

October 24 **DRAFT**

Orca Task Force Recommendations

For Task Force feedback and public comment

Public comment on these draft recommendations will be accepted at Governor.wa.gov/orcadraftrecommendations until midnight on October 29, 2018.

Goal 1: Increase Chinook abundance

Habitat restoration and acquisition: Enhance 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.

- Provide capital budget funding to support the existing list of projects intended to improve Chinook and forage fish habitat.
- Accelerate the implementation of currently funded Chinook restoration projects known to provide survival benefits to Southern Resident orcas
- Increase funding for a minimum of 10 years for high-priority actions or projects targeted to benefit Chinook stocks.
- Emphasize large-scale estuary restoration programs focused on the Nooksack, Skagit, Stillaguamish, Possession Sound, Green-Duwamish, Puyallup, the mouth of the Columbia, and Chehalis rivers. Prioritize grant making for restoration that increases Chinook recovery in the short term.
- To complement Road Management and Abandonment Plan and DOT fish passage improvement efforts, continue to use a strategic approach for using RCO-administered programs to remove barriers (e.g., culverts and small dams) where removal would provide a high benefit to Chinook.
- Create a new funding source to support the significant increases in investments in the habitat protection and restoration programs. This should be done in conjunction with the development of a sustainable funding source for the implementation of all Task Force recommendations.
- The legislature should fully fund payment in lieu of taxes (PILT) to counties to compensate for the loss of revenue associated with the land that is acquired by the state for habitat protection and restoration projects.
- The legislature should ensure that there is adequate funding for the operations and maintenance of lands acquired by the state for habitat protection and restoration projects.

- Support a more robust monitoring and adaptive management system to better ascertain restoration project compliance and measurable ecological benefits.
- Support funding for completion of Chinook recovery plan updates for 14 of 16 remaining Puget Sound watersheds.

Implementation details:

In 2019, the governor and legislature should fully fund the Recreation and Conservation Office's budget requests for existing capital budget salmon recovery accounts (Salmon Recovery Funding Board, Puget Sound Acquisition and Restoration Program, Estuary and Salmon Restoration Program, the Fish Passage Barrier Removal Board, and the Washington Coast Restoration and Resilience Initiative) with no changes to existing ranked lists.

In 2019, the governor and legislature should also support programs administered by the Department of Ecology that directly benefit Chinook salmon, including Floodplains by Design, the Office of the Chehalis Basin Strategy and the Yakima Basin Integrated Plan.

Regions should work within their existing priorities that are consistent with high-priority Chinook stocks to accelerate the pace of restoration throughout the Puget Sound, Washington coast, and Columbia Basin. Regions — including state natural resource agencies — should fully exercise their technical and policy capacity to accelerate full implementation of habitat restoration projects that are currently under consideration, that have an established funding source, and that have feasibility studies indicating that the project would provide survival benefits to Chinook stocks important to the Southern Resident orcas. Additional state funding should be provided for at least 10 years (five biennia) to focus specifically on high-priority actions for the Chinook stocks that most benefit Southern Residents. These programs have traditionally allocated approximately 80 percent of their funding towards projects that provide benefits to Chinook.

When lands are acquired by state agencies for salmon and Southern Resident orca recovery, the legislature should fully fund payment in lieu of taxes (PILT) to counties to compensate for the loss of revenue associated with the land that is acquired by the state for habitat protection and restoration projects. In addition, state agencies should be adequately funded for operations and maintenance of lands acquired.

In early 2019, the governor should direct WDFW, in conjunction with regional salmon recovery organizations, to compile and prioritize a list of barriers where removal would yield high benefits to Chinook. WDFW should provide this list to the task force by June 2019. The legislature should ensure funding via the various salmon recovery accounts for removal of the high-priority barriers in its 2020 supplemental capital budget.

Critically important but costly estuary restoration work should be evaluated and prioritized where juvenile Chinook production could be increased in the very near term. Any estuary selected for restoration should be a high-priority Chinook salmon estuary and identified as

being important for the Southern Resident orcas. Possible estuaries to focus on are the Nooksack, Skagit, Stillaguamish, Elwha, Dungeness, Snohomish, Green-Duwamish, Puyallup, Nisqually, Skokomish, the mouth of the Columbia, and Chehalis, all benefitting high-priority Chinook for Southern Residents.

To complement Road Management and Abandonment Plan and DOT fish passage improvement efforts, use RCO-administered programs to fund the removal of barriers (e.g., culverts, small dams) where removal would provide a high benefit to Chinook. Provide funding for currently listed barrier removal projects, such as the Middle Fork Nooksack and Pilchuck dams. Compile and develop a strategic approach to removing remaining barriers, including those that are locally or privately owned, where removal would similarly benefit Chinook. Provide funding via the 2020 supplemental capital budget for removal in the near term. At the direction of the governor, this work is to be undertaken by WDFW working in conjunction with regional salmon recovery organizations and the Fish Barrier Recovery Board.

Recommendation 2: Immediately fund acquisition and restoration of nearshore habitat to increase the abundance of forage fish for salmon sustenance.

- Provide funding, estimated at \$60 million for the next biennium, for the immediate implementation of nearshore habitat restoration projects.

Implementation details:

The governor and legislature should fully fund the projects by the Puget Sound Acquisition and Restoration, Washington Coast Restoration Initiative, Salmon Recovery Funding Board and Estuary and Salmon Restoration Programs that address nearshore habitat and that were approved during the 2018 grant round. The cost of implementing the projects focused on forage fish habitat (that is, nearshore) is estimated at \$60 million.

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

Recommendation 3: Enforce laws that protect habitat.

- WDFW and DOE must strongly enforce existing habitat protection and water quality regulations. Provide WDFW and DOE with the capacity for this enforcement.
- Direct WDNR, WDFW, and DOE to identify and report to the Task Force in 2019 on approaches using existing habitat, instream flow, and water quality regulations to improve prey availability.
- Coordinate state and local enforcement efforts.
- Develop and adopt rules to implement and enforce the Fishway, Flow, and Screening statute.
- Enhance penalties and WDFW's enforcement of the state Hydraulic Code and fish passage regulations.

- Increase prosecution of violations of state and local habitat protection and water quality regulations, including seeking to hold both property owners and contractors accountable, when appropriate.

Implementation details:

As soon as possible, the governor should direct Washington Department of Fish and Wildlife (WDFW) staff to develop rules to fully implement and enforce the Fishway, Flow and Screening statute (Chapter 77.57 RCW).

The Washington Department of Fish and Wildlife and Washington Department of Ecology should work with the Attorney General’s Office and local prosecutors to increase compliance with habitat protection and water quality regulations. The number of WDFW and DOE staff should be increased to improve implementation, compliance and civil enforcement.

The legislature should amend WDFW’s civil penalty statute (RCW 77.55.291) to provide the department with administrative enforcement tools equivalent to those of local governments, DOE and DNR.

Increase coordination between local governments, DOE and WDFW in reviewing shoreline armoring proposals to better protect forage fish by advancing the Puget Sound Partnership’s Shoreline Armoring Implementation Strategy.

The governor and legislature must support and provide clear direction to DOE to facilitate improvements in implementation and increasing compliance to improve Southern Resident prey availability through existing habitat and water quality regulations and report to the task force by June 2019. At the state level, the governor and legislator must provide clear direction and support to facilitate change from the status quo (due to variable implementation).

Recommendation 4: Immediately strengthen protection of Chinook and forage fish habitat through legislation that amends existing statutes, agency rulemaking, and/or agency policy.

- Strengthen legislation, agency rules, or agency internal policies, where appropriate, for DOE and WDFW to better protect Chinook and forage fish.
- Direct WDFW to develop a plan with local governments for analyzing cumulative impacts and amend existing authority to allow WDFW to require mitigation for cumulative impacts over time.
- Provide agencies with clear authority to prohibit or mitigate certain actions.

Implementation details:

Meet regularly with Governor's Office, legislators, tribes, DNR, WDFW, Ecology and salmon recovery representatives with the goal of developing a habitat protection/regulatory reform legislative packages for upcoming session.

Improve coordination of local and state permits by requiring that local shoreline permits for single-family residential bulkheads, shoreline armor or rock walls be issued prior to the issuance of an Hydraulic Project Approval (HPA) by WDFW. This would be added to the HPA statute 77.55.141.

Repeal the section of the HPA statute that requires the issuance of a permit (with or without conditions) for a single family residential bulkhead, shoreline armor or rock wall

Direct WDFW to develop a plan with local governments for analyzing cumulative impacts and ask the legislature to rescind or amend appropriate portions of WDFW's HPA authority (RCW 77.55.231(1)) to enable the agency to require mitigation for cumulative impacts over time. This should be coupled with increased enforcement capacity.

Habitat protection: Increase incentive programs to encourage salmon habitat conservation

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

- State agencies should identify and implement incentives for landowners to voluntarily protect shorelines and habitats to benefit salmon and Southern Resident orcas.
- Increase funding for cooperative conservation programs.

Implementation details:

The legislature and federal agencies such as the Natural Resource Conservation Service should create additional mechanisms and increase financial assistance for cooperative conservation programs (e.g., fish screens, riparian areas, commodity funding for voluntary riparian implementation to Sight Potential Tree Height, private fish passage upgrades, and enhanced wildlife forage budget for DFW wildlife areas with estuary restoration potential) implemented by conservation districts, lead entities, or individual landowners. Relevant existing programs include Floodplains by Design and the Conservation Reserve and Enhancement Program. Salmon recovery regions, and state and federal agencies should develop a 10-year funding proposal for incentives by June 2019 to complement habitat restoration and acquisition. The legislature should allocate \$2 million in the 2019-2021 biennium for implementation in select watersheds in Puget Sound, Washington Coast, and Columbia Basin.

Hatcheries: Provide additional Chinook through increased hatchery production

Recommendation 6: 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 should be done in concert with increased habitat protection and restoration measures.

- Authorize/provide funding for WDFW to coordinate with co-managers to increase hatchery production at facilities in Puget Sound, on the Washington Coast, and in the Columbia River basin in a manner consistent with sustainable fisheries and stock management and the ESA. Decisions on hatchery production implementation are made by WDFW and tribal co-managers, with Endangered Species Act consultation from NOAA and the U.S. Fish and Wildlife Service where appropriate.
- In 2019, undertake hatchery pilots to test and refine methods and practices (location, timing of release, age, size) that maximize production of Chinook for the benefit of Southern Resident orcas while minimizing competition with wild stocks.
- Manage the increase in hatchery production consistent with available and improved habitat to enable survival of both hatchery and wild fish stocks.
- Provide increased funding to cover the operational, infrastructure, management and monitoring costs associated with increased hatchery production.
- Conduct ongoing adaptive management, five-year comprehensive reviews and the science needed to support a sustained increase in hatchery production.

Implementation details:

Beginning in fiscal year 2020, fund WDFW to coordinate with co-managers to increase hatchery production for the benefit of Southern Resident orcas at facilities in Puget Sound, on the Washington Coast, and in the Columbia River basin, in a manner consistent with sustainable fisheries and stock management, state and federally adopted recovery plans, and the Endangered Species Act. Increased production can be assessed at appropriate state, tribal, federal or private facilities that most benefit orcas. The governor should also ask that other funders – such as the National Oceanic and Atmospheric Administration, U.S. Fish and Wildlife Service, Bonneville Power Administration, and the Oregon Department of Fish and Wildlife – of hatchery programs for Chinook stocks that are a priority for Southern Resident orcas maintain or increase production levels for those stocks, so that additional hatchery investments result in an overall increase in prey abundance.

Increasing hatchery production will require funding for the following activities:

- Adaptive management and five-year comprehensive reviews. To continue ongoing hatchery production with funding at the increased levels, WDFW must conduct annual adaptive management and five-year comprehensive reviews and adjust production and practices accordingly to limit impacts on natural salmon stocks if the reviews provide evidence of significant risk to the recovery of natural

salmon stocks. These reviews should consider stray rates, productivity, juvenile rearing carrying capacity, smolt-to-adult ratios, genetic fitness, and other appropriate metrics to determine if action is needed to ensure the health or recovery of natural stocks. In coordination with this effort, annual and five-year reviews will evaluate the effectiveness of increased hatchery production to increase salmon available to Southern Resident orcas at times and locations determined critical to successful feeding, and to ensure effective support of fisheries management plans related to the Pacific Salmon Treaty, tribal treaty right fisheries and other plans, and adjust hatchery production and practices to also maximize benefits to orcas and fisheries. Accomplishing this review will require additional state funding for WDFW in future years (such as in years when hatchery-produced fish return to Washington waters).

- Production at the 2019 level. Although the legislature provided funding in fiscal year 2019 to increase hatchery production with existing infrastructure, continued funding is needed to continue these production increases.
- Additional science and infrastructure to support increased production for orcas. Additional funding is needed to expand production beyond the 2019 level driven by the Southern Residents' needs. Expanding production will require additional hatchery facility capacity upgrades and should use the best available science around hatchery production to adaptively manage the program to consider the factors listed above.
- Collaboration among WDFW, co-managers, and salmon recovery regions on hatchery production decisions.

The governor and legislature should also provide funding to WDFW to coordinate with partners and begin testing pilot actions in hatcheries in 2019. These pilots should aim to a) increase marine survival of Chinook, b) adjust return timing and locations to align with orcas' needs, c) assess the feasibility and develop a plan to potentially increase size and age of returns, and d) reduce potential competition with wild fish. This work should build from and test findings of the Salish Sea Marine Survival Project, NOAA's salmon ocean program, and other relevant efforts that are working to determine what is driving the survival of Chinook as they migrate downstream and through the marine environment. Hatchery pilots may require additional production to ensure that existing production levels are not affected by these trials, which have uncertain outcomes in terms of fish survival. Pilot hatchery actions should be used to gather science to adaptively manage hatchery production levels and practices, including guiding the continued increases of hatchery production over time to provide more adult Chinook for Southern Residents, while ensuring that increases are done in a manner that complies with ESA guidelines and that does not impact Chinook recovery. WDFW should be given ongoing funding of approximately \$4.5 million per biennium to work with co-managers to implement these programs and monitor their effectiveness.

Hydropower operations: Improve survival and distribution of Chinook populations

Recommendation 7: Prepare an implementation strategy to re-establish salmon runs above existing dams, increasing prey availability for Southern Resident orcas.

- Provide funding to WDFW and regional salmon organizations to coordinate with partners to determine how to re-establish sustainable salmon runs above dams including, but not limited to, the Chief Joseph and Grand Coulee Dams on the Columbia River and the Tacoma Diversion, Howard Hanson and Mud Mountain dams in the Puget Sound. Provide policy support for actions needed. Prioritize projects that produce downstream adult Chinook.

Implementation details:

In 2019, the governor and legislature should provide funding through WDFW and regional salmon recovery organizations to coordinate with tribes, local governments, NOAA and other key partners to assess and prioritize appropriate locations based on potential benefits, costs, management, operations and other key information necessary to re-establish salmon runs as soon as possible above the dams and in the watersheds agreed to by the parties. Provide policy support for Chinook reintroduction upstream of dams such as Chief Joseph and Grand Coulee Dams for both the near-term trap-and-haul efforts (cultural releases implemented by the Upper Columbia tribes). In addition, provide policy support for the long-term phased approach in the Northwest Power and Conservation Council's Fish and Wildlife Program and support the U.S. entity's regional recommendation concerning the Columbia River Treaty. Prioritize projects that can produce downstream adult Chinook and areas with suitable habitat or areas targeted for habitat restoration in the near term.

Recommendation 8: Increase spill to benefit Chinook for Southern Residents by adjusting Total Dissolved Gas allowances at the Snake and Columbia River dams.

- Direct the Department of Ecology to increase the standard for dissolved gas allowances from 115 percent to up to 125 percent, to allow use of the best available science to determine spill levels over these dams to benefit Chinook and other salmonids.
- Coordinate with the Oregon Department of Environmental Quality to align standards across the two states.
- Maintain rigorous monitoring of impacts to juvenile Chinook and resident fish to ensure that any changes in spill levels do not negatively impact salmon or other aquatic species.

Implementation details:

The Department of Ecology should move to immediately eliminate the current 115 percent standard for the forebay of the eight dams on the lower Snake and lower Columbia rivers

and adjust total dissolved gas allowances to up to 125 percent, as measured at tail races. The intent is to create flexibility to adjust spill regimes, using the best available science, to benefit Chinook salmon and other salmonids. The Department of Ecology should work as expeditiously as possible with the Washington Department of Fish and Wildlife and Oregon Department of Environmental Quality to align at this level. Any new spill levels tested through this flexibility in spill regimes should be monitored and adaptively managed to minimize any negative effects on resident and anadromous fish species.

Draft recommendation for discussion on Nov. 6th:

Recommendation 9: Determine whether removal of Lower Snake River Dams would provide benefits to Southern Resident orcas commensurate with the associated costs, and implementation considerations.

- Washington, in conjunction with the states of Idaho and Oregon, should act quickly to hire a neutral third party to establish a stakeholder process for local, state, tribal, and federal leaders to address issues associated with the possible removal of the four lower Snake River dams.

This reflects the Task Force discussions on Oct. 17-18. Other dam-related issues can be brought up by Task Force members on November 6 for further discussion.

Potential implementation details:

The governor should work in conjunction with the states of Idaho and Oregon to hire a neutral third party to initiate the development of a forum for local, state, tribal, federal and other stakeholders to begin developing a regional approach to understanding the needs of stakeholders and costs, benefits, risks and other issues related to the possible future removal of the four Lower Snake River dams.

The effort should draw on existing information where possible, and should work to address the following issues:

- Decision-making process for dam removal (e.g., who has the authority, funding).
- Timeline for projected salmon recovery and benefits to orcas in both short and long term. This should also address potential changes in hatchery production.
- Required infrastructure mitigations, including:
 - Transportation (replacing barges).
 - Power (e.g., clean energy replacement, storage and timing of energy availability).
 - Sedimentation impacts of dam removal (including potential impacts on spawning beds).
 - Irrigation.

The third party should update the governor and the Orca Task Force on its progress by the summer of 2019 and should complete its work by the spring of 2020 in time to inform decisions resulting from the ongoing development of the environmental impact statement for

the Snake and Columbia River dam operations.

Harvest: Increase adult Chinook abundance through reduced catch and bycatch

Recommendation 10: Support full implementation and funding of the 2019-2028 Pacific Salmon Treaty.

- Washington's congressional delegation should prioritize securing appropriations to implement this treaty. Delegation members, the governor, task force members, and others should advocate for these appropriations.
- The Treaty and its appropriations will result in harvest reductions, reduced bycatch, increased hatchery production and investments in habitat restoration, which are crucial to reducing harvest as the treaty is implemented thereby increasing Chinook for the benefit of Southern Resident orcas.

Implementation details:

Support the full implementation of the 2019-2028 Pacific Salmon Treaty, together with the funding components that benefit Southern Resident orcas. Elements of the renegotiations included reductions in impacts on Chinook, which combined with other actions will make more prey available to Southern Residents. Related funding elements should include investments in habitat and hatcheries to increase Chinook abundance. The governor should express the need for approval of the appropriations requests to the Washington federal delegation. Task force members should also reach out to the delegation for their support of the funding components.

Recommendation 11: Reduce Chinook bycatch in west coast commercial fisheries.

- WDFW should work with regional councils and stakeholders to implement practices and regulations in west coast fisheries (e.g., hake) that further reduce bycatch of Chinook – allowing more of these Chinook to reach Southern Residents.

Implementation details:

The governor should direct WDFW representatives on the Pacific Fishery Management Council and North Pacific Fishery Management Council to work with regional stakeholders and manager starting in 2019 to avoid bycatch and further reduce the allowable bycatch of Chinook in west coast fisheries to ensure that more Chinook reach Southern Residents.

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 NOAA to determine if pinniped predation is a limiting factor for Chinook in Puget Sound and along Washington's outer coast and evaluate potential management actions.

- Conduct a pilot project for the removal or alteration of artificial haul out sites where sites are associated with significant outmigration and predation of Chinook smolts. Fund a study to determine if pilot removal accomplishes the goal of significantly reducing Chinook smolt predation.
- Complete research and coordinate an independent science panel (Washington Academy of Sciences or National Academy of Sciences) to determine the extent of pinniped predation on Chinook salmon in Puget Sound and Washington's outer coast. The work should include an assessment of factors that may exacerbate or ameliorate predation such as infrastructure haul-outs, hatchery strategies, the increased presence of transient killer whales, and the presence/absence of forage fish or other fish that are staple food for pinnipeds.
- Engage NOAA to determine the optimal sustainable populations of harbor seal stocks in Puget Sound.
- Convene a management panel of state, tribal, and federal agencies as well as citizen stakeholders to communicate with the independent science panel, review the results of the independent scientific review, and assess appropriate management actions. If pinniped removal is identified as a management option, secure authorization through the Marine Mammal Protection Act.
- Provide funding for the science, research, coordination, decision making, and, if deemed necessary, removal.

Implementation details:

In the 2019-2021 biennium, the governor and legislature should begin to fund WDFW to work with tribes and NOAA to pilot the removal or alteration of artificial haul-out sites used by pinnipeds in the Puget Sound in places that may improve Chinook survival. Funding should include implementation and monitoring components to assess the effectiveness of this approach to guide potential future haul-out removals (estimated at \$400,000 one-time funding).

Starting immediately, the governor, legislature and NOAA should support and fund the coordination and continued development of science to determine the extent of pinniped predation on Chinook salmon in Puget Sound and Washington's outer coast. WDFW and the PSP – or an appropriate board or partner designated by them – should convene an independent science panel to coordinate ongoing research and provide a

comprehensive report on the state of science regarding pinniped predation. The comprehensive report of science should include:

- An analysis to help determine the extent to which pinniped predation is a limiting factor for Chinook survival in Puget Sound and the outer coast that should be completed by WDFW. Further, WDFW should continue to assess the status of the harbor seal and sea lion populations in these areas.
- An assessment of factors that may exacerbate or ameliorate predation, including infrastructure haul-outs, hatchery strategies, the increased presence of transient killer whales, and the presence/absence of forage fish or other fish that are staple food for pinnipeds.

WDFW and/or PSP should also convene an external group of experts to conduct an initial independent science review of the research program and then review the comprehensive report.

Funding required to obtain the science review and implement the appropriate studies is estimated at \$600,000 one-time funding for this biennium and \$225,000 per biennium for ongoing coordination and monitoring activities.

At the same time, the governor should ask NOAA to expediently complete an assessment to determine the optimal sustainable populations of the harbor seal stocks of Puget Sound and then convene the Pacific Scientific Review Group to review the assessment.

WDFW should also expediently convene a panel of state, tribal and federal managers to evaluate management needs with the participation of stakeholders. The management panel will provide feedback to the science panel regarding specific information required to assess Puget Sound and outer coast pinniped predation and be updated on the state of the science. After completion of the independent science review, the management panel should examine where and what types of management actions are best suited to the situation, and, if needed, provide any information necessary to secure authorization to perform needed management actions. The panel should include an assessment of actions related to factors that may exacerbate or ameliorate predation, including infrastructure haul-outs, hatchery strategies, increased presence of transient killer whales, and the presence/absence of forage fish or other fish that are staple food for pinnipeds. WDFW should receive state funding for coordination of this process (estimated at \$80,000 one-time funding), and the governor should request that the Washington federal delegation support funding capacity for NOAA to participate and review any resulting applications for management expediently. Once authorization is received for any management actions, those actions should be funded through state and federal funds.

Recommendation 13: Support authorization to more effectively manage pinniped predation of salmon in the Columbia River.

- Support efforts to enact a Columbia River-specific amendment to the Marine Mammal Protection Act (MMPA) enabling more effective management of pinniped predation of salmonids.
- Support MMPA authorization to add Steller sea lions to the list of pinnipeds managed in the lower Columbia River. Support increasing removal levels and altering removal requirements.
- Monitor Chinook survival and pinniped distribution in the Columbia River estuary to guide current and future management actions.

Implementation details:

The governor should support efforts to amend the Marine Mammal Protection Act, or MMPA, to more effectively manage pinniped predation of salmonids in the Columbia River through non-lethal and lethal methods. The task force should join the governor in expressing public support for a Columbia River-specific amendment to the MMPA, which is currently under consideration in Congress.

Alternatively, or in the meantime, the governor should support an application for MMPA authorization to increase effectiveness of the management program by allowing the management of Steller sea lions, increasing removal levels and altering removal requirements. In the case of an application for MMPA authorization, the governor should request that the Washington federal delegation support funding for NOAA to review the application expediently. To implement increased management through either an MMPA amendment or additional MMPA authorization, the legislature should provide additional funding to WDFW to work with partners to carry out the program (estimated at an additional \$600,000 per biennium).

To monitor the effectiveness of the management program, the governor should request that NOAA provide federal funding to monitor Chinook salmon survival from the Columbia River estuary to Bonneville Dam. The governor and legislature should provide complementary state funding for WDFW to perform pinniped distribution surveys for this same area (estimated at \$40,000 per biennium). In combination, these two analyses will greatly help to guide current and future management actions.

Recommendation 14: Reduce populations of non-native predatory fish species that prey upon or compete with Chinook.

- Adjust game fish regulations and remove catch and size limits on non-native predatory fish—including, but not limited to, walleye, bass, and channel catfish—to encourage removal of these predatory fish, where appropriate.

- Evaluate predatory fish reduction options in McNary reservoir as the basis for further action to protect juvenile salmon.

Implementation details:

Request that WDFW remove catch and size limits on non-native predatory fish including, but not limited to, walleye, bass, and channel catfish to encourage removal of these predatory fish, where appropriate, to protect salmon or other ESA-listed species. In addition, WDFW should adapt regulations to allow the disposal of these fish species because it is currently illegal to "waste" sport fish. Any increase in fishing for these species should be managed to minimize additional mortality or bycatch of salmonids.

The governor's budget should include \$200,000 per year for next three years as partial funding to support the proposed study to evaluate predatory fish population reductions through McNary Dam reservoir elevation management. The study would evaluate reservoir pool elevation levels that affect non-native predatory fish spawning.

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.

- Complete Puget Sound-wide surveys of herring, smelt, and sand lance to map spawning habitat and determine abundance of these food sources for Chinook.
- Surveys should be conducted in conjunction with restoration and protection of forage fish spawning habitat.
- Inventory existing and planned forage fish harvest levels to determine potential impact of forage fish harvest on Chinook.
- Provide funding to conduct these surveys and inventories.

Implementation details:

The governor and legislature should continue to provide funding for forage fish surveys to identify and map the expansion or contraction of critical habitat used by three species of forage fish in Puget Sound: herring, surf smelt and sand lance. These surveys provide the only index of abundance currently available for any species of Puget Sound forage fish by estimating the spawning biomass of over 20 Puget Sound herring stocks. Access to quality spawning habitat is critical to the health and persistence of forage fish stocks, so the results of forage fish surveys are updated annually and made available online to inform shoreline development, protection, and restoration decisions that affect these species. The studies should be conducted in coordination with existing and ongoing efforts such as the Ocean Ecosystem Indicators work by NOAA's Northwest Fisheries Science Center and other regional ecosystem and forage fish efforts. Ongoing funding should be provided to DNR's

Puget Sound Corps program (\$748,000 per biennium) and to WDFW (\$296,000 per biennium) to implement the surveys.

The governor should provide ongoing funding for WDFW to inventory existing and future planned forage fish harvest levels in Puget Sound and to assess impacts to Puget Sound forage fish populations important to Chinook that would result from varying levels of harvest. Funding should be provided to WDFW in the amount of one-time funding of \$537,000 for the 2019-2021 biennium and then approximately \$300,000 per biennium on an ongoing basis.

Recommendation 16: Support the Puget Sound zooplankton sampling program as a Chinook and forage fish management tool.

- Provide funding to DNR (\$720,000 per biennium) to undertake this critical sampling program, leveraging the work of and funding from 12 federal, state, tribal, and academic partners.

Zooplankton comprise the vast majority of juvenile Chinook salmon and herring diets. Zooplankton work in Puget Sound suggests that there are direct correlations between zooplankton and early marine survival of some Chinook populations. This relationship can improve the ability to forecast salmon returns, critical to managing a highly variable fishery to ensure enough salmon for whales. This critical link between zooplankton and salmon also provides an opportunity to understand and separate the role of local environmental impacts inside Puget Sound, like nutrients, from broader scale factors impacting salmon abundance, including ocean variability and climate change. Finally, it helps determine whether local habitat restoration or marine conditions are responsible for annual changes in salmon abundance. The zooplankton monitoring program is the only source for reliable information for this cornerstone of the food web.

Implementation details:

The governor should fund the Puget Sound zooplankton sampling program, which leverages the work of 12 tribal, county, state, federal, academic and non-academic entities to sample the zooplankton community every two weeks at 16 sites. This program is essential to better manage Chinook and forage fish populations. These data help determine the role of our restoration actions versus marine drivers of productivity and aid in the forecasting of Chinook and forage fish abundance to help make continuous management decisions for whales and fisheries. Funding should be provided through the Department of Natural Resources in the amount of \$720,000 per biennium, which will be leveraged with non-state partner funds to enable the continuation of the program.

Revisit in Year 2 (new idea from Oct. 17-18 meeting): Consider studying the cumulative effects of small-scale oil spills on plankton.

Goal 2: Decrease disturbance of orcas from vessels and noise and increase orcas' 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 orcas.

- Enact legislation in 2019 creating a half-mile “go-slow” zone, defined as speeds of 7 knots over ground or less.
- Provide for discretion in enforcement and public outreach and education as needed.
- Encourage coordination between Washington State, federal and Canadian authorities to align regulations.

Implementation details:

In the 2019 legislative session, the state legislature and governor should update RCW 77.15.740 to establish a statewide “go slow” bubble for vessels operating within a half nautical mile of orcas. “Go slow” is defined as 7kt speed over ground, as measured using GPS. It is intended that fish and wildlife officers and other law enforcement officers will use discretion when enforcing this section and granting exceptions for safety reasons and provide public outreach and education when they determine that it is appropriate.

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 refuge opportunities for the orcas.

- Create a limited-entry permit system to manage commercial whale-watching in the inland waters of Washington State to reduce daily and cumulative impacts on Southern Residents.
- Development of the permit system should consider limiting the total number of boats that receive permits, limiting the amount of time that commercial whale-watching vessels may spend in the vicinity of a particular group of whales, and limiting the number of commercial whale-watching vessels that may be in the vicinity of the whales at a given time. Permitting system must be in place by May 2019, including initial limits as described above.
- Implement a buy-back program to facilitate implementation.
- Require the use of the Automatic Identification System to enable effective monitoring and compliance.
- Coordinate with Canadian authorities to develop and implement the permit system across boundaries.

Implementation details:

By May 2019, the legislature and governor should establish a Washington State commercial whale-watching license for whale watching in the inland waters (exempting the ocean) to be managed by WDFW. The fees for the license should be placed in a WDFW-dedicated account that could be used for the management and enforcement of whale-watching activities. As the permit system is developed with WDFW in consultation with stakeholders, several factors should be considered, including limiting the total number of boats that receive permits, limiting the amount of time that commercial whale-watching vessels may spend in the vicinity of a particular group of whales, and limiting the number of commercial whale-watching vessels that may be in the vicinity of the whales at a given time.

WDFW should also develop, assess and consider alternatives that restrict the number of Washington State whale-watching licenses, and implement any restrictions by May 2020. Ongoing funding needs are estimated at \$500,000 per biennium for managing the whale-watching license-related activities, including developing and coordinating the regulatory process, issuing the license, collecting the license fees, coordinating with Canada and appropriate entities, and enforcing applicable whale-watching regulations.

Additional point 18B, with limited agreement, for further discussion: The permitting system will allow for limiting by number of trips per day and length of time spent with the whales and will allow for establishing "quiet days" of at least two days in a row where no whale-watching is allowed. [Note: must be two days in a row to allow the whales' hearing to recover.] The permitting system will allow for closing by geographic area to reduce noise and disturbance in known foraging areas.

Recommendation 19: Require an annual "Be Whale Wise" certification for all recreational boaters on the inland marine waters and ensure that all boaters are educated on how to limit boating impacts to orcas.

- Create a \$10 marine endorsement called a Be Whale Wise certification which would be required annually for all boats on the inland marine waters.
- Provide education on *Be Whale Wise* guidelines, voluntary and regulatory measures, and other information at the time that the marine endorsement is purchased, so that every boater has this basic information.
- Direct the resulting revenue to WDFW's new Marine Enforcement Division and to partners doing outreach and education.
- Work with trade associations and ports and through existing government programs and channels to provide additional education to commercial and recreational boaters.

Implementation details:

Establish a mandatory \$10 marine endorsement fee on boater registration, called a Be Whale Wise certification, to increase awareness and fund education and enforcement activities that promote recreational vessels' compliance with best boating practices near orcas. The Department of Licensing should also note SRKW regulations and guidelines on their website.

The governor should request that the Washington State Parks and Recreation Commission, Northwest Marine Trade Association and Recreational Boating Association of Washington work with the U.S. Coast Guard and National Association of State Boating Law Administrators to require that the print and online curricula, testing, and outreach for the mandatory Washington State Boater Education Card: (1) include Be Whale Wise guidelines; (2) include related updates to voluntary and regulatory measures by May 2019; and (3) include broader outreach to charter boat, boat rental companies and exempted audiences from outside Washington State (particularly in Canada) and those whose lifetime certification was obtained prior to the updated standards. Look at how to leverage ECHO's new online mariners training. Tribal governments will make their own decisions.

Recommendation 20: Increase enforcement capacity and fully enforce regulations on small vessels to provide protection to Southern Residents.

- Create a WDFW Marine Enforcement Division with four additional officer positions at WDFW focused on protection and enforcement in Puget Sound.

Implementation details:

In the 2019 legislative session, the state legislature and governor should provide proviso funding to WDFW to create at least four new fish and wildlife officer positions or FWOs that will be dedicated to the goal of providing marine-based Southern Resident orca protection on every day of the whale-watching season and at other times of need. The proposed FWOs will be based in northern Puget Sound in summer and be prepared to shift coverage southward to match the seasonal movements of Southern Residents to central Puget Sound. They will be strictly focused on protection of all marine resources when not engaged in priority Southern Resident orca protection activities (such as promoting compliance with RCW 77.15.740 and any new regulations).

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.

- Establish a “standard of care” for small vessel operators limiting the use of echo sounders and other underwater transducers within a half nautical mile of Southern Resident orcas. Implement as a voluntary measure and provide exceptions for safe navigation.
- Conduct education and outreach.
- Consider phasing in mandatory equipment requirements and regulations.

Implementation details:

By December 2018, the Puget Sound Harbor Safety Committee should establish a “standard of care” for small vessel operators to turn off echo sounders and other underwater

transducers when within a half nautical mile of orcas except when necessary for safe navigation. The adopted standard should be reported to the task force and communicated to registered vessel owners in Puget Sound counties through the Department of Licensing. The Southern Resident Orca Task Force Interagency Communicators Group should work immediately with maritime organizations with broad communications networks — such as the Northwest Marine Trade Association, Recreational Boating Association of Washington, U.S. Coast Guard Auxiliary and Boating Squadron, Washington State Ferries, State Parks, ports, marinas, Be Whale Wise.org — to develop and implement a complementary outreach campaign for voluntary compliance. In 2019, the task force should consult with the legislature about opportunities to phase in mandatory equipment requirements (for whale-watching vessels in the recommended limited entry permit system, for example) and initiate a formal conversation with echo sounder manufacturers and suppliers.

Reduce noise from ships and ferries near Southern Resident orcas

Rationale to include language moved from implementation details: The Enhancing Cetacean Habitat and Observation [ECHO] program of the Vancouver Fraser Port Authority has led voluntary, targeted trials to slow down ships and shift them away from key Southern Resident orca foraging areas near the international shipping lanes to reduce the level of shipping noise. There has been a high rate of transboundary participation and compliance in these efforts. There is currently no program like ECHO in Washington State.

Filling gaps in the underwater acoustic monitoring network will allow better detection of the location and movements of Southern Resident orcas in near real-time and enable targeted advisories that could reduce the underwater noise of nearby ships and small vessels.

Recommendation 22: Implement shipping noise-reduction initiatives and monitoring programs, coordinating with Canadian and US authorities.

- Create a program similar to ECHO for Washington State, including participation by whale watching operators and private vessel operators.
- Coordinate with the ECHO (Enhancing Cetacean Habitat and Observation) program on transboundary efforts to reduce noise impacts to Southern Residents. Provide funding to complete an underwater acoustic monitoring network for Puget Sound, filling in gaps—such as on South San Juan Island—and supporting acoustic and visual mapping to improve the ability to identify when and where Southern Residents are present.

Implementation details:

The governor should continue to encourage strategic US and Washington state collaborations with ECHO — from the U.S. Coast Guard, Washington State Ferries, Puget Sound ports, the Pacific Merchants Shipping Association, the Puget Sound Pilots, Tribal co-managers, and others — that continue to support parallel and adaptive implementation of ECHO and related shipping noise-reduction initiatives while promoting safe, sustainable shipping practices.

Work with the Washington Public Ports Association to create a program similar to ECHO for Washington State.

Governor Inslee and the legislature should fund the deployment of a permanent scientific grade hydrophone on South San Juan Island and fill in other key gaps in the underwater acoustic monitoring network of Puget Sound. Governor Inslee and the legislature should also support advancement of acoustic and visual mapping efforts by Washington State Ferries and others, with the goal to share Washington data with the Southern Resident Killer Whale Report Alert System being developed in Canada by ECHO and the Vancouver Aquarium.

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.

- Conduct a ferry fleet noise baseline study as the basis for establishing noise reduction goals and developing plans.
- Based on the results of the baseline study, institute engineered or operational strategies to safely reduce noise from ferries when Southern Residents are present.
- Provide capital funding to accelerate the transition to quieter and more fuel-efficient ferry fleet.

Implementation details:

The governor and legislature should support and accelerate transition of the Washington State Ferries fleet to quieter, more fuel-efficient designs and technologies — while funding the Washington State Ferries fleet noise baseline analysis project in 2019 — to achieve data-driven noise reduction goals.

Washington State Ferries should institute engineered or operational strategies to safely reduce noise in the vicinity of the Southern Residents.

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.

- Require escort tugs for laden tank vessels, including barges over 5,000 but less than 40,000 dead weight tons.
- Enact legislation disallowing any shoreline or seafloor infrastructure that would support offshore oil and gas development off the Washington coast.
- Update oil spill prevention and cleanup standards to address new types of oil and increased use of articulated tug barges.

For discussion on November 6:

Add an additional bullet, either 24A or 24B:

- **24A:** The Task Force will review the November 1 draft recommendations to the Legislature for the Strait of Juan de Fuca and Puget Sound Area Vessel Traffic and Vessel Safety Report regarding an emergency response towing vessel in Haro Strait and Boundary Pass, and determine if an additional recommendation regarding an emergency response towing vessel is needed.
- **24B:** Require the oil shipping industry to fund a stationed emergency response towing vessel (rescue tug) in a location to minimize response time in the Haro Strait and other navigation lanes with the highest tank vessel traffic.

Implementation details:

Utilizing recommendations from the Department of Ecology's Strait of Juan de Fuca and Puget Sound Vessel Traffic Safety Report (2018), the 2019 Washington legislature should enact legislation to reduce the risk of oil spills in Puget Sound. The legislation should: (1) require escort tugs for oil transport vessels over 5,000 tons but less than 40,000 dead weight tons, including oil barges and articulated tug-barges; (2) [implement the draft recommendations for the Strait of Juan de Fuca and Puget Sound Area Vessel Traffic and Vessel Safety Report regarding an emergency response towing vessel in Haro Strait and Boundary Pass **[edit this bullet depending on decision about 24A/24B]**; and (3) require updated oil spill prevention and cleanup standards to address new types of oil (e.g., diluted bitumen) and increased shipments by articulated tug-barges. The governor should meet with Canadian officials and seek involvement from the US Coast Guard and the joint meetings of the Puget Sound Harbor Safety Committee and Canadian Pacific Coast Marine Advisory Review Panel and Navigation Aids and Navigation Services. The governor should direct the Department of Ecology and the Department of Fish and Wildlife to engage in Canadian environmental assessments of project-related shipping's cumulative effects on 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.

- The US Navy was not among the organizations that were initially asked to participate in the Vessels Working Group during year one. However, early in the Task Force process several Task Force members and the full Vessels Working Group indicated the need for direct engagement with the Navy in year two, which was reinforced in hundreds of public comments on the draft report.

Recommendation 26: Revise RCW 77.15.740 to increase the buffer to 400 yards behind the orcas.

- The guidelines of the Pacific Whale Watch Association include this voluntary standard.
- By limiting the distance at which vessels can approach from behind (and their speed), the intent is to decrease the occurrence of chase-like situations that are likely to induce energetically costly switches in Southern Resident orcas' behavior.

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.

- State agencies should study potential requirements for relevant permit applications to explicitly address potential impacts to Southern Resident orcas and treat underwater noise as a “primary constituent element” of critical habitat and report to the Task Force by 2019.
- Coordinate with local governments and tribes and increase transboundary coordination with Canada.

Implementation details:

The governor should direct the Department of Ecology and request that the Department of Natural Resources and the Department of Fish and Wildlife work with the Governor's Office for Regulatory Innovation and Assistance to determine how applicable current and future permit applications in Washington state that could increase vessel traffic and vessel impacts (risk of oil spills, increased noise, threat of ship strikes) could be required to explicitly address potential impacts to Southern Resident orcas and treat underwater noise as a “primary constituent element” of critical habitat. This work must coordinate with local governments, tribes and others to identify authorities to issue permits, authorizations or mitigation measures related to any projects, and must increase transboundary coordination to address impacts from projects initiating in Canada. The agencies should report to the Task Force by April 2019.

Potential avenues for adding these requirements include:

- Updating the State Environmental Protection Act or SEPA checklist.
- Updating the Joint Aquatic Resources Permit Application form.
- Updating the Prevention of Significant Deterioration Permit to Construct to specifically include potential vessel traffic impacts to Southern Resident orcas.
- Updating state regulations and Ecology's Shoreline Master Program Handbook to address vessel traffic impacts and require Southern Resident orca expertise for all state application submittals.

For further discussion on Nov. 6:

Recommendation 28: Establish a whale protection zone to reduce disturbance to foraging orcas.

- Establish a go-slow zone for all vessels on the west side of San Juan Island from Cattle Point to Pile Point, within ¼ mile of shore, with a speed limit of 7 knots over ground.
- Establish a no-go whale protection zone for commercial whale watching vessels, recreational vessels, and commercial kayak groups on the west side of San Juan Island from Pile Point to Mitchell Bay, within ¼ mile of shore. Allow vessels to transect the no-go zone to exit from shore.

Note: While there has not been agreement on draft recommendation 28 to date, a Task Force member plans to put forward modified language and have a conference call with a sub-group that expressed interest at the October 17-18 Task Force meeting, and then put a proposal forward for discussion with the full Task Force on November 6. Other options may also be put on the table for discussion at that meeting.

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

Notes:

- *Working Group used best available science. Best available science should also be used throughout implementation of these recommendations.*
- *In Year 2, the Contaminants Working Group and Task Force will look at nutrient loading/water quality. In Year 2, we also need to infuse available ongoing work that is examining links between specific contaminants and health and reproductive challenges for the orcas.*

Pollution prevention

Recommendation 29: Accelerate the implementation of the ban on PCBs in state purchased products and make information available online for other purchasers.

- Direct the Department of Enterprise Services to accelerate implementation of the ban, enacted by the legislature in 2014, on PCBs in products purchased by the state.
- This law includes a provision for suppliers to provide information on PCBs in products to the state, which should be shared publicly to facilitate PCB-free purchasing by other entities.

Implementation details:

The Department of Enterprise Services should immediately accelerate implementation of the ban on PCBs in state-purchased products and make information about PCB levels in state-purchased products and packaging available online to the public so other purchasers can access this information and make informed purchasing decisions.

Washington state adopted a procurement law in 2014 that states: “no agency may knowingly purchase products or products in packaging containing polychlorinated biphenyls above the practical quantification limit except when it is not cost-effective or technically feasible to do so.”(RCW 39.26.280) Implementation of this law should be accelerated to reduce PCBs entering Puget Sound from products such as paints, hatchery fish feed, adhesives, electrical equipment, caulking, paper products and lubricants. Product suppliers to the state will provide information about PCBs in their products, and this information can be shared with other purchasers that want to avoid products containing PCBs.

Recommendation 30: Identify, prioritize and take action on chemicals that impact orcas and their prey.

- By March 2019, the Department of Ecology should develop a prioritized list of chemicals of emerging concern (CECs) that threaten the health of orcas and their prey and pursue policy and/or budget requests in the 2019 legislative session to prevent the use and release of CECs into Puget Sound.
- Direct the Department of Ecology to convene discussions and develop a plan to address pharmaceuticals, identifying priorities, source control, and wastewater treatment methods.
- Periodically review and update toxicological information as new science emerges and adaptively manage plans and programs.

Implementation details:

The Department of Ecology should develop a prioritized list of the chemicals of emerging concern (CECs)* based on greatest benefit to Southern Resident orcas and their prey if action is taken. The Department of Ecology, with input and review from regional experts, should begin this prioritization process in 2018 and complete the list in March 2019. It is important to note that there is limited toxicological information on many CECs. This list will need to be periodically revisited to ensure that new chemicals and new research findings are incorporated into our efforts to decrease chemical exposure to Southern Residents and their prey.

The Department of Ecology should develop a plan and pursue agency request legislation and/or budget requests in the 2019 legislative session to address control of those chemicals of emerging concern (CECs)¹ based on greatest benefit to Southern Resident orcas and their prey if action is taken (informed by the prioritized list). This legislative request should include funding to implement existing policies as well as identify new policies and actions to decrease the load of priority CECs* to Puget Sound (e.g., phaseouts, disclosure, assessment of safer alternatives and enhanced treatment). Given that pharmaceuticals require a different control mechanism, the Department of Ecology should convene discussions about priority pharmaceuticals, source control and wastewater treatment

¹ The following groups of chemicals were identified as potentially important (in no particular order): flame retardants, per- and polyfluoroalkyl substances (PFAs), phthalates, bisphenols, nonylphenols, medications, pesticides and chemical(s) in tires.

options. The plan will identify the most effective actions to decrease loading of priority CECs* to Puget Sound and will be completed by 2025.

Removal and clean-up

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

- Provide funding to accelerate the clean-up and removal of legacy sources of PCBs, PAHs, PBDEs and PFAS present in Puget Sound.
- Prioritize and fund clean-up actions that are likely to have the greatest benefit to Southern Resident orcas.
- Identify toxic hotspots in the stormwater entering Puget Sound. Prioritize these for retrofits and/or redevelopment to meet current standards.
- Increase funding for the Stormwater Financial Assistance Program to incentivize immediate and accelerated retrofits and other source control actions.
- Prioritize and accelerate sediment remediation, nearshore restoration, and clean-up of hotspots in forage fish and Chinook rearing habitats based on risk to Southern Resident orcas.

Implementation details:

The legislature should fund the Department of Ecology in 2019 for a program that incentivizes the accelerated removal of primary legacy sources of PCBs, PAHs, PBDEs and PFAS present in the built environment in the central Puget Sound. In phase 1, Ecology should develop the program, to include a) prioritizing those legacy chemicals likely to have greatest impact on Southern Resident orcas, b) coordinating with ongoing programs, c) gathering stakeholder input, and d) undertaking targeted communications and outreach. In phase 2, the incentive program will be implemented.

The Department of Ecology should reduce stormwater threats in existing hotspots as soon as possible. In 2018-2019, Ecology, in consultation with regional experts, should identify toxic stormwater hotspots and prioritize them for source control, stormwater retrofits and/or redevelopment projects to meet today's standards. Ecology should seek new funding in the 2019 legislature through the Stormwater Financial Assistance Program to incentivize stormwater retrofits and source control to achieve goals faster.

Programs such as the Stormwater Financial Assistance Program, retrofits through the Washington State Department of Transportation and federal funding through the Clean Water State Revolving Fund are in place to support this effort but they need substantially increased funding to increase the pace and provide the necessary pollutant removal.)

The Department of Ecology and the Department of Natural Resources should immediately prioritize and accelerate sediment remediation and nearshore restoration and clean-up of hotspots in forage fish and juvenile Chinook rearing habitat in sensitive areas where toxics are known to impact prey survival. All prioritized cleanup actions should ensure that

“upstream” source control is also addressed. During the prioritization process, Ecology should coordinate with other agencies such as the Washington Department of Fish and Wildlife and the National Oceanic and Atmospheric Administration. Previously identified hotspots include the Duwamish Estuary and river, Commencement Bay, Hanford Reach, Sinclair and Dyes Inlets and Lake Union.

Pollution permitting and management

Recommendation 32: Improve effectiveness, implementation and enforcement of National Pollutant Discharge Elimination System (NPDES) permits to address direct threats to Southern Resident orcas and their prey.

- Update aquatic life water quality standards focused on pollutants most harmful to Southern Residents and their prey.
- Direct the Department of Ecology to consider developing stronger pre-treatment standards for municipal and industrial wastewater discharges under NPDES.
- Provide funding for the Department of Ecology to increase inspections, assistance programs, and enforcement to achieve water quality standards. Prioritize enforcement where limits are exceeded for pollutants known to be harmful to Southern Resident orcas.

Implementation details:

The Department of Ecology should report in 2019 on how to accelerate effectiveness, implementation and enforcement of National Pollutant Discharge Elimination System or NPDES permits. Using the existing regulatory framework and authority under the Clean Water Act and Water Pollution Control Act, Ecology should update aquatic life water quality standards focused on pollutants most harmful to Southern Resident orcas and their prey. To fill gaps, this will primarily focus on PBDEs, CECs² and other chemicals based on greatest benefit to Southern Resident orcas and their prey. In addition, Ecology should consider developing stronger pre-treatment standards for municipal and industrial wastewater dischargers under NPDES.

Improved permit requirements would also result in increased innovation and source control for permitted dischargers and drive improved technology requirements under the existing “best available technology” standard. For municipal wastewater facilities this would combine improved industrial pretreatment and deployment of improved treatment technologies with already planned or required upgrades to wastewater treatment facilities. New standards could be implemented through renewals of the five-year NPDES permit cycle and could allow permittees the necessary time to fully implement solutions (ideally within one permit cycle).

² The following groups of chemicals were identified as potentially important (in no particular order): flame retardants, per- and polyfluoroalkyl substances (PFAs), phthalates, bisphenols, nonylphenols, medications, pesticides and chemical(s) in tires.

To ensure that new and existing NPDES permit conditions and water quality standards are met, the Department of Ecology should seek funding in the 2019 legislative session to conduct more robust inspections, assistance programs and enforcement. This funding should support field staff and data analysis and should include a clear directive to increase enforcement against entities that exceed limits for pollutants known to cause harm to the Southern Resident orcas and their prey.

Recommendation 33: Increase monitoring of toxics substances in marine waters; create and deploy adaptive management strategies to reduce threats to orcas and their prey.

- Expand and better coordinate existing toxic monitoring programs in Puget Sound focused on chemicals harmful to the Southern Resident orcas.
- Fund the development and implementation of a program to study and monitor the impact of CESs on Southern Resident orcas.

Implementation details:

The legislature should fund the Department of Ecology and the Department of Fish and Wildlife to expand and coordinate existing monitoring and new science programs in 2019. Funding is needed immediately to develop and support a robust toxic monitoring program as well as to conduct new science to understand the effects of CEC exposure on Southern Resident orcas, their prey and other species in the lower trophic levels. This funding is critical to gain a more comprehensive understanding of CECs*; to collect data to address areas where there are critical uncertainties; to evaluate the impact of CECs* on Southern Resident orcas to prioritize cleanups, phase outs and bans; to document whether the actions that are taken are effective; and to make changes to actions/strategies that are implemented if the data demonstrates there is no impact.

Additional recommendations

Sustainable funding

Many if not most of the recommendations require increased funding both in the short and long term. Providing adequate funding of immediate actions and creating a sustainable funding to support Southern Resident recovery over the longer term is essential for the survival of this species.

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

- Provide immediate capital and operating funds in the 2019-20 biennium budget to implement near-term high-priority actions.
- Request that the governor and legislature establish a sustainable, durable funding source to implement these recommendations and meet needs as they arise.

- Include funding to state agencies for staffing, research, and ongoing management needed to initiate and implement Task Force recommendations.

Research, science, and monitoring

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

- Request that NOAA Northwest Fisheries Science Center model the Task Force's Year One recommendations related to prey abundance to determine how many adult Chinook they would produce.

Year 2 accountability and additional actions

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

- Agencies shall report to the governor and the task force on progress implementing recommendations by May 1, 2019. These reports are to address progress, shortcomings, issues, barriers, and gaps associated with initial implementation.
- The task force will identify enhancements, changes needed, any new ideas, and other actions needed to recover Southern Resident orcas.