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Framework for the Engagement of First Nations in Salmon Stock Rebuilding in BC

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Salmon Rebuilding Framework

This rebuilding framework was developed on behalf of the Salmon Co-ordinating Committee. There are two rebuilding objectives. The first is to provide a generic rebuilding approach that considers Principles, Strategies, and Elements that can support Salmon Stock rebuilding in BC. The Principles are presented as the white font on p.2-7, the Strategies are shown in blue font and the Elements are shown as italicized (small font).

Throughout this report the terms "rebuilding" and "restoration" are used synonymously.

Principles (white font), Strategies (blue font) and Elements (italicized font)

Context

Develops the context for local salmon stock rebuilding including political support, a vision for the future status of the restored salmon population and definition of a rebuilding target

Identify potential challenges that create a need for rebuilding

- *Depressed and/or declining spawner abundance;*
- *Reduced and variable freshwater and marine survival rates;*
- *High uncertainty about future production;*
- *Pressures on freshwater habitat;*
- *Total mortalities associated with harvest;*
- *Increased predation, and;*
- *Ecosystem effects from climate change.*

Identify target stocks for rebuilding

- *Seek community input to identify rebuilding priorities.*
- *Review technical information and ITK to describe the biological status of candidate salmon stocks.*
- *Select a depressed salmon stock(s) as the target(s) for rebuilding. Candidates include salmon stocks, populations, species, Management Units or WSP Conservation Units. In many cases, a multi-species approach will be relevant. Rebuilding projects can also be habitat-based and can include streams, rivers, estuaries and watersheds.*
- *Define the spatial and temporal boundaries for the rebuilding project.*
- *Obtain the political support of Chief and Council for a salmon rebuilding project within the Traditional Territory.*
- *Develop a vision for the future state of the selected salmon stock.*

Define the baseline for future rebuilding activities

- *Define the desired state of the ecosystem and/or salmon population for rebuilding. Identify production bottlenecks and identify what is required to rebuild the salmon population of interest.*

Context (cont'd)

- *Determine what is the baseline year and what is the rebuilding target. Evaluate whether the rebuilding target is based on the salmon population size 2,000 years ago? the year 1492?, 1960? last year?*
- *Evaluate the effect of shifting baselines on the rebuilding target. A shifting baseline is a type of change to how a system is measured, usually against previous reference points, which themselves may represent significant changes from an even earlier state of the system.*[1]

Commitment to Continuity

Ensures the long-term maintenance, funding and legal protection for the target salmon populations or habitats

Secure the legal protection for priority salmon habitats

- *Evaluate past, present and future landscape and industrial activities within the habitat that has been identified for salmon population rebuilding.*
- *Determine the location of key habitats (e.g. spawning grounds) and develop a ranking system to prioritize them according to degree of importance (high. medium, low).*
- *The highest level of protection will occur if legal title for the rebuilding habitat can be transferred to the local First Nation.*
- *Where salmon habitat does not lie exclusively within First Nation lands, legal status for the relevant salmon habitat could be obtained via a Conservation Covenant*[2]

Develop a long-term funding mechanism

- *Prepare a business plan and budget for the defined duration of the rebuilding project.*

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[1] According to Frid and Atlas (2020) the DFO Sustainable Fisheries Framework uses shifting base-lines to determine if a species or stock is healthy, failing to account for historical declines. This can result in an "ecological poverty trap".

[2] A conservation covenant is a voluntary, legal agreement between a landowner and an organization where the landowner commits to protect the land in specific ways. The promises the landowner makes are attached on title to the land forever, regardless of who owns the land. In return, the organization agrees to monitor the covenant and ensure that the intentions and objectives of the covenant are being maintained.

Commitment to Continuity (cont'd)

- *Identify potential funding arrangements.*
- *Where feasible, establish a salmon rebuilding trust fund and apply the interest revenue towards annual operating and maintenance costs.*
- *Short duration funding can be utilized opportunistically but should not be relied upon as a long-term funding source.*

Partnerships

Develops partnerships and integrates and leverages rebuilding activities with those of other parties

Tier 1

- *Evaluate the benefit of developing partnership arrangements with neighboring First Nations, as well as First Nations regional and provincial fisheries agencies.*

Tier 2

- *Federal and Provincial agencies have legal mandates related to salmon and salmon habitat conservation and it would be essential to consider integrating these activities within a First Nation-led salmon rebuilding project.*
- *Following definition of the rebuilding project a First Nation could evaluate the extent of WSP activities that overlap the rebuilding project and whether partnering is feasible.*

Tier 3

- *Many stakeholders share similar rebuilding objectives as local First Nations. A First Nation could evaluate the benefits and realities of potential partnering within a Tier 3 framework.*

Strategic Plan

Prepares and implements an effective strategic plan with the main objective being the rebuilding of the target salmon population

Strategic planning to provide a road map for effective rebuilding

- *The outline below has been modified from the draft Integrated Strategic Plan for Southern BC Chinook Salmon and can be adapted to develop rebuilding plans for specific depressed salmon stocks.*

Strategic Goal

Introduction
Background and Context

Status and Trends
Introduction
Units of Assessment: Management Units vs. Conservation Units vs. Watersheds
Previous rebuilding and enhancement
Data sources for status assessments
Results

Threats and Knowledge Gaps
Limiting Factors and Threats
Knowledge Gaps, Limitations and Data Availability

Objectives

Strategies
Scope and Context
Integrated Strategies to Address Threats and Knowledge Gaps and/or Achieve Objectives
Adaptive Management Framework

Plan Implementation
Process for implementing the Rebuilding Plan
Timeline and Priorities
Resources

Performance Review

Conduct a rigorous analysis to short-list relevant rebuilding options

- *Rebuilding options are predicated on the assumption that many historic runs can be rebuilt and there are many opportunities for re-introducing salmon into watersheds that are currently inaccessible to salmon.*

Conduct a rigorous analysis to short-list relevant rebuilding options (cont'd)

- *Priorities for different rebuilding projects involve consideration of the regional economic and social conditions as well as appreciation of the biological and physical constraints.*
- *Harvesting of increased stocks of salmon could pose risks for wild stocks that are relatively unproductive.*
- *Predator-control programs may in some cases be useful for salmon rebuilding projects.*
- *Stream and lake fertilization are proven approaches for rebuilding certain species e.g. lake fertilization for sockeye salmon.*
- *The types of enhancement activity that will most likely be successful are those that interfere least with the natural life history. Removal of obstructions, regulation of stream flow, construction of artificial spawning channels are simple habitat improvement measures that involve less monitoring and maintenance and less risk than hatcheries and artificial spawning channels.*

Evaluate the feasibility of the short-listed rebuilding options

- *Develop a set of relevant criteria to guide project selection and implementation. Parameters for consideration include:*
  - *Identification of limiting factors;*
  - *Operations and maintenance requirements;*
  - *Permitting requirements*
  - *Monitoring requirements;*
  - *Research requirements;*
  - *Projected benefits;*
  - *Risks;*
  - *Risk mitigation;*
  - *Project ownership;*
  - *Interactions with other agencies; and,*
  - *Scope of First Nations involvement*
- *This can be undertaken either informally, relying upon expert opinion and ITK, or formally evaluated by utilizing a decision support tool. An example of a decision support tool is Structured Decision Making (SDM)[3] shown on p. 11.*

[3] Structured Decision Making is a collaborative process whereby participants build a foundation for understanding trade-offs, clarifying uncertainties and making informed, transparent, and broadly supported choices.

Making it Work

Necessary components for successful rebuilding of depressed salmon stocks

Political considerations

- *Secure support from Chief and Council.*
- *Where appropriate, develop partnerships with other First Nations and Regional Fisheries organizations, DFO via Wild Salmon Policy implementation activities and/or NGO's with capacity in salmon rebuilding.*
- *Develop mechanisms for legal protection of rebuilding habitats.*

Technical considerations

- *Identification and selection of target salmon population for rebuilding or habitat enhancement.*
- *Identify the baseline condition of the depressed stock, production bottlenecks and the rebuilding target.*
- *Prepare a strategic plan that can be periodically revised to reflect the improved status of the depressed stock.*
- *Evaluate the practicality and "implementability" of the proposed rebuilding project.*

Administrative considerations

- *Develop a long-term funding mechanism.*
- *Determine where the rebuilding project will be housed.*
- *Appoint a Project Manager and hire labour, as required.*
- *Develop a reporting mechanism e.g. web-site and annual progress reports.*

Celebrations of success

- *On an annual basis, sponsor a ceremony for the community to acknowledge the importance of the rebuilding project*