMPACT STATEMENT. Final July 2017. https://tesoroanacorteseis.blob.core.windows.net/media/Default/Library/2017_07_10_Tesoro_Anacortes_CPUP_Final_EIS.pdf (accessed August 12, 2019). Page 1-5 and Appendix A 2-50

^{xiii} NOAA Fisheries, Northwest Region. November, 2006. Designated Critical Habitat for Southern Resident Killer Whales. https://www.westcoast.fisheries.noaa.gov/publications/protected_species/marine_mammals/killer_whales/SRKW-CH-Map.jpg (accessed August 12, 2019).

^{xiv} Tesoro Anacortes Clean Products Upgrade Project ENVIRONMENTAL IMPACT STATEMENT. Final July 2017. https://tesoroanacorteseis.blob.core.windows.net/media/Default/Library/2017_07_10_Tesoro_Anacortes_CPUP_Final_EIS.pdf (accessed August 12, 2019). Page 3-22.

^{xv} Par Pacific U.S. Oil Acquisition Presentation. Nov 27, 2018. https://www.parpacific.com/Investor_Presentation (Direct link <https://b2icontent.irpass.com/2193/175703.pdf>) (accessed August 12, 2019).

^{xvi} Ibid. Page 9.

^{xvii} Email from Sally Toteff, Regional Director, Southwest and Olympic Peninsula Region, WA State Department of Ecology to Lovel Pratt, Marine Protection Program Director, Friends of the San Juans (March 7, 2019, 11:07 AM PDT) (on file with Lovel Pratt).

^{xviii} Email from James DeMay, Industrial Section Manager, WA State Department of Ecology to Lovel Pratt, Marine Protection Program Director, Friends of the San Juans (March 12, 2019, 8:20 AM PDT) (on file with Lovel Pratt).

^{xix} State Environmental Policy Act Mitigated Determination of Nonsignificance. Whatcom County, SEP2019-00033. Date of Issuance: July 19, 2019. <https://www.whatcomcounty.us/DocumentCenter/View/42356/SEP2019-00033-MDNS-Distribution-07192019> (accessed August 12, 2019).

^{xx} Email from Thomas Brissenden, Natural Resources, Whatcom County Planning and Development Services to Lovel Pratt, Marine Protection Program Director, Friends of the San Juans (August 6, 2019, 11:28 AM PDT) (on file with Lovel Pratt).



Northwest Indian Fisheries Commission

6730 Martin Way E., Olympia, Washington 98516-5540
Phone (360) 438-1180

www.nwifc.org

FAX # 753-8659

June 27, 2019

Southern Resident Killer Whale Task Force
c/o Stephanie Solien & Thomas (Les) Purce, Co-Chairs

Re: Southern Resident Killer Whale Recovery Priority Recommendations

Dear Chair(s) Solien and Purce:

The Northwest Indian Fisheries Commission (NWIFC) is comprised of the 20 treaty Indian tribes in western Washington, that retain constitutionally protected, treaty-reserved rights to harvest, consume, and otherwise manage fish, shellfish, and other treaty reserved resources within their usual and accustomed areas.¹ This fundamental treaty reserved right was further recognized and upheld in the landmark federal court decision, *United States v. Washington (1974)*, known as the Boldt Decision, which upheld tribal treaty fishing rights, and recognized tribes as co-managers of treaty resources, together with the State of Washington.

Tribal co-management is governed by the tribes' commitment to support salmon recovery efforts while also ensuring that tribal treaty fishing rights - the right of taking fish at all usual and accustomed grounds and stations - is protected and maintained.² As such, it is imperative that any and all approaches to accelerating Southern Resident Killer Whale (SRKW) recovery be done in a manner that recognizes tribal priorities and authorities as both a co-manager, and more importantly, sovereign nations with reserved treaty rights and resources. Furthermore, tribes assert that any strategic approach to SRKW recovery cannot and should not disparately affect and impact tribes and tribal treaty fishing rights. Nor should an appropriate recovery initiative redirect attention and resources from salmon recovery plan implementation and critical actions for habitat protection that are necessary for SRKW recovery, salmon recovery, and the protection of tribal treaty rights and resources.

Our hope is that we can identify those highest priority actions which our state agency partners and co-managers must implement in order to accelerate SRKW and salmon recovery. These actions include enforcing existing regulations for in-stream flows, taking a regulatory approach to meeting salmon stream temperatures, and ensuring that local government jurisdictions protect habitat and aquatic resources integral to salmon production. Ultimately, we need to "stop the bleeding" when

¹The NWIFC member tribes are the Lummi, Nooksack, Swinomish, Upper Skagit, Sauk-Suiattle, Stillaguamish, Tulalip, Muckleshoot, Puyallup, Nisqually, Squaxin Island, Skokomish, Suquamish, Port Gamble S'Klallam, Jamestown S'Klallam, Lower Elwha Klallam, Makah, Quileute, Quinault, and Hoh.

² Full text of treaties signed between United States of America and Indian Tribes can be accessed here: <https://nwifc.org/member-tribes/treaties/>

it comes to habitat loss and resource degradation. We must prioritize implementation of these bold actions if we are to see salmon and orca recovery become a reality.

The tribes recognize that in addressing the high priority factors for decline of SRKW, prey availability quickly rises to the top. This is one immediate action that the region and co-managers can look to affect, mainly through seeking increases in hatchery production of Chinook, and to a lesser extent coho and chum salmon, which play a critical role in the fall diets of SRKW. However, we also recognize that a simple increase in hatchery production of salmon as a food source for Orca is not, in itself, a sustainable long-term solution to SRKW decline. Salmon, whether natural or hatchery origin, need quality habitat, and properly functioning habitat to build resiliency and reach productivity goals. This habitat, so integral to the life cycle of salmon, is in our watersheds- each of which drain into the Salish Sea, and further on into the ocean. We must prioritize habitat protection and restoration - including enforcement of long-standing water quality regulations and instream flow rules for water quantity in salmon streams and rivers - if we want to see the recovery of salmon, and the SRKW. Further, while our endeavor is focused on Chinook salmon recovery within Puget Sound, actions to restore and recover Chinook salmon ESU's in the Columbia River Basin and Sacramento River Basin are also necessary to ensure adequate protection of all vital food sources for SRKW. Similarly, we must also continue to work with our Canadian counterparts to recover and increase Chinook production in the Fraser River.

Critical actions for habitat protection and restoration are integral to the success and the long-term sustained recovery of not only SRKWs and salmon, but also for the protection of tribal treaty rights and treaty-reserved resources. Much of the work and actions necessary to recover salmon and increase salmon production have already been identified by this region in the Puget Sound Chinook Recovery Plan and the associated watershed recovery chapters. Each of these plans and chapters have been developed through processes that involved tribal and state co-managers, local governments, federal agencies, and local stakeholders, and have been written to address the limiting factors that lead to the ESA Listing of Puget Sound Chinook in 1999. Being accountable to addressing these needs for salmon, the decline of which have had a direct impact on the prey base available for the SRKWs, will ultimately contribute to the effort to accelerate SRKW recovery as well. Continuing to focus and prioritize the implementation of the Puget Sound Chinook Recovery Plan, as well as the various other resource and habitat protection strategies such as the Puget Sound Nearshore Estuary Restoration Project (PSNERP) and the Puget Sound Acquisition and Restoration (PSAR) Program³ will further ensure that we are not "recreating the wheel" when it comes to addressing the limiting factors that inhibit salmon recovery and by extension, SRKW recovery.

We already know what we need to be doing as a region when it comes to recovery actions, be it for salmon or for SRKW recovery, yet the political will to act has been a key missing factor. Continuing to rely on voluntary incentive programs to meet water quality standards, for example, is insufficient. For those areas or regions where there may be question about what is necessary to

³ The PSAR Program funds large scale habitat restoration projects and provides capacity funding to watersheds to implement salmon recovery 4-year work plans associated with their respective watershed salmon recovery chapters.

recover salmon, the 20 treaty tribes in western Washington have further identified and documented where and in which of our watersheds we are facing key pressures and threats that are currently limiting recovery, losing habitat faster than it can be protected or restored, and ultimately infringing upon tribal treaty rights. The tribes' *Treaty Rights at Risk Report* (2011) and the *State of Our Watersheds Report* (2016) further document this.⁴

More recently, tribes through their engagement in the Puget Sound National Estuary Program and in coordination with the Puget Sound Partnership, worked for over a year to develop priorities for salmon recovery actions that have since been incorporated into the Puget Sound Partnership's Chinook Recovery Implementation Strategy⁵ and adopted by the Puget Sound Partnership Leadership Council as Regional Priorities for Chinook recovery.⁶ These bold actions for salmon recovery build off of the priorities and limiting factors first identified in the federally approved recovery plan, and again call attention to and highlight the urgency and need with which the region and co-managers must implement these actions in order to accelerate salmon recovery, protect habitat and aquatic resources integral to salmon production, and ultimately stop the onslaught of habitat loss and degradation.

Summary Overview of Bold Actions for SRKW Recovery:

- 1. Increase hatchery production in key watersheds that can contribute to prey availability for SRKW,** and ensure such action is also in agreement with and approved by tribal co-managers consistent with the current science, and with recovery plans and objectives, and above all, tribal treaty rights.
- 2. Address fish passage barriers:** Initiate concurrent and timely culvert replacement within these watersheds based on habitat gains.
- 3. Fully fund and implement the Puget Sound Chinook Recovery Plan, and watershed salmon recovery chapters.**
- 4. Protect all remaining salmon habitat:**
 - Optimize a net gain in ecosystem function and habitat productivity by ensuring that WDFW's volume 1 Priority Habitat & Species for Riparian Habitat becomes a requirement rather than guidance and build a region-wide accountability system that is comprehensive, accessible, and transparent. Strengthen habitat protection through amending policies and statutes that call for "No Net Loss", with a "net gain" in ecological function.
 - Improve the environmental baseline, create requirements on infrastructure project funding with public resources that establish environmental outcomes

⁴ <http://treatyrightsatrisk.org/>. <https://nwifc.org/publications/state-of-our-watersheds/>

⁵ <https://pspwa.app.box.com/s/gabtrbzo9i5yybkeyi6lx6cez0bh10o/file/237285694130>

⁶ <https://pspwa.app.box.com/s/gabtrbzo9i5yybkeyi6lx6cez0bh10o/file/237295001156>

as project elements and deliverables, on equal footing with transportation, health, and safety considerations for publicly funded capital projects.

- The continued degradation of and loss of salmon habitat clearly points to the inadequacy of existing regulatory mechanisms to protect habitat (*listing factor D under the Endangered Species Act*). Further, in the National Marine Fisheries Service's (NMFS) 5-year status review of ESA listed Puget Sound Salmon, they note that the present or threatened destruction, modification, or curtailment of habitat or a species' range (*listing factor A under the Endangered Species Act*) continues to be of concern largely due to the inadequacy of existing land-use regulations that affect habitat, and the lack of documentation to show the implementation and effectiveness of such regulatory mechanisms.⁷ Regulations such as the Shorelines Management Act, Growth Management Act, and Critical Area Ordinances (which inform both SMA and GMA) need to be improved upon to better protect habitat and salmonids at all life stages. In addition to this, protecting habitat from modification and/ or development is becoming increasingly important considering the projected population growth for the Puget Sound and the greater western Washington region.

5. Water Quantity and Water Quality: Establish water quantity standards and enforce long-standing water quality standards through a regulatory approach that will protect, conserve, and restore water resources for salmon, and critical habitat for salmon and SRKW, including state implementation of nonpoint source water quality regulations for stream temperatures.

6. Improve management of predation and mortality factors that inhibit salmon recovery, including pinniped management.

- Increased emphasis should be paid to pinniped management as an immediate action to address prey availability. Recent publications, and the most current NMFS 5-year Status Review and Evaluation for Puget Sound Chinook Recovery (2016) identify that pinniped predation on listed species continue to be a growing concern. The 2016 NMFS assessment further notes that by 2015, consumption of Chinook across three pinniped species (harbor seals, California Sea Lions, and Stellar Sea Lions) in Washington inland waters was double that of SRKW, "...and six times greater than the combined commercial and recreational catches."⁸ The consumption trends of Chinook

⁷ NMFS (National Marine Fisheries Service). 2016. *5-Year Review: Summary & Evaluation of Puget Sound Chinook Salmon Hood Canal Summer-run Chum Salmon Puget Sound Steelhead*. National Marine Fisheries Service West Coast Region. Portland, OR. Pp. 32;39. See full discussion pp. 21-39.

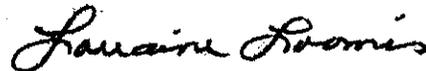
⁸ NMFS (National Marine Fisheries Service). 2016. *5-Year Review: Summary & Evaluation of Puget Sound Chinook Salmon Hood Canal Summer-run Chum Salmon Puget Sound Steelhead*. National Marine Fisheries Service West Coast Region. Portland, OR. Pp. 47.

in Washington waters by pinnipeds, and the increase population trends of these species must not be overlooked.

7. **Emphasize funding and implementation of science and monitoring actions** to support salmon recovery, habitat protection, and habitat restoration.
8. **Develop and implement a climate change adaptation strategy** for salmon recovery and habitat resiliency.
9. **Integrate oil spill planning, prevention, and response plans** to include assurances that Ecology's 5-year update to its contingency plan rule factors in adequate levels of response capacity for SRKW and salmon.
10. **Reduce the physical and acoustic disturbance on SRKWs within the Salish Sea:** Establish and enforce regulations that reduce ambient noise levels in proximity of SRKWs and the total number of vessel encounters.

If you have any questions regarding our interests or concerns with this matter, please contact Cecilia Gobin, NWIFC Conservation Policy Analyst, at (360) 438-1180.

Sincerely,



Lorraine Loomis
Chairperson

cc: Gretchen Muller, SRKW Task Force Coordinator
JT Austin, Senior Policy Advisor, Washington State Governor's Office
Laura Blackmore, Executive Director, Puget Sound Partnership
Maia Bellon, Director, Washington Department of Ecology
Kelly Susewind, Director, Washington Department of Fish & Wildlife
Erik Neatherlin, Executive Director, Washington State Governor's Salmon Recovery Office
NWIFC Commissioners

GOVERNOR'S
SOUTHERN RESIDENT
ORCA
TASK FORCE

September 5, 2019

Lorraine Loomis, Chairperson
Northwest Indian Fisheries Commission
6730 Martin Way E.
Olympia, WA 98516-5540

Dear Chairperson Loomis,

On behalf of the Governor's Southern Resident Killer Whale (SRKW) Task Force, thank you for your letter of June 27, 2019, regarding priority recommendations to recover Southern Resident orcas.

Tribal leadership has been a crucial part of the Task Force's deliberations since its formation. Tribal leaders have welcomed us to their traditional lands, spoken eloquently about the importance of salmon and orcas in tribal culture, and engaged constructively and decisively in Task Force deliberations. Through your words and actions, you have deepened your fellow Task Force members' knowledge of the tribes' role as co-managers, treaty reserved rights, and the fundamental need to restore salmon runs for both orcas and your people. You have immeasurably enriched and guided our work together, and we as Co-Chairs are deeply grateful for your commitment, patience, and wisdom.

Thank you also for reminding us of the crucial role the tribes play as co-managers of fish, shellfish, and other treaty reserved resources within their usual and accustomed areas. We want to assure you that we respect and honor this role, and the authorities that accompany it. Likewise, as Co-Chairs, we intend to continue to guide the Task Force to develop and accelerate implementation of recommendations that recognize and respect this role, and that do not disparately affect tribes and tribal treaty fishing rights.

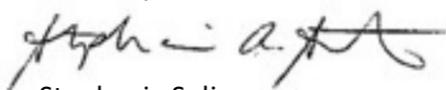
We also thank you for naming the actions of highest priority to the tribes. The tribes have consistently shown leadership and partnership in identifying bold actions for salmon recovery in Puget Sound, through their work in helping to developing the Puget Sound Salmon Recovery Plan and the Puget Sound Chinook Implementation Strategy. Your letter continues this tradition and partnership, and we are grateful for it.

We agree that the Task Force should continue to discuss ways to ensure the implementation of the 36 Year 1 recommendations. Identifying a subset of those recommendations to focus our efforts is a practical approach, and we will direct that a portion of the remaining two Task Force meetings be spent on discussing ways to improve our implementation efforts. The actions that you specify in your letter will form an excellent starting place for this discussion.

Furthermore, we agree that we must work together to build the political will necessary to implement these recommendations. We look forward to working with the tribes to develop and carry out a strategy to do so.

We thank you again for your leadership, your willingness to engage in difficult yet crucial conversations, and your continued partnership. If you have any questions about our letter, please do not hesitate to contact JT Austin, Senior Policy Advisor in the Office of the Governor, at jt.austin@gov.wa.gov or 360-628-7440.

Sincerely,



Stephanie Solien
Co-Chair, SKRW Task Force



Les Purce
Co-Chair, SRKW Task Force

CC: Gretchen Muller, SKRW Task Force Coordinator
JT Austin, Senior Policy Advisor, Office of the Governor
Laura Blackmore, Executive Director, Puget Sound Partnership
Maia Bellon, Director, Washington Department of Ecology
Kelly Susewind, Director, Washington Department of Fish and Wildlife
Kaleen Cottingham, Director, Recreation and Conservation Office
Erik Neatherlin, Executive Director, Governor's Salmon Recovery Office
Southern Resident Killer Whale Task Force Members
Justin Parker, Northwest Indian Fisheries Commission

Southern Resident Orca Task Force

Discussion Guide – Task Force Report to the Governor

September 9, 2019

Background

Over the summer, the Working Groups met to discuss the following questions:

1. What are the highlights of accomplishments/progress to date (what did we get right)?
2. Are there new things that need to come to light (emerging issues)?
3. Where have we fallen short on progress (where do we need to double-down or require legislative action)?
4. Which recommendations need to be revamped to add more specificity? How do we do that?
5. Which recommendations require additional legislative action?

The input from the Working Groups will inform the themes and recommendations in our final report to the Governor.

This discussion guide focuses our discussion on the first three questions.

- Question one regarding accomplishments is addressed through a written exercise (see the end of this discussion guide, pages 4-5).
- Questions two and three are addressed below.
- Questions four and five will be addressed in the draft report and discussed at the October Task Force meeting.

The items listed below identify key themes to emphasize in the final report. This includes: 1) areas where there is ongoing need for urgent actions, and 2) the need to address emerging issues (i.e. new issues or information since the adoption of the initial Task Force Recommendations).

Prey

Funding Actions that Need Immediate Action

- Increase funding to fully implement salmon recovery plans, with a focus on implementing habitat restoration and protection projects that local experts have prioritized in each salmon recovery region and will benefit Chinook and SRKWs. Ensure funding includes administration and local capacity building to accelerate projects already underway or with committed resources. Ensure greater collaboration between hatchery and habitat restoration efforts so that habitat is available for newly produced hatchery fish [**Rec. 1, 2, 6, 34**].
- Provide funding to (1) determine if pinniped predation is a limiting factor for Chinook in Puget Sound and along Washington’s outer coast and evaluate potential management actions, and (2) more effectively manage pinniped predation in the Columbia River [**Rec. 12 & 13**].
- Increase consistent, dedicated funding for natural resource agencies and conservation as a whole now, while also exploring the development of a new revenue stream for the near future [**Rec. 34**].
- Increase funding for marine survival research and monitoring projects through the Puget Sound Action Agenda such as Puget Sound Atlantis Modeling, zooplankton monitoring, salmon and forage fish sampling, and pinniped predation work to ensure that results may be integrated into appropriate recovery and management plans as appropriate [**Rec. 12, 15, 16**].

- Increase funding for northern pike eradication and containment efforts to prevent predation impacts to salmon in the Columbia River [**Rec. 14**].

Urgent Agency/Legislative Actions

- Encourage Ecology to proceed with language in new rules around increasing the standard for dissolved gas allowances that will ensure the durability of the new rule [**Rec. 8**].
- Revise Growth Management Act and Shoreline Management Act standards to a ‘net ecological benefit’ instead of the current ‘no net loss’ standard to better protect salmon and orcas [**Rec. 4**].

Questions for the Task Force

- Do you agree with emphasizing the urgent need for these recommendations?
- Are there other recommendations you would like the Task Force to emphasize?

Vessels

Funding/Capacity Actions that Need Immediate Action

- Increase funding to DFW enforcement for additional officers and equipment [**Rec. 20**].
- Add capacity for Governor’s Maritime Blue to pursue shipping innovations that also benefit SRKWs [**Rec. 22**].
- Evaluate effectiveness of Task Force recommendations through monitoring and adaptive management [**All Recs**].

Urgent Agency/Legislative Actions

- Create and charter a transboundary forum to integrate and coordinate US/WA and Canadian actions for waterways management and SRKW conservation AND Evaluate cumulative impacts of vessel traffic [**Rec. 24 & 27**].
- Help ensure SEPA review of marine facilities is routinely applied to atypical changes in use, ownership, etc. that may lead to increased vessel traffic [**Rec. 27**].
- Redirect boater education and enforcement to central Puget Sound in fall; seek vessel mitigation opportunities on outer coast [**Rec. 19**].

Emerging Issues/Potential Future Recommendations

- Minimize potential collision risks posed by (and underwater noise from) growing fast-ferry sector in central Puget Sound. [**No current rec**]
- Enhance and extend US shipping sector’s compliance with the interim (*feeding*) sanctuary zone located near Swiftsure Bank in Canada/mouth of Strait of Juan de Fuca.

Questions for the Task Force

- Do you agree with emphasizing the urgent need for these recommendations?
- Are there other actions or recommendations you would like the Task Force to emphasize?
- Would you like to see either of the potential future recommendations developed for inclusion in the final report?

Contaminants

Funding Actions that Need Immediate Action

- Toxics control funding provided through the state’s Model Toxics Control Act (MTCA) should be maintained for preventing and cleaning up toxics. **[Rec. 31]**
- Additional funding should be provided for Ecology staff to support contaminants recommendations, including local source control inspectors **[Rec. 30, 31 and 32]**. Funding should also be provided for incentives to reduce stormwater threats. **[Rec. 31]**.
- Increase funding to specific accounts that support infrastructure improvements, including the Water-pollution control state revolving fund, Stormwater Financial Assistance Program, Public Works Trust Fund, and increase the caps on utility fees to help fund improved wastewater treatment, stormwater, and other contaminants sources **[Rec. 31]**

Urgent Agency/Legislative Actions

- Prioritize stormwater management and cleanup based on evidence of toxic impacts on salmon. **[Rec. 31]**
- Ecology should update aquatic life water quality standards focused on pollutants most harmful to Southern Resident orcas and their prey. **[Rec. 32]**
- Monitoring should be woven into each recommendation to provide data on effectiveness **[Rec. 33]**

Emerging Issues/Potential Future Recommendations

- The Growth Management Act needs to be more responsive to the needs of the ecosystem, and adaptable to a changing climate. ‘No net loss’ is an insufficient standard, and local governments should be responsible for ‘net ecological gain’. **[General]**
- Executive order for WA Department of Transportation to do more on stormwater **[Rec. 31]**
- Increase funding for Attorney General’s Office to pursue the PCB case against Monsanto **[Rec. 31]**
- Ecology require local governments to conduct facilities planning through 2070 that looks at population growth through a wastewater (centralized and onsite sewage), CSO, and stormwater lens, and ensure increased contaminants loads don’t impact salmon and orcas **[General]**
- Add temperature increases to the climate problem statement as heat is a pollutant and harmful to salmon **[Rec. 32]**
- Protect against regulatory rollbacks at the federal and state level **[Rec. 32]**

Questions for the Task Force

- Do you agree with emphasizing the urgent need for these recommendations?
- Are there other actions or recommendations you would like the Task Force to emphasize?
- Would you like to see any of the potential future recommendations developed for inclusion in the final report?

Written Exercise

The Working Groups noted the following success that should be highlighted in the report. If you feel others should be highlighted, please write them below.

Highlights of accomplishments/progress to date (what did we get right)?

Prey

- State, Tribes, and PUDs received funding to increase hatchery production starting in July 2019 [**Rec. 6**].
- New legislation passed in 2019 that addressed habitat protection of shorelines and waterways, specifically increasing WDFW's civil enforcement authority around Hydraulic Project Approvals and removing key exemptions (2SHB1579) [**Rec. 3 & 4**].
- In May 2019, Ecology initiated a rulemaking process to update Washington's Total Dissolved Gas criteria for the lower Columbia and lower Snake Rivers allowing spill up to 125% TDG. If adopted, the timeframe would allow the Environmental Protection Agency the regulatory timeframe to approve revised TDG water quality criteria by the 2020 spring spill season [**Rec. 8**].
- New legislation passed in 2019 aims to decrease impacts of predatory fish on salmon, directing WDFW to develop rules to increase bag limits for certain species that overlap with and prey on salmon (2SHB1579) [**Rec. 14**].
- The Endangered Salmon Predation Prevention Act was signed into law, giving state and tribal resource managers more flexibility to manage sea lion predation in the Columbia River to minimize impacts to salmon. The law allows NMFS to approve permits for Washington, Oregon, Idaho, and several area tribes that will streamline the removal process of a designated number of sea lions from a portion of the Columbia River and adjacent tributaries each year [**Rec. 13**].

Vessels:

- Passed new laws for recreational boats and commercial whale watching [**Rec 28**].
- Broad, coordinated outreach on new laws to boaters via Be Whale Wise [**Rec. 19**].
- Established safe, voluntary guidelines to limit echo sounder use near orcas [**Rec 21**].
- Immediate implementation of most new laws.

Contaminants

- The recommendation to accelerate the implementation of the ban on PCBs is driving the market and setting a new standard for reporting on contaminants in products. [**Rec. 29**]
- There are new state authorities to prioritize chemicals—including new authority to prioritize for “species” and to develop caps and ban chemicals in products. [**Rec. 30**]
- Funding was provided for water quality enforcement staff and municipal stormwater permits now require smaller jurisdictions to implement local source control. [**Rec. 32**]

Please write additional highlights of accomplishments here:

Goal 1: Increase Chinook abundance

Habitat restoration and acquisition: Increase Chinook abundance by restoring and acquiring salmon habitat and food sources

- **Recommendation 1:** Significantly increase investment in restoration and acquisition of habitat in areas where Chinook stocks most benefit Southern Resident orcas.
- **Recommendation 2:** Immediately fund acquisition and restoration of nearshore habitat to increase the abundance of forage fish for salmon sustenance.

Habitat protection and enforcement: Protect habitat through improved enforcement of existing laws, strengthening laws and ensuring compliance

- **Recommendation 3:** Apply and enforce laws that protect habitat.
- **Recommendation 4:** Immediately strengthen protection of Chinook and forage fish habitat through legislation that amends existing statutes, agency rule making and/or agency policy.

Habitat protection: Increase incentive programs to encourage salmon habitat conservation

- **Recommendation 5:** Develop incentives to encourage voluntary actions to protect habitat.

Hatcheries: Provide additional Chinook through increased hatchery production

- **Recommendation 6:** Significantly increase hatchery production and programs to benefit Southern Resident orcas consistent with sustainable fisheries and stock management, available habitat, recovery plans and the Endangered Species Act. Hatchery increases need to be done in concert with significantly increased habitat protection and restoration measures.

Hydropower operations: Improve survival and distribution of Chinook populations

- **Recommendation 7:** Prepare an implementation strategy to reestablish salmon runs above existing dams, increasing prey availability for Southern Resident orcas.
- **Recommendation 8:** Increase spill to benefit Chinook for Southern Residents by adjusting total dissolved gas allowances at the Snake and Columbia River dams.
- **Recommendation 9:** Establish a stakeholder process to discuss potential breaching or removal of the lower Snake River Dams for the benefit of Southern Resident orcas.

Harvest: Increase adult Chinook abundance through reduced catch and bycatch

- **Recommendation 10:** Support full implementation and funding of the 2019–28 Pacific Salmon Treaty.
- **Recommendation 11:** Reduce Chinook bycatch in west coast commercial fisheries.

Predation of Chinook: Decrease the number of adult and juvenile Chinook lost to predation by species other than Southern Residents

- **Recommendation 12:** Direct the appropriate agencies to work with tribes and National Oceanic and Atmospheric Administration to determine if pinniped (harbor seal and sea lion) predation is a limiting factor for Chinook in Puget Sound and along Washington's outer coast and evaluate potential management actions.
- **Recommendation 13:** Support authorization and other actions to more effectively manage pinniped predation of salmon in the Columbia River.
- **Recommendation 14:** Reduce populations of nonnative predatory fish species that prey upon or compete with Chinook.

Forage fish: Increase the food available for Chinook

- **Recommendation 15:** Monitor forage fish populations to inform decisions on harvest and management actions that provide for sufficient feedstocks to support increased abundance of Chinook.
- **Recommendation 16:** Support the Puget Sound zooplankton sampling program as a Chinook and forage fish management tool.

Goal 2: Decrease disturbance of and risk to Southern Resident orcas from vessels and noise, and increase their access to prey**Reduce noise from small vessels operating near Southern Resident orcas**

- **Recommendation 17:** Establish a statewide “go-slow” bubble for small vessels and commercial whale watching vessels within half a nautical mile of Southern Resident orcas.
- **Recommendation 18:** Establish a limited-entry whale-watching permit system for commercial whale-watching vessels and commercial kayak groups in the inland waters of Washington state to increase acoustic and physical refuge opportunities for the orcas.
- **Recommendation 19:** Create an annual Orca Protection endorsement for all recreational boaters to ensure all boaters are educated on how to limit boating impacts to orcas.
- **Recommendation 20:** Increase enforcement capacity and fully enforce regulations on small vessels to provide protection to Southern Residents.

Reduce noise from the use of echo sounders near orcas

- **Recommendation 21:** Discourage the use of echo sounders and underwater transducers within one kilometer of orcas.

Reduce noise from ships and ferries near Southern Resident orcas

- **Recommendation 22:** Implement shipping noise-reduction initiatives and monitoring programs, coordinating with Canadian and U.S. authorities.
- **Recommendation 23:** Reduce noise from the Washington state ferries by accelerating the transition to quieter and more fuel-efficient vessels and implementing other strategies to reduce ferry noise when Southern Residents are present.

Increase protection of Southern Residents from the risk of a catastrophic oil spill

- **Recommendation 24:** Reduce the threat of oil spills in Puget Sound to the survival of Southern Residents.

Formalize or extend vessel protections for Southern Resident orcas

- **Recommendation 25:** Coordinate with the Navy in 2019 to discuss reduction of noise and disturbance affecting Southern Resident orcas from military exercises and Navy aircraft.
- **Recommendation 26:** Revise chapter 77.15.740 RCW to increase the buffer to 400 yards behind the orcas.
- **Recommendation 27:** Determine how permit applications in Washington state that could increase traffic and vessel impacts could be required to explicitly address potential impacts to orcas.
- **Recommendation 28:** Suspend viewing of Southern Resident orcas

Goal 3: Reduce the exposure of Southern Resident orcas and their prey to contaminants

Prevent further use and release of toxics that could harm orcas and their prey

- **Recommendation 29:** Accelerate the implementation of the ban on polychlorinated biphenyls in state-purchased products and make information available online for other purchasers.
- **Recommendation 30:** Identify, prioritize and take action on chemicals that impact orcas and their prey.

Accelerate removal and clean-up of legacy sources of toxics harmful to orcas and their prey

- **Recommendation 31:** Reduce stormwater threats and accelerate clean-up of toxics harmful to orcas.

Improve pollution permitting and management to reduce contaminant exposure of orcas and their prey

- **Recommendation 32:** Improve effectiveness, implementation and enforcement of National Pollutant Discharge Elimination System permits to address direct threats to Southern Resident orcas and their prey.
- **Recommendation 33:** Increase monitoring of toxic substances in marine waters; create and deploy adaptive management strategies to reduce threats to orcas and their prey.

Goal 4: Ensure funding, information and accountability mechanisms are in place to support effective implementation

Provide sustainable funding

- **Recommendation 34:** Provide sustainable funding for implementation of all recommendations.

Conduct research, science and monitoring to enable adaptive management

- **Recommendation 35:** Conduct research, science and monitoring to inform decision making, adaptive management and implementation of actions to recover Southern Residents.

Track progress and address gaps in Year Two

- **Recommendation 36:** Monitor progress of implementation and identify needed enhancements.