

## Guiding Principles

The following general guidance is provided for identifying and developing habitat protection and restoration projects that target Recovery Plan priorities. Links to technical publications and specific subbasin chapters in Volume II of the Recovery Plan are posted as part of the Lower Columbia Salmon Resource Map. Principles, measures and strategies for project identification and evaluation at the regional scale, along with supporting rationale, can be found in Volume I, Chapter 5, Section 5.3 of the Recovery Plan, and are summarized below (Table 5).

Table 3. Guiding principles for habitat project development and funding in the Lower Columbia region, with supporting rationale and relevant recovery measures. Additional details on stream habitat strategies and measures can be found in the Recovery Plan (Volume I, Chapter 5, Section 5.3).

Principle	Rationale
<p><b>Projects should target high priority populations for recovery.</b></p>	<p>Projects should target Primary and Contributing population habitat needs. Greater benefits are expected when multiple Primary and Contributing populations are targeted. Additional benefits are expected when projects support habitat needs for historical core and genetic legacy populations, given their importance toward meeting recovery goals.</p>
<p><b>Projects should maximize habitat benefits for salmon.</b></p>	<p>Recovery Plan stream habitat strategy S.S6 identifies the importance of concentrating habitat protection and restoration adjacent to core production areas, currently productive areas with significant opportunity for improvement, adjacent to marginal areas where conditions can be improved to support salmon, and where multiple high priority populations will benefit. The Regional Habitat Strategy identifies life stage-specific limiting factors for populations as well as restoration approaches that support multiple populations at stream reach scales based on Ecosystem Diagnosis and Treatment (EDT) modeling.</p>
<p><b>Projects should protect properly functioning habitat and key watershed processes.</b></p>	<p>Recovery Plan stream habitat strategy S.S3 identifies the importance of protecting habitat important to Primary and Contributing populations, as existing quality habitat is critical to sustaining current viability and preventing further decline. This is in part because restoring degraded habitat can be expensive, technically challenging, and not always successful at fully recapturing lost fish benefits. Integrated Watershed Assessment (IWA) results indicate where watershed processes are considered functional, and EDT reach-scale results provide information relating to preservation relative to restoration benefits. Protection of watershed processes and habitat conditions are best achieved through existing land use programs, resource management plans, and landowner incentives, but when there are imminent threats to high quality watershed areas, acquisition may be the most appropriate protection method.</p>
<p><b>Projects that remove barriers to substantial areas of high quality habitat provide important near and long-term benefits to fish.</b></p>	<p>Recovery Plan stream habitat strategy S.S5 identifies the importance of restoring access to blocked habitats where necessary to support region-wide recovery goals. Actions to restore or improve access to historically accessible habitat include removal or repair of blocking culverts and levees, and reconnecting isolated habitats such as side channels, floodplains and wetlands. Priority will be given to areas benefiting multiple species and/or Primary populations, and reconnection to high quality habitat. Projects proposing barrier removal should clearly indicate the quantity and quality of habitat that will be made available to salmon as well as the potential to enhance watershed processes (flow, sediment and wood delivery) laterally and downstream.</p>

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<p><b>Restoration projects should focus on the causes of degraded habitat conditions rather than symptoms.</b></p>	<p>Recovery Plan stream habitat strategy S.S4 states that improvements of habitat conditions requires restoration of functional watershed processes. Restoration of functional watershed processes may not always be possible, especially in watershed areas constrained by infrastructure, roads, and development. Projects addressing only degraded habitat conditions and not their causes may result in near-term improvements but long-term failures, unless threats to salmon are concurrently being addressed through other land use, regulatory and non-regulatory programs. To sustain maximum benefits to fish over the long-term, projects should focus on correcting the causes of habitat deterioration whenever possible. Restoring watershed processes may require work upland or upstream of the benefitting or focal reach. It is recognized that restoration of processes may not be feasible in all high priority fish habitat. Therefore, restoration approaches may differ depending on site constraints, although work should at least be compatible with watershed processes when feasibility is constrained but habitat improvements are essential for recovery.</p>
<p><b>Active and passive habitat restoration measures can be combined to support near and long-term salmon benefits.</b></p>	<p>Recovery Plan stream habitat strategy S.S8 identifies the important role of active habitat restoration to address salmon viability risks in the near-term, as passive restoration and protection do not typically address immediate viability risks but do support long-term salmon recovery needs. Projects only supporting near-term improvements of habitat conditions should only be considered when they address a critical threat to a listed population and then only when done in conjunction with other projects, programs or actions to address the underlying cause of the degraded conditions.</p>
<p><b>Restoration work in one area should not adversely affect habitat conditions or watershed processes in other areas.</b></p>	<p>Recovery Plan stream habitat strategy S.S7 states that habitat restoration actions must offset projected future trends so that a net improvement in the habitat quality and quantity is achieved. Accordingly, restoration work in one part of the watershed should not adversely affect habitat conditions upstream, laterally or downstream areas, or interrupt sediment, flow and wood processes throughout the watershed. Proposed work should also incorporate long-term trajectories within the watershed, such as changes in land use and climate.</p>
<p><b>Habitat projects should be coordinated with and support current, ongoing, and planned recovery efforts in a watershed.</b></p>	<p>Recovery Plan stream habitat strategy S.S9 emphasizes the importance of incorporating regulatory and non-regulatory programs and procedures into habitat project development. Habitat project implementation must work in concert with implementation of recovery actions across impact categories (estuary habitat, hydro-regulation, hatcheries, ecological interactions, and climate and ocean conditions).</p>
<p><b>Habitat project and strategy development should seek to build landowner and community support.</b></p>	<p>Successful implementation of habitat projects and long-term watershed strategies requires the support and participation of affected landowners and communities. Habitat protection and restoration must work for both fish and people. Projects should be planned and implemented in consultation with landowners, neighbors, community members, and local officials.</p>

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<p><b>Projects that target chum spawning and rearing are encouraged and should promote spatial diversity across the ESU and complement chum reintroduction efforts of WDFW</b></p>	<p>Only three of the Lower Columbia chum salmon populations (Grays/Chinook, Washougal, and Lower Gorge) have significant spawner abundances. To reduce the Columbia River Chum Evolutionarily Significant Unit (ESU) extinction risk, additional attention is needed to re-establish additional chum populations and promote spatial diversity and species viability across the ESU. Projects that support chum spawning and rearing habitat, and increase spatial distribution at the species-scale, are encouraged. Focal watersheds for this work are: Elochoman, Skamokawa, Mill, Abernathy, Germany, Cowlitz (and tributaries), Kalama and Lewis. Sponsors interested in pursuing chum projects should coordinate with LCFRB and WDFW staff to help ensure that potential projects address the Recovery Plan and reintroduction priorities.</p>