Summary of Strategies

Marine Habitat and Ecosystem

Strategy 1. Increase understanding of threats and limiting factors affecting juvenile survival in estuary and early marine habitats, especially in the Strait of Georgia and WCVI, and mitigate these factors where possible.

Anticipated benefits: improve the understanding, tools and effectiveness of Chinook management; develop more realistic/accurate estimates of early marine mortality

Strategy 2. Improve understanding of the prevalence and impacts of pathogens and disease on SBC Chinook, from both natural and anthropogenic sources, with particular attention to the influences of hatcheries, salmon farms and climate change.

Anticipated benefits: Improve understanding and management of a potential stressor and issue of public concern.

Strategy 3. Promote the protection of marine and estuarine habitat important to Chinook salmon and prioritize areas where restoration activities would have the greatest benefit to Chinook survival rates

Anticipated benefits: Increase survival and/or halt the decline in survival by improving habitat conditions or reducing specific threats.

Freshwater Habitat

Strategy 4. Promote habitat protection across all CUs[1] to support the resilience of the entire system as different types of habitat become more or less important as future conditions change in uncertain ways.

Strategy 5. Identify and remedy habitat threats within CUs, including those that have exhibited significant declines (greatest need) and those with strong local engagement in protection and restoration (greatest capacity) regardless of status and recent trends.

Anticipated benefits (Strategies 4 and 5): Healthy and diverse freshwater habitats, supporting healthy and diverse Chinook populations.

Strategy 6. Integrate information on upstream migration mortality, pre-spawn mortality and reduced reproductive success into harvest planning[2]

Anticipated benefits: Reduce risk of overharvesting, ensure adequate spawning to sustain populations.

[1] Habitat protection should not be limited to only the CUs that are currently contributing to fisheries or to only the CUs with the most significant recent declines. Maintaining the resilience of southern BC Chinook in the face of uncertain future climate/ocean regimes across all CUs requires protecting important habitat across all CUs.
[2] Ultimate goal would be to achieve a similar approach, if feasible, to Fraser River Sockeye salmon.

Significant Projects and/or Incremental/Cumulative Development

Strategy 7. Ensure that salmon are included as a focal area of environmental and cumulative impact assessments of significant projects with effects on Chinook salmon or multiple smaller projects[3] with a potentially significant cumulative effect

Anticipated benefits: Reduce the risk of harm to Chinook populations and their habitats.

Hatcheries and Monitoring Programs Utilizing Hatchery Indicator Stocks to Assess Status and Trends

Strategy 8. Manage hatcheries in a manner that coordinates production for approved hatchery objectives (conservation, assessment, sustainable harvest opportunities, public education and community engagement, which apply to all enhanced salmon) with Chinook status and trend monitoring programs, while minimizing the risk of serious or irreversible harm to wild fish.

Anticipated benefits: Better alignment of hatchery production with approved hatchery objectives and regional monitoring requirements, an improved monitoring program, and increased learning about the effects of hatchery practices.

Harvest

Strategy 9. Ensure fisheries are managed in a manner that supports recovery of Chinook CU's that have shown declines and supports sustainable harvest, firstly to provide for First Nations' Section 35 Aboriginal Right to fish, then for other sectors.

Strategy 10. Control harvest to ensure that fishing related mortality does not exceed sustainable removal rates based on current productivity.

Strategy 11. Develop an integrated model to evaluate effects of fishery- (including gear, size limit, etc.), place-, and time-specific changes in harvest.

Strategy 12. Conduct appropriate monitoring and evaluation to fully assess fishery related mortalities for Chinook salmon.

Anticipated benefits (Strategies 9-12): Improved alignment of fishing mortality with current stock productivity to support improved status and trends of Chinook populations in many CUs, while allowing sustainable harvest.

NEW PROPOSED Strategy XX. Apply fishery management tools as a means to reduce potential risks from hatchery production (Strategy 8), such as hatchery straying.

[3] Many smaller projects do not require EAs but may incrementally contribute to significant cumulative effects.

Climate Change

Strategy 13. Assess (simulate/model) the potential impacts of climate change on SBC Chinook[4].

Strategy 14. Identify and consider opportunities to mitigate the effects of climate change on southern BC Chinook salmon where possible.

Anticipated benefits (Strategies 13-14): Greater chances of having Chinook persist and recover despite the effects of climate change.

Additional Monitoring to Assess Status and Trends

Strategy 15. Develop a network of indicator stocks to represent wild chinook management units using best available tools and methods. Integrate the data from the network of hatchery indicator stocks (covered in Strategy 8) with potential wild indicators and biometric data to better provide information of sufficient quality for sound management decisions.

Strategy 16. Review and incorporate historic information into current data sets for maximum benefit

Strategy 17. WSP Implementation: Monitor CU status and progress toward abundance / recovery objectives and WSP benchmarks.

Anticipated benefits (Strategies 15-17): Better informed fish management decisions and increased probability of CU persistence and recovery.

Communication and Partnerships

Strategy 18. Develop a communication plan to improve communication and education among all stakeholders and interested parties.

Strategy 19. Promote and encourage local and regional partnerships.

Strategy 20. Consider First Nations Traditional and Ecological Knowledge at the local and regional scales.

Anticipated benefits (Strategies 18-20): More comprehensive actions across multiple stakeholders and where required, First Nations, to preserve and recover Chinook CUs; more constituencies speaking and acting on behalf of Chinook.

Formal Adaptive Management to Assess the Effectiveness of Actions

Strategy 21. Apply the principles of formal Adaptive Management[5] to the implementation of strategies, in order to determine the effects of management actions, increase learning and reduce critical uncertainties.

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[4] Disentangling the impacts of climate change from the effects of other factors is very difficult and may not be possible given the extent and precision of the available data.

[5] Adaptive Management principles include: identifying critical uncertainties; predict the estimated effects of different actions; intentionally structure the design of actions to maximize learning; develop an explicit plan for how info is collected and interpreted; include triggers to adjust action is performance is poor; and engage stakeholders throughout the process of developing the design.